Научная статья
УДК: 347.777
DOI: 10.17323/tis.2025.28902

Original article

ГАРМОНИЯ В ГАММЕ: ЗАЩИТА МУЗЫКАЛЬНЫХ ПРОИЗВЕДЕНИЙ В ЦИФРОВУЮ ЭПОХУ[1]

HARMONY IN THE SCALE: PROTECTION OF MUSICAL WORKS IN THE DIGITAL AGE[2]

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Информация об авторе
А.В. Покровская — ассистент, аспирант департамента гражданского права и процесса и международного частного права Университета дружбы народов имени Патриса Лумумбы, научный сотрудник Института права, эксперт патентной практики в центре интеллектуальной собственности «Сколково»

Аннотация. Статья посвящена всестороннему анализу современных проблем охраны музыкальных произведений в контексте стремительного развития цифровых технологий. Автор рассматривает трансформацию музыкальной индустрии от аналоговых медиа к онлайн-платформам, уделяя особое внимание масштабам легального и нелегального распространения контента, а также появлению новых угроз в виде потокового пиратства, незаконного копирования, использования искусственного интеллекта и цифрового ремикширования. В работе представлена эволюция системы авторского права — от коллективных устных традиций до современных моделей индивидуальной и коллективной защиты, охарактеризованы ключевые юридические и технологические методы регистрации и защиты прав (регистрация, депонирование, DRM, цифровые водяные знаки, блокчейн). Анализируются международный опыт, судебная и административная практика, особенности российского законодательства; показаны сильные и слабые стороны системы коллективного управления правами. Особое внимание уделено перспективам и вызовам, связанным с интеграцией искусственного интеллекта в процесс создания музыки, развитием блокчейн- и NFT-решений, а также роли автоматических систем мониторинга и необходимости международной гармонизации регулирования. В заключение предложены рекомендации авторам и правообладателям, как эффективно управлять своими правами, и отмечается необходимость соблюдения баланса между интересами создателей и общества.

Ключевые слова: авторские права, музыкальное произведения работа, интеллектуальная собственность, цифровые технологии, искусственный интеллект

Для цитирования: *Покровская А.В.* Гармония в гамме: защита музыкальных произведений в цифровую эпоху // Труды по интеллектуальной собственности (Works on Intellectual Property). 2025. Т. 55, № 4. С. 88–98; DOI: 10.17323/tis.2025.28902

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[1] Исследование выполнено при поддержке гранта Российского научного фонда № 24-28-00567, https://rscf.ru/project/24-28-00567/

[2] The research was supported by Russian Science Foundation, grant No. 24-28-00567, https://rscf.ru/project/24-28-00567/

Abstract. The article is devoted to a comprehensive analysis of modern problems of protecting musical works in the context of the rapid development of digital technologies. The author considers the transformation of the music industry from analog media to online platforms, focusing on the scale of legal and illegal distribution of content, as well as the emergence of new threats in the form of streaming piracy, illegal copying, the use of AI, and digital remixing. The work presents the evolution of the copyright system — from collective oral traditions to modern models of individual and collective protection, and characterizes the key legal and technological methods of recording and protecting rights (registration, deposit, DRM, digital watermarks, blockchain). International experience, judicial and administrative practice, features of Russian legislation are analyzed, strengths and weaknesses of the collective rights management system are shown. Particular attention is paid to the prospects and challenges associated with the integration of artificial intelligence into the music creation process, the development of blockchain and NFT solutions, the role of automatic monitoring system,s and the need for international harmonization of regulation. The conclusion offers recommendations to authors and copyright holders on how to effectively manage their rights and notes the need for a balance between the interests of creators and society.

Keywords: copyright, musical work, intellectual property, digital technologies, artificial intelligence

For citation: *Pokrovskaya A.V.* Harmony in the Scale: Protection of Musical Works in the Digital Age // Trudi po Intellectualnoy Sobstvennosti (Works on Intellectual Property). 2025. Vol. *55* (4). P. 88–98; DOI: 10.17323/tis.2025.28902

INTRODUCTION

In recent decades, the development of digital technologies has radically changed the concept of the creation, distribution and consumption of musical works. Today, any composition, regardless of genre or geography, can become available around the world in a matter of seconds — this opens up incredible opportunities for authors, performers, and audiences [1]. Online platforms for listening to music, digital stores and streaming services are rapidly developing, which not only expands the geography of the audience, but also diversifies sources of income for copyright holders [2]. However, along with these advantages, the risks also increase: the unprecedented ease of file sharing leads to the distribution of pirated copies, massive copyright infringements, and difficulties in determining the true holders of exclusive rights. The emergence of artificial intelligence technologies and generative neural networks capable of independently creating musical works based on the analysis of other people's works raises new questions for the legal system and ethics in the field of musical creativity [3]. In a situation where music is no longer tied to physical media and copies are distributed instantly via digital channels, intellectual property protection is becoming a key task not only for musicians themselves, but also for the industry as a whole. The relevance of this topic is due not only to the rapid growth of musical content on the Internet and the internationalization of the music market, but also to the emergence of new — sometimes very sophisticated — ways to circumvent the copyright system, which causes serious concern among representatives of the creative community and the state. The music industry is faced with the need to respond to the growing number of cases of illegal use of works, as well as to develop more advanced tools for identifying and preventing violations, both at the national and international levels [4]. Finding a balance between freedom of creativity, technological progress, and the rights of owners is becoming one of the pressing challenges for modern society, especially given the transboundary nature of violations in the virtual environment.

The purpose of this article is to comprehensively consider the specifics of protecting musical works in the digital age. To achieve this goal, the main legal instruments, modern Russian and international regulatory

trends, types of digital threats will be analyzed, and practical issues faced by authors, performers, and law enforcement agencies in real practice will be covered. Particular attention will be paid to the use of blockchain technologies, automatic copyright management systems (DRM), digital content labeling, as well as modern mechanisms for resolving disputes in the online space. The work proposes to briefly consider the following key issues: how modern technologies affect copyright infringement and protection; what laws and international agreements underlie the protection of music on the Internet; what are the typical digital threats (including streaming piracy, illegal file sharing, downloading via P2P networks, content generation by artificial intelligence); what successful precedents already exist in judicial practice and how the court responds to them; and what opportunities are provided by new technical means and platforms for searching, detecting and preventing violations on a global scale. Particular attention will be paid to the role of collective management organizations and the interaction between various participants in the music market. Such a comprehensive analysis will allow not only to delve into the issues from a legal and technological point of view, but also to outline ways to form a truly effective model for protecting musical works in the rapidly changing conditions of the digital age, as well as possible areas for improving legislation and the practice of its application, taking into account the growing digital challenges.

EVOLUTION OF MUSIC AND COPYRIGHT

Music occupies a special place in the history of mankind, being one of the most ancient forms of self-expression and communication. From the rhythmic dances of primitive tribes to the most complex symphonies and modern digital tracks, the evolution of music is closely linked to the development of society, technology, and culture [5]. Ancient civilizations created unique musical instruments and developed the basics of musical notation, which made it possible to pass on compositions from generation to generation. In the Middle Ages, a system of recording music was gradually formed, the first schools of musical theory appeared, and with the invention of printing in the Renaissance, a wide range of musicians gained access to musical literature, which contributed to the rapid development of genres and forms [6]. In modern times and especially in the 19th–20th centuries, music acquired a ramified structure: new styles emerged, its commercial potential expanded, and thanks to the invention of sound recording and radio, works became available to millions of listeners regardless of borders.

Simultaneously with the development of musical art, the need arose to protect the intellectual rights of authors. The first laws protecting the rights of creators appeared in Europe in the 18th century, when music became the subject of property relations [7]. Over time, key provisions of copyright are formed. Modern legislation in the field of music protects both the composition itself (melody, harmony, text) and its performance and recording. Authors are granted the exclusive right to use, reproduce, distribute, publicly perform, and rework the work. The copyright holder can permit or prohibit third parties from using the music, and also receive remuneration for its commercial use. Protection begins when a work is created, and the term of protection usually lasts for the life of the author and 50–70 years after his death, depending on the legislation of a particular country [8]. In addition to national laws, international agreements, such as the Berne Convention, play an important role, ensuring cross-border protection of works. At the same time, each new technological achievement - be it the mass reproduction of sheet music, the emergence of the gramophone or the development of digital networks - challenges the existing legal framework [9]. This requires society to find a balance between the interests of authors and the freedom to exchange ideas, as well as regularly update legal institutions to ensure fair protection of the rights of creators in an era of rapid technological change. Thus, the history of the evolution of music is inextricably linked with the formation and development of the copyright system, ensuring its prosperity and accessibility to society. Music has accompanied humanity throughout history, reflecting the spirit of the era, technological achievements, and social changes. As music evolved, so did the way we think about ownership and regulation of rights to works, and in the 21st century, these issues were further challenged by artificial intelligence. In ancient times, music existed primarily in the oral tradition. Songs, melodies, and instruments were passed down from generation to generation, belonged to the entire community, and were free to change, adapting to time and place. The concept of "copyright" simply did not exist: music was considered a collective property, and the very idea of authorship was very vague [10]. With the advent of notation in the Middle Ages, music gradually became more fixed. Professional composers such as Guillaume de Machaut and Josquin Desprez appeared at court and in the church, although even in this period, the names of authors were rarely recorded, and works were created to order and usually belonged to the customer, not the composer.

The situation changed with the invention of printing and the appearance of the first printed music in the 15th and 16th centuries. A market for music publications emerged, and with it the need to protect the interests of publishers first, and then composers. In some European countries, the first licenses or privileges limiting the

right to reprint music appeared [11]. Copyright laws in the modern sense began to emerge in Europe only in the 17th and 18th centuries, under the influence of Enlightenment ideas about personal freedom and property. The famous English Statute of Anne of 1710[3], although it concerned primarily book production, was the first key step towards recognizing the rights of authors to creativity, which later included music. However, even classics like Mozart and Beethoven had limited rights to full ownership and control over their works, and depended much on relationships with publishers, patrons, and customers. The 19th century saw the rise of mass music production and the emergence of new ways to distribute music: first sheet music, then mechanical musical devices, and later gramophones and vinyl records. The development of the industry gave rise to new professions and new legal problems — for the first time, specialized societies for the collective management of copyrights appeared, such as the French SACEM (1851)[4] or the American ASCAP (1914)[5], which took on the collection of royalties and the distribution of income among authors. During the 20th century, the music industry faced each new technological revolution: tape recorders, radio, television, and later CDs, the Internet, and streaming services [12]. Each time, the law was forced to catch up with technology: copyrights were extended to include synchronization with cinema, television broadcasts, and with the development of the global market, international agreements were required, such as the Berne Convention[6] and the acts of the World Intellectual Property Organization.

The advent of the digital era has made intellectual property issues even more pressing. On the one hand, the prevalence of the Internet and the ease of copying music files have led to a reduction in the income of copyright holders and an increase in piracy [13]. On the other hand, music services, streaming platforms, and digital stores have become a source of new models of distribution and monetization. States have been forced to tighten laws, introduce modern mechanisms of collective management, and control the activities of digital platforms. At the same time, algorithms for automatic recognition of copyright infringement have appeared — an example is Content ID on YouTube. In recent years, a new discussion has unfolded — about music created by artificial intelligence [14]. Modern neural networks are capable of generating original works or composing music in the style of any composer, analyzing gigantic arrays of data. This raises complex legal and ethical questions. Who is the author and copyright holder of such a work? Should the developer of the neural network receive a reward? What if the neural network was trained on the compositions of thousands of real authors — do they need to be paid "royalties"? Can machine tracks compete with human creativity, and how will this affect the future of musical culture?

Today, the legislation of most countries is searching for a balance between the protection of classic copyrights and the need to encourage technological innovation. Some countries have already established that works created exclusively by AI are not protected by copyright, but if human participation in the creation of music is decisive, it is recognized as an object of protection [15]. However, global experience is still extremely fragmented: there are no uniform standards, international agreements, and clear mechanisms for distributing income for all participants — developers, users, authors of original tracks, and listeners.

The transition to the era of artificial intelligence and general digitalization puts musicians, lawyers, producers, and legislators before the need to develop new standards, methods of compensation, and collective management of intellectual property. In the coming years, international agreements are likely to emerge that will take into account hybrid forms of creativity, cooperation between humans and machines, new types of royalties and income distribution, and will also ensure a stable balance between the interests of society, copyright holders, and technology companies. The main task is to protect the rights and interests of composers without stifling the development of musical culture and innovation [16]. The history of the evolution of music and copyright is the history of the constant search for a balance between individual freedom of creativity, commercial interests, and the public right to access art. The 21st century puts this dilemma in an unprecedented perspective, because artificial intelligence is already becoming not only a tool, but also an independent co-author, and perhaps even the author of new art. What will be the concepts of authorship, rights, and, in general, the place of music in society in the near future — time will tell.

THE DIGITAL AGE: NEW OPPORTUNITIES AND NEW THREATS

The digital age has changed the music industry radically, opening up both amazing opportunities and creating

[3] Great Britain. Statute of Anne, 8 Anne. 1710. S. 19. Retrieved from https://www.copyrighthistory.org/cam/tools/request/showRecord.php?id=leg_uk_1710

[4] Société des Auteurs, Compositeurs et Éditeurs de Musique (SACEM). Founded 1851, France. Retrieved from https://www.sacem.fr/

[5] American Society of Composers, Authors and Publishers (ASCAP). "Our History". Retrieved from https://www.ascap.com/about-us/our-history

[6] Berne Convention for the Protection of Literary and Artistic Works, September 9, 1886, as amended on September 28, 1979, 828 U.N.T. S. 221.

new threats for authors, performers, and listeners. The main transformation is associated with the mass distribution of the Internet and digital technologies, which have completely changed the ways of creating, storing, distributing, and consuming music.

Just twenty or thirty years ago, the vast majority of people got acquainted with music through cassettes, discs, or the radio. Today, musical works become available literally in seconds — thanks to streaming services, online stores, social networks, and YouTube. The Internet has given musicians a unique chance to reach a global audience with virtually no intermediaries: any author can record a track "on the fly", upload it to a platform, and instantly share it with millions of listeners around the world [17]. This has fundamentally changed the scheme of music promotion, allowed thousands of independent authors to declare themselves without the participation of major labels, and also accelerated musical creativity itself thanks to the exchange of ideas and collaborations at a distance. However, along with the advantages, the digital era has brought a whole range of challenges. Powerful tools for copying and sharing files, a developed system of peer-to-peer networks, and torrent trackers have led to an unprecedented scaling of piracy [18]. Almost any new album or track appears on illegal resources on the same day as its official release. Music has become one of the most easily copied and distributed products. For authors and performers, this has resulted in gigantic losses [19]: sales of physical media are falling, and even digital commerce is reducing profits. To this day, billions of tracks around the world are downloaded and listened to outside the legal field, without bringing their creators a cent. In addition, the digital era has increased the risks of "anonymous" copying, when it is difficult to track down the offender, and technologies for bypassing blocking and encryption make it possible to hide the distribution channels of pirated content [20]. Moreover, applications such as streaming bots, unauthorized remixes, and automated "music generators" complicate the protection of the individual rights of the author.

However, the digital era has provided new tools to combat piracy and support copyrights — from automated Content ID systems to new models of monetizing music through subscriptions, donations, and merchandising. Many artists are finding alternative sources of income: live online broadcasts, crowdfunding, and exclusive content.

As a result, the Internet and digital technologies have created a unique space [21]: on the one hand, this is unprecedented freedom and democratization of musical creativity, and on the other, a constant threat of copyright infringement and unpaid labor of authors and performers. The music industry is looking for new balances between openness, protection of the interests of creators, and freedom of the audience, and the issue of copyright itself has become more acute and relevant than ever before.

The radical changes brought by the digital age are reflected not only in the ways of creating, distributing, and consuming music, but also in international judicial practice, where some of the most precedent-setting cases on the protection of musical rights are considered.

One of the key cases was the sensational story in the USA, "Capitol Records v. ReDigi" (2018)[7]. The company ReDigi has developed a service for reselling digital music files, allowing users to "transfer" purchased tracks to each other, as is traditionally done with physical media, such as CDs. However, Capitol Records went to court, arguing that even the temporary copying of a digital file during such resale violates copyright, since a new copy of the work is essentially created. The New York Federal Court agreed with the copyright holder's position and ruled that digital music cannot be freely resold without the copyright holders' permission: transferring a file in a digital environment is inevitably associated with its copying, and therefore extends to actions that go beyond the usual use of the work. No less resonant was the precedent of the Swedish torrent tracker The Pirate Bay. Since 2009, the founders of this platform have been prosecuted by courts around the world for aiding and abetting mass copyright infringement: the service provided a convenient exchange of pirated music and other files on a global scale. The Swedish court found them guilty and sentenced them to prison terms and multi-million dollar fines, but even these decisive measures did not stop the spread of piracy. The platform still operates, using mirrors and proxies in many countries. This example clearly illustrates that in the digital age, even high-profile court decisions are insufficient to fully combat copyright infringement — coordinated international measures and technological innovations are needed. The emergence of new threats has also led to the development of innovative solutions [22]: for example, the problem of mass copyright infringement on video hosting and streaming services has given rise to automated content identification systems, primarily Content ID on YouTube. Thanks to agreements with major labels such as Universal Music Group, the system automatically finds and blocks, or monetizes videos with illegally uploaded music in favor of copyright holders. This helps to compensate for some of the losses from piracy, but also creates a new problem: automatic blocking sometimes affects honest users, and it is not easy to challenge the system's decision. Despite

[7] Capitol Records, LLC v. ReDigi Inc., 910 F.3d 649 (2d Cir. 2018).

the controversy, such technologies have become a benchmark for the entire industry — they are also being implemented by other major platforms, such as Facebook with Rights Manager or SoundCloud with its own recognition system.

A separate layer of problems is related to digital sampling: the famous case of Pelham v. Kraftwerk (EU Court of Justice, 2019)[8] became a key one for Europe. German producer Moses Pelham used a two-second fragment of a Kraftwerk track without the consent of the authors. The European Court ruled that even the shortest and, at first glance, insignificant sample requires permission if it is recognizable. This decision strengthened the legal protection of musicians, extending control over digital fragments of music, and became an important precedent throughout the EU. All of the above clearly demonstrates that protecting music in the digital age requires constant improvement of technical solutions, adaptation of legislation, and close international cooperation. Modern judicial practice forms the boundaries of what is permissible in the use, distribution, and monetization of digital music — and the industry is still forced to find a balance between the interests of copyright holders, technological capabilities, and millions of listeners around the world.

METHODS OF PROTECTING MUSICAL WORKS

Modern protection of musical works is based on a combination of traditional, digital, and legal mechanisms. Traditional methods include registration of a work in national and international copyright societies or official registries — for example, in the Russian Authors' Society (RAO) or the US Library of Congress - which allows you to confirm the authorship and date of creation of the composition. Another effective tool is deposit — transferring a copy of the work for storage to specialized organizations in order to have additional evidence in the event of disputes [23]. In many countries, the principle of automatic copyright protection applies: a work is considered protected from the moment of creation, but registration significantly simplifies the protection of rights in court.

An important element of traditional protection has become collective management of rights. Specialized organizations such as RAO, WIPO, IFPI, SACEM, and others collect and distribute royalties, as well as monitor the use of works on radio, television, public, and digital services. This is especially important for individual authors, who find it difficult to independently track all cases of use of their music. In the context of rapid digitalization, new technological solutions are becoming fundamental. These include digital rights management (DRM) technologies, which are implemented at the level of software, applications, and specialized platforms — for example, Apple Music or Spotify protect audio files from unauthorized copying and distribution [24]. To combat illegal distribution and piracy, digital watermarking is used — invisible identifiers in audio files that allow you to track a leak and prove the fact of infringement. A promising direction is the use of blockchain: decentralized copyright registries (for example, Audius, Mycelia) provide transparent and immutable accounting of authorship, usage history, licensing, and payments, which reduces the risk of manipulation with these labels and platforms, and also facilitates international protection of rights [25].

Among other technical means, automated content recognition systems (content ID) on YouTube, Shazam, and other platforms stand out, which identify musical works with high accuracy based on short fragments, instantly signaling copyright holders about possible violations and allowing the use of their music to be monetized through advertising revenue [26]. Legal mechanisms remain an integral part of the protection of musical works. Of greatest importance is the competent execution of contractual relations: the conclusion of license agreements (exclusive or non-exclusive), contracts with publishers, labels, digital platforms, where the conditions of ownership of rights, the procedure for receiving remuneration, and territorial and time frames for the use of music are clearly defined. In case of violations, the author or copyright holder has the right to seek judicial protection with demands for recognition of authorship, recovery of damages, compensation for moral damages, seizure of illegally obtained profits, or blocking/removal of pirated content [27]. In recent years, pre-trial dispute resolution has become increasingly widespread — mechanisms for claim correspondence, mediation, and special processes for considering violations on digital platforms are used. Such procedures often allow for the prompt restoration of justice at a lower cost than litigation.

The international aspect is also of particular importance, given the cross-border nature of music distribution via the Internet. Rights are protected based on international treaties and conventions — the Berne Convention, the Universal Copyright Convention, the TRIPS Agreement — as well as through participation in global professional associations such as WIPO, IFPI, CISAC. Composers and performers can register their works in several jurisdictions at once or use the services of specialized international management companies [28].

Educational and preventive work plays a significant role. It is necessary to constantly improve the legal lit-

[8] Case C-476/17, Pelham GmbH and Others v. Ralf Hütter and Florian Schneider-Esleben, ECLI:EU:C:2019:624 (CJEU, 29 July 2019).

eracy of authors and performers, inform them about modern methods of protection, principles of concluding contracts, and the specifics of using other people's content, especially in cases of working with samples and covers [29]. Recent years have been marked by the active development of consulting services and educational projects that help prevent violations and strengthen the positions of copyright holders. Thus, effective protection of musical works is based on a comprehensive approach that combines preventive measures, the use of the latest technologies, competent registration of legal relations, and the active participation of authors or representatives in collective management. Only the integration of various methods can ensure real protection of the interests of composers and performers in the context of a dynamically developing digital economy.

INTERNATIONAL EXPERIENCE AND PRACTICE

International experience and practice of protecting musical works show that the level and features of copyright protection vary significantly depending on the jurisdiction, despite the existence of unified international acts such as the Berne Convention for the Protection of Literary and Artistic Works and the Universal Copyright Convention[9]. In the EU countries, the Directive on the Protection of Copyright and Related Rights in the Information Society[10] is in force, which sets a high standard of protection, including effective DRM (digital copyright management) measures and strict liability of Internet providers for infringement of rights. In the USA, a copyright registration system is used, which, although not mandatory, significantly affects the possibility of judicial protection (for example, only a registered object can be protected in court and receive compensation). A feature of American practice is the institution of "fair use", which often becomes the subject of disputes — its applicability to musical works depends on the purposes and nature of use, as well as the volume of borrowing. In the CIS countries, including Russia, the system is built primarily on the provisions of the Berne Convention and national laws (for example, the Civil Code of the Russian Federation[11]); however, the problem of piracy, insufficient development of collective societies for the management of rights, and imperfect judicial practice remains. In a number of Asian countries, such as China and India, despite the ratification of international agreements, protection is often accompanied by difficulties associated with the insufficient effectiveness of law enforcement and the prevalence of mass violations. A case study of successful legal protection can be seen in the case of the American singer Taylor Swift against a major radio network[12], when, after the mass unauthorized use of her musical works, large compensation was collected and the removal of all illegal copies was ensured. In another landmark case[13], the group Led Zeppelin won a lawsuit over alleged plagiarism of the composition "Stairway to Heaven", proving the originality of their work in the US Court of Appeals. However, there are also less successful stories: many foreign performers face difficulties in protecting copyright in countries with a low level of law enforcement. For example, individual Russian musicians are still forced to independently identify and prevent violations, since collective management organizations often work ineffectively, payments to authors are opaque, and compensation is low. There are also cases when performers were unable to achieve success due to formal errors in registering rights or filing a claim.

In general, the practice of protecting musical works proves that even in the presence of international agreements, the specifics of national legislation, the development of the collective management system, the quality of forensic examination, and the culture of compliance with intellectual property rights play an important role. Successful protection is directly related to competent legal support and the active position of the author or copyright holder.

International experience and practice in the field of protecting musical works are clearly demonstrated by a number of significant cases reflecting modern difficulties and approaches in copyright and related law. Thus, in the case of Ed Sheeran v. Marvin Gaye's Estate (2023, USA)[14], the heirs of the famous soul singer claimed that Sheeran's hit "Thinking Out Loud" borrowed the harmony and rhythm of the song "Let's Get It On". The jury, however, noted that the similarity of the overall harmonic sequence does not constitute a copyright infringement, since chord progressions as such are not protected by copyright. This case vividly illustrates the difficulties in distinguishing permissible creative influence from plagiarism, and also raises the question of the protectability of individual musical elements.

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[9] Universal Copyright Convention, Sept. 6, 1952, as revised July 24, 1971, 943 U.N.T. S. 178.

[10] WIPO Copyright Treaty, Dec. 20, 1996, S. Treaty Doc No. 105-17, 36 I.L.M. 65 (1997).

[11] Civil Code of the Russian Federation, Part Four, Federal Law No. 230-FZ, 18 December 2006. Retrieved from https://www.wipo.int/edocs/lexdocs/laws/en/ru/ru083en.pdf

[12] Swift v. Mueller, No. 15-cv-1974 (D. Colo. Aug. 14, 2017).

[13] Michael Skidmore, as Trustee for the Randy Craig Wolfe Trust v. Led Zeppelin et al., 952 F.3d 1051 (9th Cir. 2020) (en banc), cert. denied, 141 S. Ct. 453 (2020).

[14] Griffin v. Sheeran, No. 1:17-cv-05221 (S.D.N.Y. May 4, 2023).

Another major conflict[15] unfolded between Spotify and Wixen Music Publishing in 2018, when the American publisher filed a multi-billion dollar lawsuit for hosting hundreds of thousands of songs without a license. The case was settled out of court, but it highlighted the urgent need for transparent online licensing mechanisms and effective collective management of digital rights, which became a challenge for the entire streaming industry.

In considering the protection of musical works in the digital age, it is essential to analyze how the activities of major market participants intersect with antimonopoly legislation. The formation and functioning of large collective rights management organizations—such as ASCAP and BMI in the United States — have historically raised significant antitrust concerns, culminating in the landmark 1941 consent decrees that continue to shape licensing practices and competitive dynamics in the market[16]. These regulatory interventions were designed to prevent monopolistic abuse and provide fair access to music for broadcasters and other users, balancing the interests of rights holders, creators, and consumers. The issue remains topical in the context of ongoing consolidation in the sector, as seen in cases such as the Sirius-XM merger, where antitrust authorities reviewed potential effects on competition and access to music content[17]. At the same time, technology platforms have emerged as dominant gatekeepers of musical content. In recent years, disputes such as Spotify's complaint against Apple before the European Commission have highlighted challenges related to platform power[18], unfair business practices, and restrictions on market access for digital music services. These cases illustrate that the intersection of copyright protection and antimonopoly regulation is central not only to legal doctrine, but also to practical market functioning in the digital era. For legislators and industry stakeholders, it remains critically important to maintain a regulatory environment that supports both innovation and fair competition, while safeguarding the interests of authors and copyright holders against undue market concentration and gatekeeping.

Additionally, it is worth briefly noting the extensive discussion in the United States, particularly in legal scholarship by Professor Jessica Litman [30] and others [31], regarding the significant influence wielded by major music distributors during the drafting of new copyright legislation. These discussions highlight concerns that large industry players may shape legislative reforms in ways that prioritize their commercial interests, potentially at the expense of independent creators and smaller rights holders. Such commentary underscores the importance of inclusivity and balanced representation in the legislative process, especially when redefining the responsibilities and liabilities of digital platforms in the arena of intellectual property.

No less international resonance was caused by the trial of Megaupload founder Kim Dotcom, accused of facilitating mass piracy, including music piracy[19]. For the first time, it demonstrated the possibility of international extradition for digital infringement, as well as the importance of cooperation between law enforcement and the music industry in the fight against online piracy. In Germany, a long-standing legal battle[20] between the GEMA collective management society and the YouTube platform (2012–2016) played a special role, as a result of which a compromise was reached: YouTube began paying royalties to rights holders and implemented one of the most advanced systems for automatically recognizing and blocking unauthorized tracks — Content ID. This allowed both authors and platforms to more effectively control and monetize the use of works on the Internet.

RECOMMENDATIONS FOR AUTHORS AND COPYRIGHT HOLDERS

In the digital age, protecting copyright in music requires new approaches and constant vigilance. Effective protection of interests on the Internet is impossible without a comprehensive approach. First of all, it is important to ensure formal recording of authorship: save all drafts, intermediate versions of tracks, working files and correspondence confirming your contribution; register your works with rights management groups (RAO, VOIS and others), and, if necessary, formalize state registration of an intellectual property object; use the date of the initial publication on official pages or major music platforms as evidence of priority.

It is equally important to control the distribution of your music by posting works yourself on legal digital platforms (Apple Music, Spotify, Yandex.Music, VK, etc.), and for distribution, use proven aggregators that work

[15] Wixen Music Publishing, Inc. v. Spotify USA Inc., No. 2:17-cv-09288 (C.D. Cal. filed Dec. 29, 2017).

[16] U.S. v. ASCAP, 1941, Civ. No. 1395 (S.D.N.Y.)., U.S. v. BMI, 1941, Civ. No. 64-378 (S.D.N.Y.).

[17] Federal Communications Commission. "Report and Order and Declaratory Ruling, Applications for Consent to the Transfer of Control of Licenses, Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc." MB Docket No. 07-57, July 25, 2008. Federal Trade Commission.

[18] European Commission. "Antitrust: Commission opens investigation into Apple's App Store rules". Press Release, 16 June 2020.

[19] United States v. Dotcom, No. 1:12-cr-00003-LO (E.D. Va. unsealed Jan. 19, 2012).

[20] Landgericht Hamburg, Urteil vom 20. April 2012 — 310 O 461/10 (GEMA v. YouTube).

with copyright and related rights. Constantly monitor the use of your tracks — use specialized monitoring services (for example, Yandex Content Track, TuneCore, Soundmouse, BMAT, ACRCloud, Audible Magic, Digimarc) that use audio fingerprints and digital watermarks to search for music on YouTube, social networks, TV, radio, and streaming platforms. Connect systems such as Content ID to automatically identify and monetize the use of tracks on video hosting sites and conduct regular manual searches by titles and key phrases in search engines, social networks, forums, and pirate sites. If you record a violation, first be sure to save the evidence: screenshots, archived copies of pages, data on views or downloads, and other materials. In some cases, you can try to resolve the issue directly by contacting the violator with a request to stop illegal use. If this does not help or the work is posted on the platform, send an official complaint via a special form (for example, a DMCA notice on YouTube, a corresponding form on VKontakte, etc.). If your demands are ignored, send a claim by mail or email or immediately seek help from a lawyer; you can also use the support of a collective management organization (CMO) or file a lawsuit to recover compensation. Modern technologies offer wide technical protection capabilities: be sure to use unique ISRC identifiers when publishing tracks in stores; implement digital watermarks - imperceptible to the ear, but detected by programs, which will help confirm the source and authorship. Also, promptly declare your copyright in automatic recognition systems, such as YouTube Content ID, VK, SoundCloud, TikTok, and others, to receive notifications about new uploads of your works and promptly respond to them. Finally, maintain ongoing cooperation with professional organizations: registration of works and collective management agreements with RAO, VOIS, and other rights protection societies significantly increase the likelihood of a quick response to violations and receiving compensation even for unauthorized use on major services and in the media.

In general, only comprehensive monitoring, reliable recording of authorship, the use of modern technological solutions, and interaction with professional organizations significantly increase your chances of effective protection of intellectual property in the modern digital environment.

DEVELOPMENT PROSPECTS

Modern approaches to the protection of intellectual property (IP) are strongly influenced by the rapid development of digital technologies. In the coming years, a number of significant changes are expected both in the technological sphere and in the evolution of legislation regulating this area.

One of the key trends has become the active implementation of blockchain technologies in the processes of confirming copyright and licensing digital content. The use of distributed registries allows you to transparently record the fact of creation, ownership, and transfer of rights to various types of works — from music to scientific publications and software code. Platforms such as Ascribe and Po.et provide services for registering and accounting for digital rights, which significantly complicates the counterfeiting or illegal use of IP objects.

The use of digital watermarks, digital fingerprints, and various DRM (Digital Rights Management) systems is also rapidly developing. These technologies make it possible to integrate unique tags into digital content, which helps copyright holders track the distribution of their works online and, in case of violation, promptly identify leaks and initiate protective measures.

An important role in modern approaches is played by artificial intelligence (AI), which is not only an object of copyright and related rights, but also a powerful tool for protecting intellectual property. With the help of AI, automated monitoring of large volumes of media content is carried out, and plagiarism, illegal reproduction, rewriting, or even synthesis based on original works is detected. Examples include systems such as YouTube Content ID, as well as modern anti-plagiarism services that use machine learning to analyze texts and identify borrowings.

The development of NFT (non-fungible token) technology as a way to record ownership of digital works deserves special attention. NFT creates a unique digital certificate for each object, allowing the author or copyright holder to indisputably prove the authenticity of their work at the time the token appears. NFTs often contain "smart contracts" that automate the payment of royalties and the transfer of rights upon resale, but the legal force of such tokens and mechanisms for monitoring the use of the work are still a subject of debate.

Despite rapid technological progress, legislation does not always keep up with the changes taking place. Already now, many countries are amending IP laws, expanding the list of protected objects, establishing new procedures for working with digital evidence, and defining automated tools as participants in legal relations. In Russia, for example, since 2023, state registration of digital works has been developing through the State Services platform using time-stamping services. In the future, it is expected that international cooperation will be intensified in terms of access to data and the unification of electronic document management standards, which will make it possible to more effectively combat digital piracy, simplify procedures for blocking and removing illegal content, and increase the responsibility of Internet platforms for compliance with intellectual property

rights. Significant changes will also affect practice — new jurisdictional mechanisms for interaction and compensation for damages will appear. Particular attention will be paid to issues of determining the legal status of works created with the help of AI and responsibility for their distribution. Thus, the rapid development of digital technologies poses new challenges for law enforcement agencies, requiring the updating of legislation, the use of modern automation tools, and an increase in the level of international cooperation in order to effectively protect the results of both human and artificial creativity.

CONCLUSION

In the context of the rapid development of information technology, modern problems of copyright protection in the digital environment are becoming especially relevant. An analysis of current legislation, judicial practice, and the latest trends has shown that existing mechanisms for the protection of intellectual rights often fail to keep up with changes in the field of digital information exchange, content distribution, and the emergence of new digital products, including works created using artificial intelligence.

The main conclusion is the need for continuous improvement of both national and international copyright regulation. This involves the creation of more effective digital tools for monitoring and identifying violations, the development of law enforcement practices, as well as increased cooperation between government agencies, Internet platforms, and copyright holders. In addition, it is important to pay attention to the balance between the interests of authors, users, and society as a whole, ensuring free access to information with due protection of the rights of creative individuals. Particularly complex are cases related to cross-jurisdictional violations, automated distribution of content, as well as determining the legal status of works created as a result of collective activity or with the participation of artificial intelligence. These issues require further theoretical development and practical testing of new approaches and tools.

The following issues remain relevant for further discussion: how to ensure effective international cooperation in protecting copyright on the Internet; how to minimize abuses by both copyright holders and users; to what extent is it possible to delegate the function of identifying and blocking infringing content to private digital platforms; and finally, how will the role of traditional legal protection institutions change in the context of increasing automation and the use of artificial intelligence in the creation, distribution and protection of copyright works. The solution to these problems will determine the directions of development of the copyright protection system in the digital environment in the coming years.

Further development of legislation and practice in the field of copyright protection in the digital environment should take into account the balance of interests of copyright holders, authors, Internet service providers, and end users. The most important role here is played by the formation of international standards and the harmonization of national legal systems in order to ensure adequate protection of works in the context of the transboundary nature of the digital space. Particular attention should be paid to improving dispute resolution procedures, including the introduction of alternative methods of conflict resolution, such as mediation and online arbitration. This will reduce the burden on the judicial system and speed up the restoration of violated rights. Equally important is the development of mechanisms for educating users about copyright norms and improving the culture of their observance. In the context of rapid technological progress, it is public awareness that will become the key factor in the effective protection of intellectual property. Thus, the further evolution of the copyright protection system in the digital environment involves the integration of legal, technological, and educational measures aimed at creating a balanced, modern, and flexible model capable of adequately responding to the challenges of the digital age.

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