# emusic

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# 1  Introduction

## *1.1  A one-stand click*

For the past two or three years a spectre has been haunting the music industry: the prospect of listeners getting the music they want directly from the Internet, free of any charge. Right now, the only thing you have to do to make a recording executive nervous is to mention the word MP3 – this new powerful compression format that allows Internet users to retrieve music from the Internet without having to pay for it.

For dreamers, or should we say utopians, the MP3 format is a way of liberating music from the hands of gatekeepers and profiteers (the music industry), and to return music to its original, intangible form. The record industry, on the other hand, sees MP3 as a pandemonium in which copyright is obliterated. Chaos and piracy take over while robbing musicians of royalties and record labels of capital.

In effect, both sides are correct. And this will inevitably lead to extensive legal battles between the people who own copyrights and the people who hail the principle of free information.

Yet, we must realise that music is more than a corporate revenue source. The implications of digital distribution reach far beyond fights over software standards and royalty collection. For the people who listen to it, music has never been about its physical form, but about what is in the grooves of a LP or the digital pits of a CD. The listener treasures the information, not the fabric. With digital network distribution we have the opportunity of making real that feeling, the feeling of music as intangible. This, in turn, might alter the way music is made, released, sold, stored, and valued.

Digital distribution will affect everyone from listeners to musicians to record-store clerks to manufacturers of CDs, and it will undoubtedly disrupt and forever change the routines that have grown over more than a century of recorded music. Listeners will have more choices while musicians may get away with making fewer of them (for example, releasing more versions of a single song). Recorded music will be far more accessible, but might

also be less respected and inviolable. Music that is no longer in solid form may just not seem as significant as the one embedded in physical objects such as the CD. Music could then move closer to the spontaneity of live performances, but it might also demand less of a commitment. Instead of being a lifelong companion in your record collection, music could be nothing more than a one-click stand – downloaded and erased.

## 1.2  Understanding networks

The reason why the Internet has become such a decisive feature in the distribution of music, and might end up overtaking the market for recorded music, is to be found in a new way of conceiving economy which have entered in our way of doing business during recent years. The old economic rules are broken, and the rules of the *network economy* is the survival kit for the new world:

> "Forget supply and demand. Forget computers. Today communication, not computation, drives change. Commerce is rushing into a world where connectivity is everything and where old business know-how means little. In this new order, success flows primarily from understanding networks, and networks have their own rules."

In these words the Fourth Estate publishers introduce executive editor of *Wired* Kevin Kelly's latest book *New Rules for the New Economy – 10 Ways the Network Economy is Changing Everything*. And within this economic framework and the realities of the MP3 format the music industry – one of this decade's most successful enterprises[1] – is to build its future.

## 1.3  When a box is not enough

The scope of this paper is to analyse the challenges the music industry faces when it is to act in a network economy where the distribution of music is no longer restricted to selling physical artifacts to consumers through ordinary outlets – when a box is no longer enough. That is, we wish to uncover *what happens when music becomes e-music.*

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[1] The introduction of the Compact Disc (CD) helped the gross sales of recorded music grow to $12.2 billion in 1997, the most recent year for which statistics are available, from $3.8 billion in 1983. Jon Pareles: "Trying to Get in Tune With the Digital Age", 1999-02-01, New York Times on the Web.

We cannot focus on all aspects of e-music – it simply is not possible to map all consequences which digitalisation may or may have on the music industry. Based on an analysis of the legal and economic frameworks which the music industry operate within, that is various kinds of intellectual property rights legislation and rules of the network economy, we hope to answer the following questions:

- How and in what way will the music industry change (or be changed)?
- How will the music industry distribute their products and in what form(at)s?
- And more important, how will they make money in a network economy?
- Who will they be up against?
- And finally, how will this new way of distributing music affect the way we consume?

In attempting to answer these questions, it is vital to focus on all major interests of the music industry, including record labels, consumers, artists, and lawmakers. A decisive element of the analysis is to discuss how these parties might be working together in the pursuit of common interests.



**Everyone has a different idea of what they want from e -music**
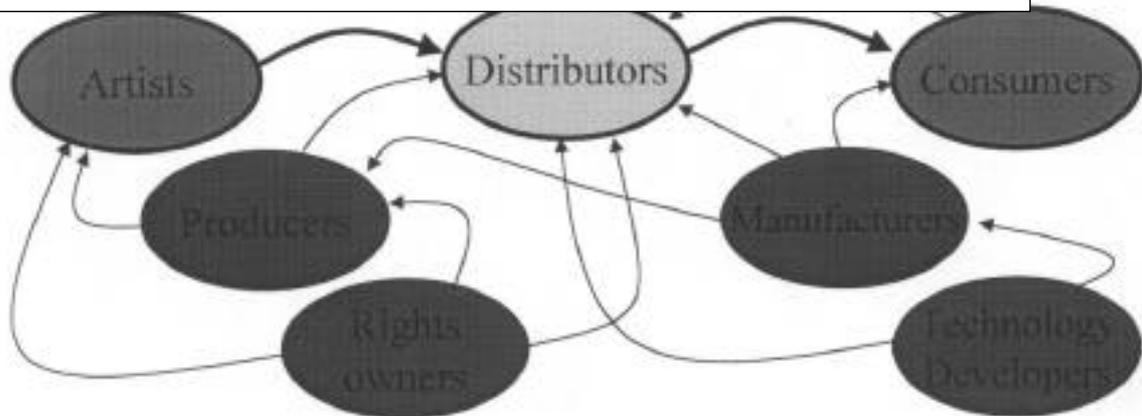
As mentioned in the first part of the introduction, music is more than a corporate revenue source, it also something intangible and highly valued by its listeners. This automatically shifts the scope from solely being a question of certain legal and economic questions into

a matter of culture. Therefore, the cultural implications of e-music will also play an important role in this paper.

## *1.4 Basic framework*

The above mentioned questions call for a basic framework. That is, to understand the full implications of e-music, we need to shed some light onto the rules that govern the music industry.

   On the one hand, we aim to establish an understanding of the new economic rules that the music industry must abide by in order to survive in the network economy. Using Kevin Kelly's *New Rules for the New Economy*, we describe the basic rules of the network economy and interpret its consequences for the music industry – the relationship between artists, record labels, and consumers.

   Secondly, our framework encompasses one of the most crucial conditions of network economy itself: intellectual property right. Without the concept of copyright, the incencitive for artists to create works of art – in our case music – will vanish. And with no new music being made, both the industry and markets will suffer. We do not attempt to give exhaustive explanations of all aspects of intellectual property legislation. Instead we identify some basic concepts of copyright concerning the use of protected works on networks. Since e-music is a global phenomenon, this part of the paper mainly concentrate on international intellectual property rights legislation as amended by the member states of the World Intellectual Property Organization (WIPO), and the European Commission's visions for copyright in the information society.

   Following the ideas of Steven Johnson's *Interface Culture*,

> " (…) intellectual property law as it stands now, doesn't have a language to describe the new realities of digital information – and particularly digital information piped through the infinite relays of the World Wide Web. On the most basic level, the problem here is that our intellectual property laws don't know how to deal with windows, with metaforms that hover in that strange zone between medium and message."  (Johnson: 1997, 95).

We discuss whether it is possible to convey the traditional copyrights legislation which is closely linked to physical products to the zeros and ones of cyberspace.

## 1.5 Definitions

We have already used terms such as e-music and network distribution several times. For the purpose of this paper, we here briefly define some concepts that are central to our analysis.

- E-music (electronic music). We define e-music as digitised music distributed by digital networks, mainly by Internet. Under international copyright legislation any music (phonograms) that has been made available to the public on digital networks must be considered as if it had been published for commercial purposes. (Article 15, 4. WIPO *Performances and Phonograms Treaty* / CRNR/DC/95)
- Network distribution. We understand network distribution (of e-music) as the making public of any protected work of digitised music in digital networks that can be accessed by the public in such a way that they may request its transmission individually with respect to the time and place.
- Copyright. In this concept we include legislation that regulates the use of protected music on digital networks (e-music).
- Music industry. This term represents commercial rights holders (including record labels), distributors (excluding record labels), manufacturers of the physical media that carry the music, and media which supply music to the public.

## 1.6 Reader's guide and paper design

This analysis of the impacts of e-music on the music industry falls into three parts: At first we present the theories, ideas, and perspectives that guide our analysis of e-music: network economy and intellectual property rights.

Secondly, guided by our key questions, we analyse what happens when music becomes e-music. We here shed light onto the relationship between the artists, the record labels, and the consumers with a special focus on the intermediaries (the music industry) whose position traditionally changes along with the market. This part of the analysis also includes the role of technological developments such as closed standards and other technical precautions persued by the industry. In addition, we outline the MP3 format and the new markets promoted by it (such as mobile MP3 devices).

And finally, on the basis of our conclusions, we focus on the future perspectives of e-music, e-record labels, and e-artists.

In the process of writing the analytical parts of this paper, we have relied mainly on material gathered from the Internet. E-music is an area which – untill now – has not been the centre of much attention within the academic world, therefore, our sources are mostly people working within the e-music industry, or journalistists covering the area. However, one of our most inspiring sources of information is Eric D. Scheirer who is involved in the work with MPEG formats and currently attached to the MIT Media Lab with e-music as his field of research.

This paper is written in co-operation, however, the authors are formally responsible for the following sections: Franz Kampp Berliner (9-17, 23-34) and Thomas Lue Lytzen (3-7, 17-22, 34-43).

# 2  Analytical framework

This chapter presents the theories, ideas, and perspectives that guide our analysis of e-music. It presents the two areas of interest mentioned in the introduction: intellectual property rights legislation and network economy. We discuss these areas separately – stressing that they are not the subjects of our project but tools that guide and structure the analysis. Consequently, this chapter does not aim to present exhaustive explanations of the concepts of copyright law and network economy. Instead, we identify key principles and perspectives that constitute an overall framework for e-music itself.

## *2.1  Network Economy*

As a result of digitalisation and the spreading of digital networks, mainly the networks under the protocols that constitutes the Internet, the traditional fundamental rules of economy have been, and will continue to be, challenged by new possibilities and limitations, resulting in a new set of rules.

In this section we will present an overview of this emerging new economy - the network economy. The theoretical framework for this project is primarily Kevin Kelly's *New Rules for the new economy.*

Kelly argues that behind all the talk about new technological inventions there lays a new economic order - something that is much bigger than the digital hardware itself. The hardware is the premise for this new order to happen, but not the real change.[2]

This new economy is about communication, or as Kelly expresses it, the new economy *is* communication.

> "The new economy is about communication, deep and wide. All the transformations suggested in this book stem from the fundamental way we are revolutionizing communications. Communication is the foundation of society, of our culture, of our

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[2]A more elaborated account for how Technology changes the way we create and communicate can be found in Steven Johnson's *Interface Culture*, Basic Books 1997.

humanity, of our individual identity, and of all economic systems. This is why networks are such a big deal" (Kelly 1999, 5)

As the case was with the industrial revolution, the shift towards this new economy will fundamentally change the way we structure our lives, societies and economy. The metaphor of the net will be the most important metaphor around which we organise our lives.

Whereas the industrial age was primarily based on the ability to mass-produce tangible items such as cars, food, compact discs etc., the networked society introduces a shift towards intangible items, traded in entities of information, relations, copyright, entertainment, security, etc. Of course, the production of tangible items will continue to exist, but its share compared to the share of intangibles will decrease.

This shift is especially interesting in the context of this paper, since the music industry is already a major provider of intangibles, but for the time being prefers to distribute their products in the form of tangibles.

Additionally, digital networks introduce a variety of new possibilities in connecting with customers. From living in a time where customers had to almost 'touch' the companies for every transaction to take place, the networks introduce the possibility for a much more flux based contact pattern. To describe this process, Kelly turns to the realm of organic life. As with the first multicellular life forms where only a limited number of configurations were possible (traditional business), to the evolving of the first cellular neutron that allowed for an exploding number of possible life forms (network), the companies of the future will experience a similar expansion of possible interactions with consumers.

The same development is described by authors such as Negroponte (Negroponte 1995) and Niels Ole Finneman (Modernity Modernised, Center for kulturforskning) as the change in sender/receiver relationships due to digital technology.

To sum up the above: the new economy has three new characteristics:
* It is global
* It favors intangibles

- It is intensely connected

These characteristics create a new marketplace and thereby a new structure of society that is rooted in digital networks.

As the case was for the industrial age, the companies who succeed in taking advantage of the new, basic rules of the economy will prosper while others will vanish.

Kelly's new rules go as follows:

### 2.1.1  1. Embrace the Swarm - the power of decentralisation

> "As power flows away from the center, the competitive advantage belongs to those who learn how to embrace decentralized points of control." (Kelly 1999, 161)

The transition from atoms to bits in networks changes the fundamental rules of the economy. Understanding networks will be the key to understanding the economy. According to Kelly the price of chips will continue to drop to the point where it will be cheaper to embed a chip into your product than not to embed it[3]. If these chips 'speak' the same language, they can be connected and thus constitute a network. Although the things themselves may not be the new wonders of the world, the connections to other units will allow for many new uses, or as Kelly expresses it: "Dumb parts, properly connected into a swarm, yield smart results."

For companies, societies, and the design of technology this means that instead of controlling everything top down, networks will allow more self organising systems. Some top-down control will still be necessary in the form of supervision, government and standards, but the role of the 'controllers' will be of a more initialising nature than of total control with the whole process.

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[3]According to Kelly, six billion chips are already in use. Furthermore, he quotes Andy Grove of Intel Corporation for estimating that for every chip put into a PC, 30 others are put into other things.

### 2.1.2   2. Increasing returns

> "As the number of connections between people and things add up, the consequences of those connections multiply out even faster, so that initial successes aren´t self-limiting, but self feeding." (Kelly 1999, 161)

Networks are constituted of nodes and connections. In a network economy the connections will be of great importance. Every time a node is added in a network the number of possible connections increases dramatically. Or simply, "as the number of nodes in a network increases arithmetically, the value of the network increases exponentially." (Kelly 1999, 23)

   This way of thinking is already incorporated into the music industry in many ways: for the consumer to be interested in a certain album, he will need to hear it or at least have a recommendation - aspects that emphasise connections over nodes. Furthermore, members of a certain subculture/group will have a tendency to buy albums in accordance with the group as such [Dahl 1997]. Again the connections are important. On the other hand, the music industry is distributing most of their products in the form of physical products.

### 2.1.3   3. Plentitude, not scarcity

> "As manufacturing techniques perfect the art of making copies plentiful, value is carried by abundance, rather than scarcity, inverting traditional business propositions." (Kelly 1999, 161)

Traditionally, a product's price is determined by supply and demand. Kelly's third rule inverts this rule of thumb. When more and more products are invented to be used in a networked environment, their value will be determined more by the number of possible connections than the product itself.

   The classic example is that of the telephone. The first telephone was not a very useful product because the basic functionality of the phone did not make any sense until the second phone was made and you had someone to call. With the introduction of the third phone the value of the two other phones would increase dramatically. Not only would you

have two people to call, the owners of the other phones would each have two people to call, thus increasing the value of the net beyond the value of the three phones themselves.

### 2.1.4   4. Follow the free

> "As resource scarcity gives way to abundance, generosity begets wealth. Following the free rehearses the inevitable fall of prices, and takes advantage of the only true scarcity: Human attention." (Kelly 1999, 161)

Traditionally, the cost of a product has been determined by the cost of developing the product and the cost of producing each product. This is still the case but as we move from atoms to bits the cost of producing/copying each product is moving toward zero. When a resource is used, traditionally, the price will go up, while the demand will go down.

   In a network economy the opposite is the case, because, "The more a resource is used, the more demand there is for it." (remember the phone example) and "(...) because of compounded learning, the more we create something, the easier it becomes to create more of it." (Kelly 1999, 56). This is illustrated below:



$high          $high

demand          Supply

Supply          demand

$0          $0

**Traditional**          **Network Economy**

**Kelly 1999, 55**
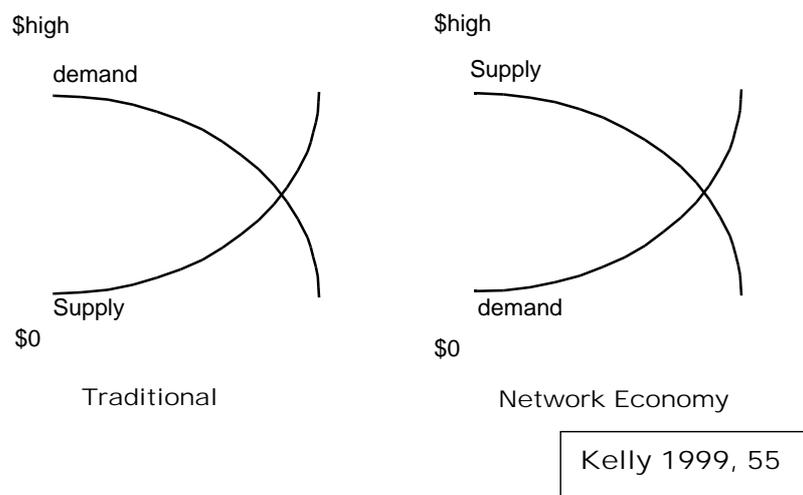
Along with the changes in price structures, the network economy changes the consumer/industry relationship in the development phase. Earlier a product would be produced to satisfy a demand. Now a product will often be released at a fairly high price,

with the purpose of creating a demand - a demand with the possibility of exploding through feedback  loops - which would inevitably make the price go down.

For the companies to make money in an economy like this, they constantly have to release new products into the cycle.

The only exception to this abundance is human attention. An exception which according to Kelly is yet another argument for giving away something for free, because the free attracts the attention of the users. And thereby making it easier to sell other products.

### 2.1.5  5. Feed the web first

> "As networks entangle all commerce, a firm's primary focus shits from maximizing the firm's value to maximizing the network's value. Unless the net survives, the firm perishes." (Kelly 1999, 161)

As networks become more common, the way we organise our lives and groups (and companies) changes accordingly. From customers being loyal to a specific company, they become loyal to networks.

For companies this mean that instead of trying to maximise the value of the company itself, the focus shifts to trying to maximise the value of the network, and thereby the value of the entangled companies. As more of the world's products are distributed as bits, standards become more important.

A good example of this tendency can be seen in the music industry. In order for, for example, Sony to persuade people to by their MiniDisc they had to allow other companies to produce MiniDisc players, so that it could become (one of) the standard for digital recordings, while Philips tried to make their now terminated DCC (an attempt to create a format for digital audio tape recording) the standard with the help of another network of companies. A decade earlier, Philips and Sony helped each other promote the Compact Disc.

### 2.1.6  6. Let go at the top

> "As innovation accelerates, abandoning the highly successful in order to escape from its eventual obsolescence becomes the most difficult and yet most essential task." (Kelly 1999, 161)

What this statement means is that the marketplace or "landscape" where modern companies have to act is quite different from the landscape of the industrial era. Traditionally, it was, if not easy, then simpler to see in what direction to navigate a certain company. But with the network economy and accelerated innovation the landscape has become more rugged - or as Kelly describes it: there are more peaks/mountains to choose from, and if you are to focused on clinging onto and perfecting a specific product at the cost of others, you might find yourself stuck on a collapsing mountain. When your product has reached the point of perfection, the underlying technology might be obsolete due to innovation (that is, the rise of other mountains).

 This is especially interesting in the context of this paper where the music industry to a large degree has been and still is based on the CD as the format of packaging and distributing music. How will they react to a possible new 'mountain' of e-music, and will the old 'mountain' vanish or thrive?

### 2.1.7  7. From places to spaces

> "As physical proximity (place) is replaced by multiple interactions with anything, anytime, anywhere (space), the opportunities for intermediaries, middlemen, and mid-size niches expand greatly." (Kelly 1999, 161)

As with much change, the network economy will have a large impact on the role of the middlemen, but opposed to the notion that middlemen will be less important[4] as technology finds its way into our daily lives, Kelly sees a great need for middlemen. His argument is that in a network, all the nodes are in fact middlemen (or functions). Therefore the whole structure or organisation of today's companies will change. In a network economy it will be easier for a small or mid-sized company to compete with the big players, and the big players themselves may be forced to change their organisations accordingly.

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[4] For example Meyrowitz 1995. He claims that new technology, especially television has introduced a new flow of information where middlemen gradually become obsolete. The workers of a company will due to technology be as well informed as their supervisor, making his role less important.

In a speech on how the newspapers should survive the new challenges, Michael Bloomberg, CEO Bloomberg News [www.videonewswire.com/bloomberg/021899] delivers some of the same points which comply perfectly with Kelly's position on human scarcity: when more attention is given to the content instead of technology, the real competitive advantage of a company will be the human middlemen producing or filtering the content for the consumers.

### 2.1.8   8. No harmony, all flux

> " As turbulence and instability become the norm in business, the most effective survival stance is a constant but highly selective disruption that we call innovation." (Kelly 1999, 161)

Instead of change, which in Kelly terms is characterised by rapid difference, the new marketplace will be one of constant flux. According to Kelly, the best strategy for navigating in a scenario like this is through constant innovation.

### 2.1.9   9. Relationship tech.

> "As the soft trumps the hard, the most powerful technologies are those that enhance, amplify, extend, augment, distill, recall, expand, and develop soft relationships of all types." (Kelly 1999, 161)

As we have already touched upon above, the shift from atoms to bits will mean a greater focus on things that can be delivered in this new form, like services, information, etc. It's all about connecting things and - in the end - people, therefore the technologies that do this will prevail.

Furthermore these 'soft technologies' have the possibility of changing the relationship between companies, and the customer-company relationship. In one situation the customer can be exactly that: a customer, and in another interactive situation he can be more in the role of a supplier, or both the roles can be present in the same session.[5] This

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[5] Se also Niels Ole Finneman and Nicholas Negroponte for an explanation of the new possibilies of sender/receiver in a 'bit society'. Additionally Jens F. Jensen accounts for the new possible informationflows

would for example be the case if a record company decided to make it possible for customers to manipulate the music of a certain artist on-line. At the same time the company could record this new unique track and make it available to other customers/ musicians.[6] The result will be more loyal customers, and if the record labels connect loyal customers in networks, they will be able to use their consumers' expertise (on music) to enhance their products.

### 2.1.10 10. Opportunities before efficiencies

> "As fortunes are made by training machines to be ever more efficient, there is yet far greater wealth to be had by unleashing the inefficient discovery and creation of new opportunities." (Kelly 1999, 161)

The argument here is that networks expand the appearance of opportunities. Each time a new opportunity is seized it will spur new opportunities. Instead of measuring efficiency and trying to solve problems existing in current activities, it can be a profitable strategy to pursue new opportunities.

As stated in the introduction to our basic framework, network economy cannot exit without a concept of intellectual property right. In the following sections we therefore highlight how the notion of copyright changes with the transition to e-music.

## *2.2 Intellectual property rights*

As an opening remark we would like to provoke the reader by saying that copyright is something that everyone has heard about. However, few know what copyright is, and even fewer know what it implies. Apart from that, copyright is in many ways an extremely complex matter.

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in "Vejkort til Informations-Motorvejen – En medietypologi for informations-trafikmønstre på Internet" in Mediekultur no. 27, Aarhus 1997.

[6]A similar service could be experienced with the release of the David Bowid track "Thursday's child", although not as complicated as this example (your product wasn't recorded). For a situation like this Alvin Toffler has coined the term: "prosumer" (in Kelly 1997).

To begin with, it is vital to underline that all laws, including those of copyright, apply on the Internet. Many people still believe that the Internet exist within a judicial vacuum – a cyberspace version of the Wild West with Internet cowboys (music pirates) making war on any authority. Although many people undoubtedly find it charming and recognise it as a fundamental characteristic that the Internet is a legally unregulated medium in which everything is allowed, we can establish that just as any other way of communicating, the Internet is assigned to the very rules that govern our behaviour in the analogue world. Copyright does apply on the Internet.

However, this does not mean that existing copyright legislation functions in the intended way, or that laws which were created to match to the problems of an analogue world with music as a physical product easily apply to the realities of the Internet and e-music.

In the following sections we aim to give an overview of the concept of copyright and its consequences for e-music. This includes a discussion of whether the present copyright legislation is useful when dealing with digital media in a network economy.

### 2.2.1  The basics of copyright

The concept of e-music is global. It has no fundamental geographical restrictions.[7] As a consequence of that, we take our starting point in the frameworks of international intellectual property rights legislation.

The basics of international music copyright are built upon the World Intellectual Property Organization's

> *Treaty on Performances and Phonograms* (CRNR/DC795, adopted by the
> Diplomatic Conference on December 20, 1996[8])

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[7] Currently only about 300 million people have access to the Internet, and the majority of those live in the Western world. Therefore, e-music is de facto a restricted phenomenon. However, ideally its only restrictions are economic. That is, can you afford a computer, a connection, and paying the price of the music?

[8] The WIPO Treaty on Performances and Phonograms is based on the agreements of the *International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations* of October 26, 1961 – the so-called Rome Convention.

and – in Europe – on a number of directives issued by the European Commission[9] and partially amended and ratified by EU's member states. One of these directives which still has not been amended is the

> *Proposal for a European Parliament and Council directive on the harmonisation of certain aspects of copyright and related rights in the Information society* (COM(97)628 final)

Even though this directive has yet neither been amended nor implemented in the legislation of the member states, we present it because the European Commission here tries to foresee and meet the changes in distribution of protected works imposed by the up-coming network economy. We here focus on the ideas and visions for the future rather than on legal articles not yet part of existing legislation.

This international approach to intellectual property rights does not restrict us from focusing on national legislation. For the purpose of this analysis, it does not change much that Denmark – as currently the only country in the world – has prohibited digital copying of protected works for personal use[10]. Yet, it does matter if a worldwide ban on digital copying for personal use is being considered by the relevant organisations.

### 2.2.2  Triptychonic copyright

When distributing music via networks, two aspects of intellectual property rights play decisive roles: *The right of exclusively authorising the direct or indirect reproduction of a performance fixed in phonograms* and the *exclusive right of authorising the making available to the public of a phonogram* (Articles 11, 12, 13, and 14, *WIPO Performances and Phonograms Treaty* / CRNR/DC/95). These two key aspects cover the fact that a

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[9] These include: *Europe Parliament and Council Directive 96-9-EF of 11 March 1996 on legal protection of databases*, *Council Directive 91-250-EEC of 14 May 1991 on legal protection of computer programmes*, *Council Directive 93-98-EEC of 29 October 1993 on harmonization of copyright protection time and certain related rights*, *Council Directive 92-100-EEC of 19 November 1992 on distribution and issuing rights and certain other copyright related rights concerning intellectual property*.

[10] Act of Parliament no. 706 of 29 September 1998. Only available in Danish. Title: Bekendtgørelse af lov om ophavsret. Lovbekendtgørelse nr. 706 af 29. september 1998.

transmission (of music) via the Internet constitutes a so-called triptychon, that is a three-step process which include:

1. uploading of a piece of music onto an Internet server,
2. the digital transmission of the music
3. downloading of the music to the end-user's computer or music device.

The exclusive right to reproduction is violated if music is distributed via a network without the consent of the rights holder because the exploitation of the music implies copying the music: By copying it to the music provider's server and to the end-user's hard drive.

Under international law, a digital transmission of music on networks is considered an act of making the music public. The right to exclusively make the music available is therefore offended if the music is uploaded onto a server without the approval from the rights holder. The *WIPO Performances and Phonograms Treaty* states that

> "Producers of phonograms shall enjoy the exclusive right of authorizing the making available to the public of their phonograms, by wire or wireless means, in such way that members of the public may access them from a place and at a time individually chosen by them" (Article 14, CRNR/DC/95).

Along with Article 15, section 4 of the WIPO Treaty which decides that

> "(…) phonograms made available to the public by wire or wireless means [for example digital networks such as the Internet] (…) shall be considered as if they had been published for commercial purposes."

These articles of the WIPO treaty form the legal basis upon which record labels build their cases when filing lawsuits against Internet music pirates. Especially Article 15 carries a fundamental value to the rights holders since it by definition establishes e-music as a commercial activity.

### 2.2.3  Enabling policies

However, it is important to realise that even though this WIPO Treaty has been signed by a number of countries, this does not mean that all these countries have ratified it yet. Not until every WIPO member state has implemented the treaty in their national legislation will the music industry have a uniform legal basis from which to prosecute any offender of their rights anywhere.

At present not even the European Union have implemented the WIPO Treaty on a Community level. A proposal for a directive[11] on its implementation has been drawn up but will probably at its earliest be amended by spring 2000. Even though it still is a proposal, it presents some ideas and visions which deserves our interest.

What the European Commission wants is, apart from securing the rights of the rights holders on Community level, to ensure the function of the Inner Market  by removing any obstacles of trade between the member states. This, in turn, should enable both the music industry and its users to pursue their interests within a healthy, competitive environment. This directive is not being issued to ensure a status quo for the music industry by halting the turn towards network distribution of music, rather it has been drafted to *promote* the information society. Network distribution of music is in itself an important feature of the information society, and it, too, needs to be promoted within a harmonised and secure framework (pages 7-8 *Proposal for…*KOM(97)628 endelig udgave [Danish version]).

### 2.2.4  Speaking the same language

In the introduction we quoted Steven Johnson (Johnson 1997) for saying that intellectual property law in its present form does not have the language to describe the new realities of digital information. Johnson's statement raises a series of fundamental questions concerning the relationship between artists, record labels, and consumers. If he is right, the whole concept of copyright has to be remodelled with wide ranging implications on how we consume music today. And he may be partially correct.

Lawsuits in Sweden and most recently in Denmark have shown that traditional copyright law has problems dealing with the concept of hypertext links. Court rulings following the WIPO Treaty have convicted pirates who have illegally uploaded music on Internet servers. However, when dealing with people who have linked from their homepage to websites containing uncleared (illegal) music, the courts hesitate.

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[11] *Proposal for a European Parliament and Council directive on the harmonisation of certain aspects of copyright and related right in the Information Society,* COM(97) 628 final / 97/0359(COD).

We return to this issue in the final parts of this paper, hoping that our analysis of e-music has brough us closer to a solution of what to do with the future role of copyright in a network economy.

## *2.3  Final remarks*

Before we rush into the analysis of the music industry, it is important to stress that the rules described above – the network eccomy – are not necessarily the future but guidelines or rules of thumb that a marketplace based on an economy working on the premise of networks will must likely be based on.

   The effect of these rules are especially interesting when the subject of interest is the market for music where a lot of these rules are already at work, but where many questions still need being taken into consideration: how and in what way will the music industry change (or be changed)? How will the music industry distribute their products and in what form(at)s? And more important, how will they make money in a network economy? Who will they be up against? And finally, how will this new way of distributing music affect the way we consume?

# 3  With a click, everything changes

Music has been inextricable from technology from the moment someone tapped together two particularly resonant sticks. And in the last century, the technology of recorded music – vax cylinders, 78-rpm discs, LPs, cassettes, CDs – has affected everything from the length of songs to the linup of bands to the environments that music is made for. Where would hip hop be without booming car stereos or rock music with the Marshall amplifier?

Using the previously described frameworks, we now return to the main scope of this paper: *to analyse what happens when music becomes e-music.* We are mainly interested in the music industry and their role as middlemen (as defined in the introduction), but without artists, consumers, and lawmakers there would not be any music industry for us to analyse. Therefore, we dedicate a substantial part of this chapter to analyse these interests too.

We treat the four areas of interest – the music industry, artists, consumers, and lawmakers – separately knowing that such a distinction is not possible in real life. However, it is an analytical twist in order to make the analysis clearer.

## 3.1  The music industry - in the line of fire

In this section we will describe the music industry as it is now, how it reacts to the changes due to digital networks, and where it is headed. We primarily base our analysis on facts and figures from the US market for e-music. We do not see this as a problem. Currently, the US market is where most of the battles involving MP3 music and MP3 devices are fought.

### 3.1.1  Industry statistics

In 1983 the gross sales of recorded music was around $ 3.7 billion. With the introduction of the CD, this number had increased to $ 12.2 in 1997 (most recent available number) [NY Times on the Web, February 1999]. Most of this music is distributed on physical objects, primarily Compact Discs through normal distribution channels (record stores and mail order). The on-line sales of CDs account for approximately $ 280 million. There are no

figures available for legal recorded music delivered as digital information over the net, but in 1998 the Recording Industry Association of America estimated that the loss from the circulation of illegal copies were approximately $300 million per year. [NY-Times April 6. 98]. A Jupiter Communications report predicts that by the year 2002, online music sales (including CDs) in the US will account for eight percent of industry sales, $1.4 billion - up from one percent, or $88 million, this year. [NY Times on the Web, October 16, 1998]

   The number of downloaded MP3 files, legal and illegal, is around 17 million files a day worldwide [NY Times on the Web, November 18, 1999].
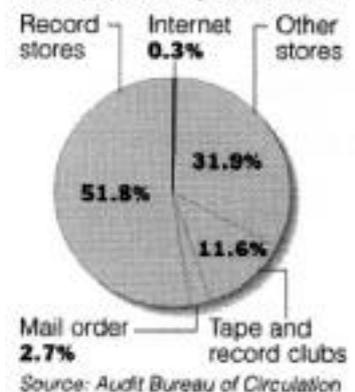

It is difficult to say how accurate these numbers are. Of course the industry has an interest in promoting a large loss from illegal copies of copyrighted music to pressure lawmakers to act, on the other hand they have no means of control with how many copies are distributed, especially when it comes to copies distributed within closed networks - so the number could well be far beyond their estimates.

   For the purpose of this paper, however, it is not that important whether the loss amounts to $200 or $400 million, more so it is important that the music industry is a large industry with fairly high income from the distribution of music on CDs; that the number of CDs sold over the Internet is fairly low but growing; that the legal distribution of MP3 files (and other formats) over networks is very low; and that the number of illegal copies in circulation on the Internet is growing rapidly. This leaves three paths for the industry to pursue. One is to fight the net, the pirates, the formats and the devices used for digitalisation of music. Another is to submit fully to the new rules of production and distribution, and the third is to try to combine the prior two. But before we look further into this, let us see how the majority of the industry has been organised and still is.



**Music Channels**

Sales of music over the Internet still make up a tiny fraction of all music sales, but that is expected to change in the next few years.

*1997 MUSIC SALES BREAKDOWN*
*Wholesale total = $12.2 billion*

Record stores — Internet 0.3% — Other stores

31.9%

51.8%

11.6%

Mail order 2.7% — Tape and record clubs

*Source: Audit Bureau of Circulation*

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### 3.1.2  The industry today

Today the business is constituted of a relatively small number of very large organisations, among them: Sony, Time Warner, the Universal unit of the Seagram Company, EMI group and Bertelsmann Music Group. These five major record labels are also the driving forces behind the Recording Industry Association of America (RIAA) whose members account for 90 percent of the US music sales. As part of these larger organisations there are a number of more specialised smaller record companies.

   These companies decide which artists should be released on CD. Normally this includes that the artists transfer the distribution rights of their music to the record company and in return get studio time, marketing (etc.) and 5-10% royalty fee from the sales of their CDs. A number of people in the companies are middlemen, in fact you could say that the record industry itself is primarily one of middlemen connecting consumers with the music they want. This can be seen either as a service to the consumer, where the record companies work as quality filters, sending only the best music down the line to the consumer, or it can be seen as a barrier between the artists and the consumers, eliminating creativity and the hope of many talented acts. The record companies most likely think of themselves in terms of the first option, while some artists and consumers will be more likely to be affiliated with the second option (also see the sections on consumers and artist). Support for the first option can easily be found by browsing through the MP3.COM selection of artists. Although good bands can be found, most people would agree that there is a large number of noise as well.

What have characterised the music industry in the age of the CD is that promotion and the actual distribution have been done by way of two relatively separate channels. The promotion channels and the channels for the actual distribution of the end products (the CDs).

### 3.1.3  Promotion

In order for you to decide whether you want to buy a CD, you have to have it recommended from someone else (a friend, an ad, an article, etc.) or you will have to hear

it (a friend, a radio station, a television show, etc.) or you have to have a strong loyalty to the brand (buying a band's CD, because you liked the last CD they put out, which in the first place was a product of one of the two other situations).

With the technology now used to transmit radio and TV, there is only a limited number of channels available, and there is a relatively high entrance barrier. This means that you have to convince the editors of the shows on these channels that they need to play your music. The record companies have the music, money and power to do this.

Although restricted, the number of possible channels to promote your music on have increased over the years, making it harder for the labels to promote universal super star acts (e.g., The Beatles), instead we have seen an increasing number of tunes, genres and stars as representatives for such genres.

### 3.1.4  Distribution

While the promotion of music has been done through the channels described above, the distribution has been going through different channels. CDs are produced, transported to record stores and sold to consumers there (with the exception of promotion discs, etc.) For the consumer to get hold of the music, he or she has to go to a record store, find the album on the shelves and buy it (Or it can be ordered via mail order if available at the mail-order firm – more recently the possibility of doing this over the Internet has been an option as well). If the record is not available or sold out, the consumer can order it if it is still available from the distributor and come back to the store later (we further analysise these impacts of distribution on consumer behaviour in the *More music makes me happy* section). Besides the music, the consumer gets a box with a CD and a small booklet with lyrics/pictures/bandinfo or the like. You can then take your newly purchased CD with you home play it on your CD player and place it among your other CDs. Your unique selection

of CDs will reflect your music taste and let other people looking at them know what kind of music you like.[12]

### 3.1.5 The network

The Internet has the potential to change this. To the music industry, digital networks offer a new way of matching consumers with music, or at least an enhancement of the (one way) networks the industry has used so far. The Internet represents a merger of the promotion and distribution 'networks', an almost unlimited archive and an unlimited number of possible outlets with very low entrance barriers, meaning that almost anybody can distribute music via the Net. Instead of delivering the music in a box, the music can be distributed independently from a single physical object, much like we use the television now. Instead of distributing every single TV show with a television set, an unlimited number of TV shows can be delivered to the same piece of hardware - the TV. In network economy terms the focus is on intangibles instead of tangibles.

As said, this means new ways of matching consumers with music. Instead of the consumer going to a record store to buy the music both the listening, buying and delivering (if separable from the listening) can be done from the same end device.

### 3.1.6 The MP3 format

A CD holds around 650MB (megabyte) of information in digital form. For music to be distributed via the Internet with the technology we use today, this amount of data is far to much. The download of a complete CD on a normal modem (56k) would take approximately 35-40 hours under optimal conditions. But with compression algorithms the amount of data can be reduced considerably without too much loss in sound quality. One of these compression algorithms is the MPEG1 layer 3 format -- normally spoken of as MP3. Depending on the bitrate (and thereby the quality of the resulting file) an entire CD occupies approximately 50-60 MB of space (with a bitrate of 128bit/s ). The CD that took 40 hours to download can now be downloaded in 3,5 hours -- and a single 4 min. track can

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[12]A similar example of how books can reflekt your indentity can be found in Joshua Meyrowitz' *No Sense of Place*.

be downloaded in approx. 14 min. This is still to long for most users to wait for a song, but with the growing use of other connection methods than analog modems, such as DSL, Cable, Satellite (and the slower ISDN), the bandwidth has increased accordingly. With a cable connection as the one offered in Denmark by Telia/Stofa, download speeds around 50K/s are not unusual -- making the download of a song a 1,5 minute task[13].

With this in mind, the possibility of distributing music via the Internet is very much a reality.

From an economic point of view this has some positive consequences in comparison with the CD/record store model. When a CD is sold it is removed from the shelf making the selection smaller for the next customer in line. Distributed digitally via the net, each copy can be sold without removing the original. If the music is available it cannot be sold out no matter how many copies are sold, and the consumer won't have to wait for the music to be ordered from the distributor. Instead of the consumer taking the time and trouble to go to a record store the music can be ordered via a computer in the comfort of one's home.  To the industry this is a clear advantage. Today one of the industry's biggest problems to is "unbought music" [Dennis Mudd, CEO MusicMatch, on-line video stream from www.webnoize.com] - that is consumers hearing something they want, but because of the trouble associated with actually buying the album they reconsider. Or they go to the store just to discover that the CD is not available and then forget all about it.

Another factor associated with the 'trouble factor', is the time from you hear something until you can actually buy it. When you hear that great piece of music on your car stereo that you would be willing to buy right away, but there is no way of doing so, and a couple of hours later you have forgotten all about the music, or you have had time to reconsider spending $15-20 on a CD. What the industry needs is specialised end-devices.

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[13]All numbers and calculations are estimates. Real download times depend on many factors including traffic on the line, the quality of the line, the activity on the hosting the file and so on.

### 3.1.7  Need for end-devices

Although the desktop computer is useful for a wide array of tasks, it is still (or maybe because of the many possibilities) combined with some difficulty to use it for more specialised tasks. One reason for this is the time it takes to boot the machine, the trouble associated with configuring the machine for your needs and so on. Another and more interesting reason is the user situation associated with the use of PCs.  Due to the PCs early role as a word and number calculator[14] in the offices of the world, the use us PCs can often be described as a lean forward situation, while the traditional use of music can be described as a lean backward situation. The industry is of course well aware of these problems and is eager to see more end-devices for the consumers to chose from with the possibility of fetching and playing digitally distributed music -- or at least the few existing distributors of digital music. One of them, the CEO of MusicMatch: Dennis Mudd calls for 'single click' devices. That is, to follow the example above, if you are driving in your car and you here a song you want, you should be able to buy that song or the album with the push of a single button. No such devices have yet reached the market, and they probably won't until the large labels agree on a standard for this type of transaction. But a number of other devices have reached the consumers and new ones are introduced frequently. Among these devices are:


**Personal players**: a number of devices that resemble the look and feel of the Walkman[15] but instead of tapes and discs, the music is stored in erasable RAM circuits.
Among these are the RIO from Diamond Multimedia,  Nomad from Creative labs as well as announced products from most big market players.  As a competing format Sony is still marketing its MiniDisc format, which apart from using disc media, is based on Sony's own compression algorithm.

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[14] See also Sherry Turkle's describtion of how we think of the computer and have though earlier in *Life on the screen*, 1995.

[15] Here the term *walkman* is used as a describtion of a personal transportable music player, and not as a reference to the specific models produced by the trademark holder: Sony.

More recently support for the MP3 format has been announced to be supported in future versions of some of the most popular PDAs[16]. and possibly in cellular phones as well.

**Home stereo equipment:** players that resemble traditional stereo systems or devices. To mention a few:

- The (Danish) *Kiss DVD 1502*: A multiformat player that plays back CDs, DVD movie discs and MP3 files on CDs.
- *Terratec M3Po*: A CD based MP3 player, that plays back MP3 files stored on CDs and features an option of an internal harddisc to hold your MP3 collection and a display to browse the tunes.
- *Kenwood*: Kenwood has announced a complete home stereo system with the capability of playing back MP3s and with a built in modem connection to allow the download of songs and ID3 tags[17].

What most of these devices currently lack is the high speed Internet connections making it possible to download music at acceptable speeds. But the existence of the devices mentioned here (and of others not mentioned here) show that the arrival of such devices is not unrealistic.

The infrastructure for a new way of distributing music is emerging , but the music industry is not very eager to abandon the cash cow, the CDs.

### 3.1.8  The threat of piracy

The largest concern to the industry and the copyright holders is that illegal copies of their material can be distributed easily by pirates via the Internet, and that the copies distributed can be further copied and distributed without quality loss due to their digital form. This has also been the case with CDs but as described above, the distribution of illegal CD copies has primarily been an off-line occupation, limiting the number of potential users, and

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[16] Personal Digital Assistants. Small devices used to keep track of appointments, contaits etc. 3COM Palm PDAs with the PalmOS operating system are samong the most succesfull of the kind.

[17] Information about Artist(s) trackname etc. from a  database published on the Internet.

making the lawbreakers relatively easy to track down and prosecute within the legal framework of their respective countries. In some ways the rapid spreading of music via consumers must be the dream of a record company. Instead of having to distribute hundreds of thousands of CDs they could sit back and enjoy the income from still more customers listening to the music all over the world, with the knowledge that the spreading would follow the explosive pattern of the Net. The real problem to the companies is not the network, but how to make money on the net. The industry's response to this problem has primarily been to cling on to the business model of the CD, and simultaneously to try to work out some schemes to protect their intellectual property rights on-line.

### 3.1.9 Secure formats

The most promising initiative is the Secure Digital Music Initiative, not so much because of the technology proposed, but because of the massive support the initiative gets from the established record companies. The companies behind the initiative are Sony, Time Warner, the Universal unit of the Seagram Company, EMI Group and Bertelsmann Music Group, and as the creator of the software IBM. The initiative introduces a uniform standard for codes to be included with digital music. The codes include a digital watermark that includes information on where the music comes from and who is the owner of the rights. This code could make the music only playable on a certain device via a device ID. Furthermore the format will be copy protected allowing the companies to decide how many copies a user can make. Whether the format will work we will have to see - and maybe not for long. A test is to be made in San Diego in the USA where around 1,000 subscribers to a cable modem service offered by Time Warner can browse and download around 1,000 album titles. Each title is accompanied by a booklet the consumer can print out. [The San Diego portal is to be found at www.san.rr.com].

  One thing is certain though, almost all technical limitations imposed on software or hardware even vaguely associated with the Internet has been broken so far. Well aware of this, the industry must pursue other strategies in combination with the technical restrictions or as Larry Kenswill executive vice president of the Universal Music Group says: "How do you compete with something that's free? (…) Obviously you can't compete on price.

Instead, you have to offer higher quality, customer service and ease of use." [NY Times February 1, 1999]

A similar strategy is pursued with the idea of audio DVDs. Due to technical limitations to reduce size, the audio quality on CDs is inferior to that potentially offered by DVD discs. Parts of the industry are therefore lobbying for a copy protected high quality distribution of audio DVDs - which in part would sustain the CD business model. Despite the growing success of DVD as a medium for high quality movies it is unlikely that the DVD would take over the entire audio CD market as we know it. Especially with CDs still around at lower prices and the on-line market lurking around the corner with the help of continuously expanding bandwidth.

An interesting aspect of the resources (or the lack of resources) dedicated to the development of new secure formats is the conflicting internal interests of some of the companies. This is most visible in the case of Philips and Sony. Both companies are in the business of electronics, but at the same time they own some of the biggest record companies in the world. On one hand, they are shipping Recordable CD and DVD devices, MiniDisc recorders, Digital Audio Tape recorders, Digital Video recorders and the like. Philips has for example been marketing a double CD recorder in the design of their normal audio equipment for home use - and on the other hand they are participating eagerly in lawsuits against companies such as Diamond Multimedia.

### 3.1.10 New players

While the major record labels are filing lawsuits and discussing what to do on-line, a new type of market player has appeared. These players are far from the size of the established companies, but the most successful ones have had an impressing growth over the few years they have been around One of the most successful and talked about companies in this genre are MP3.COM.

MP3.COM encourages artists to post their music on-line with no other promise than the possibility of reaching a global audience. Approximately 35,000 artists have done so, so far [MP3.com advertising information]. Users around the world can then download the

music for free. The site has around 10.7 million visitors (hits) a month [MP3.com advertising figures] and is sponsored by banner ads and the sale of compilation CDs with selected music from the site. While MP3.COM was not taken very seriously to begin with, the company is now the preferred exemplification of a new type of music distributor and in June, Cox Enterprises Inc. announced that it was investing $45 million in the company [NY-Times, June 99]. Critics - especially from the traditional industry - question MP3.COMs ability to establish a reliable business model, but the CEO of MP3.COM Michael Robertsen doesn't seem to be to worried, instead he questions the traditional CD business model:  "The major labels are circling the wagons to preserve their current business model, the CD. But scarcity based models do not work on the Net." [NY Times on the Web,  February 1, 1999]

   With Kelly's rules in mind, the strategy seems very clear, instead of asking the consumers to pay for the music, they pay in units of human attention (the only scarcity - according to Kelly).  And whereas the traditional companies have to pay artists in advance, provide a recording studio and studio time, marketing, distribution of CDs, the expenses for MP3.COM are very low: Artists sign up for free, distribution is almost free, marketing is done by the bands themselves and by the network effect of having thousands of bands represented at the same site.

   Additionally, piracy does not pose a very dangerous trheat. Of course people have to come to the site and see the ads, but since the music is already free, there is no real incentive to bypass the website, especially not when band descriptions are available at the site for free as well. On the other hand, the relatively limited bandwidth of analogue modems could encourage people to share the files locally instead of downloading them from the website. Other companies (e.g. AMP3.com) have solved this potential problem by including an ad in the beginning of each song downloaded, either referring to the website or a spot for one of the advertisers.

   But how about the artists how will they make money? One possibility is to sell ones own CDs from the site, but with music already available on-line, the incentive for the consumer to buy the CD may be limited. MP3.COM is selling CDs with selected artists, but it goes without saying that only a very limited number of the 12.000 bands will make their way

onto one of these CDs. Another recently introduced scheme is to pay artists according to the number of times their music is downloaded. To be part of the program an artist has to be a member of ASCAP (The American Society of Composers, Authors and Publishers) and pay a $10 membership fee.  Only a few of the artists with music available make money this way. But instead of it being a major label deciding which acts are good enough for distribution, the consumers decide. While for some artists and consumers this may be a positive development, to others it is a problem that the trusted middlemen are suddenly gone (also see the sections on artists and consumers).

A related problem is the lack of control with the artists. Musicians do not make any exclusive arrangements with the company and are free to abandon the company in favour of, for example, a traditional record contract, or they may choose to post their music on other music sites as well.

The consumers are eagerly embracing new ways of getting to their music (17 mill. downloads of MP3 music a day worldwide), the traditional record companies have not found a way to meet this demand but are persuing two paths. One is the protection of the CD based model, another is the development of new formats. While doing this new market players emerge. And at the same time consumers are getting used to listening to free music on the Internet.

In the following sections, we focus on the interests that constitute the backbone of the music industry: lawmakers, artists, and consumers.

## 3.2  In copyright we trust

In the introduction to our basic framework we briefly touched upon the crucial role that copyright law play in a network economy. We stated that without the existence of means to protect the rights of people who create works of art (or people who hold the rights to these works of art), nothing will be created. However, we also quoted Steven Johnson of saying that "(…) intellectual property law as it stands now, doesn't have a language to describe the new realities of digital information – and particularly digital information piped through the infinite relays of the World Wide Web." (Johnson 1997, 95).

We here face a highly interesting dilemma. On the one hand, our society has come to rely increasingly on the production of bit-like items – computer software and entertainment products just to mention a few – instead of atom-like commodities such as cars and paper clips (for example Negroponte 1995). On the other hand, several lawsuits have shown that our current copyright laws can no longer fully protect the rights holders. In the US an example of this dilemma materialised in October 1998 at Californian federal court where the Record Industry Association of America (RIAA) lost a bid to stop the production and distribution of Diamond Multimedia's Rio portable MP3-player. This device is now sold at $199 all over the US. Apart from adding yet another feature to the MP3 format by allowing consumers to listen to their favourite MP3s everywhere, this landmark court ruling made things a lot more complex.

It is now perfectly legal to buy a device which is primarily based on its users downloading music from the Internet which has been uploaded without the consent of the rights holders[18]. Of course, Diamond Multimedia and other manufacturers of such devices deny this being the case. However, since the major record labels have not ventured into digital network distribution of their music yet, this *is* no doubt the case. One of the largest providers of legal MP3 music, MP3.com, has only music from a few bands which you find on the world's top-100 billboards. Providers of legal e-music (MP3s) simply cannot provide what the consumers want, so consumers go elsewhere, and elsewhere is just a few clicks away. Using any major search engine, try typing the words "free MP3s" and the first ten thousand websites appear.

The Diamond Multimedia court ruling also demonstrates how irresolutely the music industry (RIAA) is handling the challenges posed by e-music (as previously mentioned in *The music industry - in the line of fire*). The industry currently do not respond with legal remedies to Sony's MiniDisc or producers of CD-R(ecording) equipment. These

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[18] This is a clear violation of the WIPO *Treaty on Performances and Phonograms*, Articles 11, 12, 14 which have been implemented in US federal law by the 'WIPO Copyright Treaties Implementation Act' the so-called 'Millennium Copyright Act'. Title 17, United States Code, July 29, 1997.

manufacturers, too, sell products that enable the consumers to digitally make and distribute music without the consent of the rights holders.

When confronted with legislation that does not work, we usually turn to the lawmakers demanding of them to make laws with no gaps. With digital network distribution of protected works this might be rather difficult. As mentioned several times, an international framework for handling copyright infringements already exist: the WIPO Treaty. In addition, most sovereign states have national laws ensuring a minimum of intellectual property rights protection. The framework exits but we cannot enforce it. Or as Steven Johnson says it, our concept of copyright go back to the times before the network economy, and any change that has been made since that is merely a patch onto an already outdated law.

  According to Johnson, we need a new understanding of the concept of copyright. And since the concept of e-music is global, we need a concept of copyright that is equally global. However, the politicians hesitate while the future is rapidly closing in on us. Consequently, the music industry has launched a series of initiatives in order to protect their business, mostly attempts to create secure e-music formats but also – as in Denmark – aggressive advertising campaigns aimed at scaring people from downloading illegal e-music.

When dealing with other commercial activities on the Internet, we are moving towards a certain degree of industry self-regulation. With the creation of decision-making bodies such as the Internet Corporation of Assigned Names and Numbers (ICANN) and the General Business Dialogue on e-commerce (GBDe), a new way have been paved leading to a redefinition of the role of national governments. As Anthony Giddens (Giddens 1998) expresses it, it is all about enabling the citizens to build their own lives, for the governments to facilitate the right environments. This is surely the way e-commerce will develop within the next decade with concepts such as consumer confidence and consumer trust being coined. Maybee this is the way for a new definition of copyright: a minimum set of international copyright rules that governments and industry jointly enforce.

Can we let the industry itself decide upon a new framework of intellectual property protection and then let them regulate it? Following the new rules of the network economy and the crucial importance of copyright within this economy, this might have severe consequences. Intellectual property is too important to be controlled and regulated by one interest only. Industry self-regulation within the music industry might mean the disappeance of a number of exceptions from copyright legislation that ensure that everyone can enjoy the music of an artist through for example public libraries (public Internet access), or rules that allows national governments to exempt certain works of art from copyright protection. Furthermore, music industry self-regulation might lead to decisive changes in the relationship to the artists whose only remaining copyright protection – when they have sold the rights to their music to a record label – is the right to be credited for their works[19] and to receive a certain percentage of the gross sales of their music.

## 3.3  Less may be more

In this section we investigate what happens when e-music enters the world of the artists and offers not only new ways for the record label to distribute music but also for artists themselves to start publishing their own music. This, in turn, might bring along profound changes to our notion of what music is – its form, genre, and culture.

The American rap group *Public Enemy* may not have made any money since they entered into e-music by offerering free downloads of unreleased songs, but its members insist that they have made a point: the Internet will soon allow artists to see more profit from their work by eliminating the need for middelmen.[20] By offering free, unreleased music on their website, the group became the first major recording artists that used the Internet to fight their own record label.
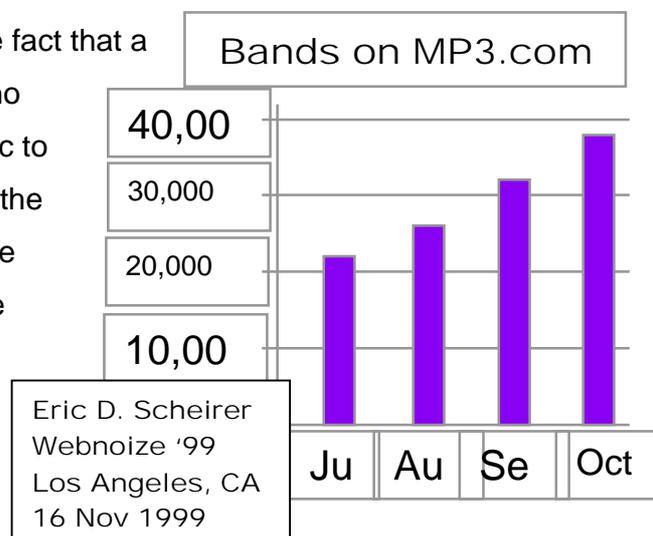
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[19] WIPO Treaty, Article 5.

[20] New York Times on the Web "Public Enemy Fights the Music Industry With Online Releases" by Matt Richtel, December 4, 1998.

*Public Enemy's* record label, of course, tries to stop the band releasing music through its own channels, fearing that it might create an avalanche of artists that no longer want to pay the middleman. Whether this will mean the death of major record labels we discuss elsewhere. For the moment, though, we persue this line of thought that the artists themselves can distribute their music and even more important: make money from doing so.

Established names such as *Public Enemy* or other artists who already have a place in the listeners' minds may succeed in acting as distributors of their own music. There are several reasons as to why this is possible:

1. The fact that they are already established as artists in the minds of the listeners and the media makes it easier for them to promote new releases, and by doing so the eliminate the traditional role of the record labels.

2. As established artists they presumably have accumulated a certain (large) amount of money which they can re-invest into marketing their music.

3. The channel of distribution is cheap and they have no physical products that need to be manufactured or stored. What they need is a website, for example www.publicenemy.com, and some server space onto which they can upload their music.

4. With low distribution costs, and the fact that a given artist works for himself and no other, it is possible to sell the music to the consumer at low prices. Using the right technology, prices could range from charging 25 cent for an online streaming of a song (so that you can listen to it only once just like radio) or $1 for a version which you can download to your computer or MP3 device.

**Bands on MP3.com**

40,00
30,000
20,000
10,00

Ju | Au | Se | Oct

**Eric D. Scheirer**
**Webnoize '99**
**Los Angeles, CA**
**16 Nov 1999**

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For established artists to become their own distributors requires one decisive decision: to abandon the traditional market for music and concentrate only on e-music. The strenght of the record labels lies in their ability to make huge capital investments in the production and distribution of hundreds of thousands of CDs and then wait for the investment to repay itself. Most artists – no matter if they might live en huge mansions and drive Ferraris – are deprived of this ability.

E-music helps the artists, who have traditionally played the role of the weaker part, to reverse the roles thus leaving the record companies stunted. Without the established artists that sell millions of CDs the record labels will not have any money to invest in up-coming bands. Where is the innovation then to come from?

For up-coming bands or artists who dream of becoming stars a contract with a record label is most likely the only road to success. Such artists are not known to the public and therefore they need the record companies for the very reasons the established artists *do not* need them: for promotion and marketing. Up-coming bands might use e-music as a way of creating attention so that they are discovered by a major record label. This also apply to bands or artist who usually only do live perfomances. They normally have no contact with and music industry and do not generate any regular income from their music apart from the money they earn at live performances. By signing up at a legal provider of e-music (MP3s) which pay bands that upload music a certain fee, garage bands and other artists unknown by the public may earn just enought money to buy better equipment and thereby – hopefully – improve the quality of their music. According to the New York Times on the Web, Fisher, one of the most popular bands on MP3.com, earns about $70 a day from downloads of their music.[21] Another example of this development is

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[21] New York Times on the Web "Some Free Music Sites Start Paying Artists" by Matt Richtel, November 12, 1999. This December MP3.com pay 25 percent of their revenue from ads to artists whose music is played at the site.

[www.garageband.com](www.garageband.com) which awards a $250,000 recording contract to the band on its site with the best reviews from listeners

### 3.3.1  Music unlimited

Until now we have focused on the legal and economic implications of e-music on the artists. In the following section we concentrate on music itself. Here we analyse what the transition from traditional music to e-music means to genres and formats as we know them today.

Every year about 30,000 albums are released by record companies large and small[22]. When everybody starts releasing their music as e-music, the nature of that music might change. We are used to thinking that music comes in two sizes – songs and albums – but digital distribution brings more flexibility. The limitiations of Edison[23] discs shapes the three-minute pop song, and the necessity of flipping over an LP built the habbit of producing an album in two parts. In the long run, the album is also a technological artifact, an artistic unit engendered by physical limitiations.

   When you download music, packages no longer have to be uniform – the box changes in size. Musicians might release a song, or three, or 37, on any schedule. A song can be placed on the Web the day of its recording. As counterpart to director's cut movies, bands could release several versions of the same song thereby giving the listeners the chance to chose what they like best (like the *Public Enemy* initiative). In this way musicians could stop making a lot of decisions and the endless hours of studio recording could be reduced.

This *less may be more* way of doing things might be viewed as the death of 'real' music and the rise of 'no quality' noise whilst others hail the principle of variety across and within

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[22] New York Times on the Web "With a Click, a New Era of Music Dawns" by Jon Pareles, November 15, 1998. Also see *The new players* section.

[23] Later modified by Emile Berliner into a player capable of playing what we today know as grammophone discs.

genres – just as the way television was conceived of in its birth. All depends on those who listen – the consumers.

## *More music makes me happy*

Not more than five or six years ago, consumers had only few options when they wanted to buy music: they could go to a record store or get the music they wanted by postorder. This meant that the consumers had only access to a limited selection of music since no record store could possible store and distribute all albums being released. Some record stores – backed by major record labels – did try to serve the diversified taste of the consumers leading to the creation of music temples such as the HMV and Virgin Mega stores with hundreds of thousands of album titles. However, with a vast number of albums being released a year in the US only, this is merely a drop in the ocean.

With the rise of the World Wide Web, purely Internet based record stores such as CDnow.com and Amazon.com have expanded the concpet of mail order in such a way that it is now possible to purchase practically any CD on the Web (if you combine all the Web based record stores). Buying CDs on the Web, however, suffers from the way the music is distributed to the consumers – by mail. From the day an album is ordered, four or five days can easily pass before the consumer receives his order.

With e-music and its merger of technology and distribution, these limitations are eliminated. Today, by using both legal and illegal websites that provide MP3 music, listeners can download what they want, listen to it as long as they are interested, and move on. In this way, music is no longer something you collect, it is returned to what we, in the introduction to this paper, described as its intangible state – as something that transforms the moment and then disappears. But there is a tradeoff for the convenience: the music might seem disposable, and musicians can soon come to miss the kind of sustained attention that fans today give to a brand-new album, playing it repeately form start to finish.

As touched upon above, this new consumer behaviour also means that musicians can also no longer govern the package that listeners receive. A traditional CD consists of a prespecified number of songs and a booklet containing the score and additional information about the artist(s). E-music, however, has is all. And some fans would want everything, including what used to be obscure B-sides from singles and alternative versions, others would just click on to the hits, ignoring a band's less commercial acitivities.

Downloaded music encourages listeners to create their own compillations of anything ranging from specific artists to genres. Current record labels that have been heavily pushing compillation albums are already training listeners to concentrate on the immediate pleasure of a hit song rather than taking the time to get to know a musician's full scope. Top ten albums such as *Absolute Music vol. 21* or *Kids Hits 2* clearly stress this development.

However, there is also an opposite tendency: some illegal websites specialise in one single artist's total production. This means that from one source only you can get access to practically everything a given artist has ever recorded – from hits to B-sides.


Ultimately, e-music brings along an ocean of options for consumers who want to buy music. With e-music pratically everything is possible to the *individual* consumer. But all these options might not be what the consumers want. Options require decisions. Sometimes it might be more conveniant to have someone to select for you – and that is what the record labels do best. Imagine how much music there would be (on CDs) if no one was writing rejection letters.

# 4  Conclusions

In the introduction to this paper we asked five questions to guide our analysis of what happens when music becomes e-music.

- How and in what way will the music industry change (or be changed)?
- How will the music industry distribute their products and in what form(at)s?
- And more important, how will they make money in a network economy?
- Who will they be up against?
- And finally, how will this new way of distributing music affect the way we consume?

On the basis of our analysis, it is now time to attempt to answer them.

Before answering the questions, we would like to highlight what we consider to be one of the most crucial elements in the future of e-music: faster network (Internet) connections. As pointed out in our analysis of the possibilities of the MP3 format, the limited analogue technologies used in utilising the bandwidth of telephone cables - which is currently the most widespread means of accessing the Internet - severely slows down the development of sustainable e-music business models. With the introduction of digital highspeed connections - either through cable, satellite, or DSL - these obstacles might be eliminated.

However, no matter the development and distribution of highspeed Internet connections, there will still be a massive demand for CDs (and other physical media that carry music) worldwide. Today, about 300 million people mainly in the western part of the world are connected to the Internet. This number is estimated to rise to 500 million in 2002. However, this is less than one tenth of the world's population. In Africa and large parts of Asia telecommuniation networks are virtually non-existent. Combined with a rising economic growth in these countries, this lack of digital means of distribution might give the CD its rennaissance - in today's developing countries.

With these limitations in mind, we return to answering the five key questions of what happens when music becomes e-music

## 4.1  How and in what way will the music industry change (or be changed)?

The music industry will change, no doubt about that. Networks have come to stay, and they will continue to alter the way we live. The question is whether the industry voluntarily starts using networks as a means of distributing their products, or  e-music *itself* initialise the move. That is, an increased number of people conncecting to the Internet through highspeed connections will nourish and escalate piracy, leading to further pressure on the music industry.

  Currently, major players in the industry is betting on two horses: on the one hand, by manufacturing and selling devices that enable consumers to download, store, and copy music from the Internet, major record companies, in fact, promote the development of e-music, while, on the other hand, they fiercefully fight any attempt that threatens the CD as a source for the distribution of music. However, by betting on two horses, the industry shows that it no longer whole-heartedly believes in the future prospects of the CD, but at the moment the record labels cannot abandon it because it is still their main source of income. By demolishing it, they will be extremely vulnerable until *they* have made e-music a success.

   In the end, this attempt to protect old sources of revenue while simultaneoulsy trying not to miss out on new ones, might end up severely damaging the industry because it is not really committed to either of the two strategies.


When the music industry takes the final step and fully engages in e-music (this step Is inevitable), it can no longer escape the rules of the network economy. This commands a restructuring of the industry towards more decentralised organisations which no longer control all the steps the music goes through before reaching the consumer. With distribution and technology converging, the industry can focus its attention on a number of other interests such as searching for artists to promote, or promoting already signed artists, thereby refining its current core business of promotion and marketing.

However, when discussing the changes the music industry is bound to experience, it is vital to recognise that still they alone hold the key to the success of e-music: as rights holders they control the content. So in that way the popular saying that content is king and the key to the kingdom is distribution, is true. At the time being, however, the key is not in the hands of the industry, it has been stolen by the MP3 pirates. Only by launching a trustworthy alternative to e-music piracy, the industry can win back their key, thereby securing their copyrights.

## 4.2 How will the music industry distribute their products and in what form(at)s?

Because of the vast number of CD players worldwide and the many uses for CDs, the format is very unlikely to disappear overnight. Like the case was with the transition from LPs to CDs, e-music and CDs will be around simultaneusly for a period of time but because of the nature of the digital network, the transition has the potential to happen more rapidly this time. Since CDs are still very cheap to produce, they will probably find a lot of uses, but as high speed access to the Internet becomes more common, the use for plastic discs for storing music will be challenged by media based on fewer movable parts, such as RAM chips. With access to the Net from more places and devices, where the music is stored will become less important. To the consumer a song streamed from a server will be the same as listening to a song locally stored on a consumer device.

With new storing devices and compression techniques, the form in which the music is delivered will most likely change as well. Depending on the end device used, the service may be delivered in a number of different formats, not nessecerily limited to that of music as we now know it. Some services can be more oriented towards an active user, while others may be preferable in more lean backward oriented situations.

Concerning the technical format for delivery of e-music, there is no clear answer to what will be the most common used. There is no doubt that the content will be of great importance to which formats will prevail, and for the time being the major record

companies are not very eagerly pushing this. While they are hesitating, the open MP3 format gains foothold.

The most likely result will not be a single format but a number of more or less compatible formats. As in the case of devices being linked together in networks, the formats must abide by the rules of the network. Formats not compatible with the network at large will most likely vanish.

### 4.3  How will they make money in a network economy?

At the moment it is crucial for the large labels to develop formats that allow them to protect their rights and hold on to the revenues now generated by the sale of CDs. This may prevent them from pursuing some of the opportunities presented by the rules of the emerging network economy. The framework, legal as well as economic, on which the industry has built its success, may well be the forces that are holding them back now. The insistence to have complete control over each unit may turn out to be the wrong approach in the network economy where flux generates revenue, not necessarily the single download.

Music and musicians are attracting a lot of human attention, and in a economy where that exact resource is very scarce (according to Kevin Kelly), it may be one of the new sources of income. Companies like MP3.com has discovered this, but has yet to perfect it. It means that the amount of money made on music will have the possibility of being the same or even grow in the network economy, but the channels through which the money will flow from consumers to rights holders may be more diverse and plentiful than the ones primarily used today.

   That is lower prices or no prices for the single song does not nesseceraly mean a lower income for the business as a whole. As the case is with telecommunications, lower prices per minute do not automaticly mean lower income of the business, instead the time we use on the phone and the purposes for which it is used have increased. This model could very well apply to the music industry as well.

### 4.4 Who will they be up against?

As a consequence of the emerging network economy, new players will appear. Players that will enforce and speed up the development of that very economy. In the more flux based economy, the internal as well as external organisation of companies will be more shifting, and the barrier between user and company will be more transperant. When an artist posts his music on the MP3.com and is submitted to commercials at the same time, he is, in fact, both consumer and 'employee' to the company.

To the overall organisation of the music industry in the network economy this could mean an organisational environment known from the Hollywood filmmakers (in which most of the companies are already highly envolved), where different companies and divisions are constantly constituting new formations of joint forces for the purpose of work on larger projects that would be difficult to handle by any single company or division.

   As described above, the income will most likely come via more channels than earlier. One of those being the invention of new cheap electronic end devices. As music may become cheaper, consumers may be more frequent buyers of specialised end-devices, thus making electronic manufacturers more direct competitors to the record labels. The diverse activities of Philips and Sony could in this particular case prove to be a valuable asset.

Other possible competitors can be well-known (and less known) artists with know-how and capital to promote and distribute their own music. They, too, can be organised in changing network structures, making their influence weightier.

### 4.5 How will this new way of distributing music affect the way we consume?

As we have seen in our analysis, e-music may return music to its original intangible state - for a moment it is there, and then it disappears. Such a return to intangibility and instancy will undoubtedly deeply impact the way we consume and who we are as consumers. In our analysis we sketched two possible roles for the future consumers of e-music:

- consumers being more uniform, wanting hit music only (a natural consequence of the music industry releasing an increasing number of complilation albums);
- consumers being more indivdual, specialising in a few selected artists only, or compiling their own albums of favourite artists.

Whether there will still be a place for the allround consumer who wants both, depends on the music industry and its willingness to keep promoting bands that might not become stars overnight or those established stars whoses careers are slowly going down hill

With consumers compiling their own music albums or starting to manipulate the music available in digital form so that it meets our demands (software that allows such manipulation is on the market), we all become producers or musicians. This ultimately merges the roles of consumers and producers into the concepts of the prosumer (as noted elsewhere in the paper, this concept was originally coined by Alvin Toffler).

With music available everywhere on the Net, at any time, and at low costs, we may start to use music more instinctively - whenever we feel like listening to music, we just grab something and play it. This behaviour may, in turn, decrease the respect for music - we simply forget that an artist has dedicated his or her career to making the music. We may come to think of it as something that can easily be disposed of - downloaded and erased.

   However, this instinctive relationship to music, combined with lows costs of downloading it, may also lead to substantial increase in our purchases of music. We will simply buy and use more music - it this sense, it does no longer matter whether our favourite music is located on a remote Web server or downloaded to our music device (whether a computer or MP3 player).

Throughout this analysis, we have attempted to answer five key questions concerning the future of the music industry in a network economy with new digital means of distribution - when music becomes e-music.

   Ultimately, what we have been analysing are the concepts of content (music), communication (digital network distribution), and computers (end devices). We have seen

that network economy merges these three concepts and creates a new reality for the music industry to cope with. Within the scope of our analysis, we have named this merger e-music. But this development is not restricted to the music industry only.

   To help understand the merger of content, communications, and computers, MIT researcher Eric D. Scheirer has coined the concept of "conflusion".

Content

*"Conflusion"*

Computers                                    Communications
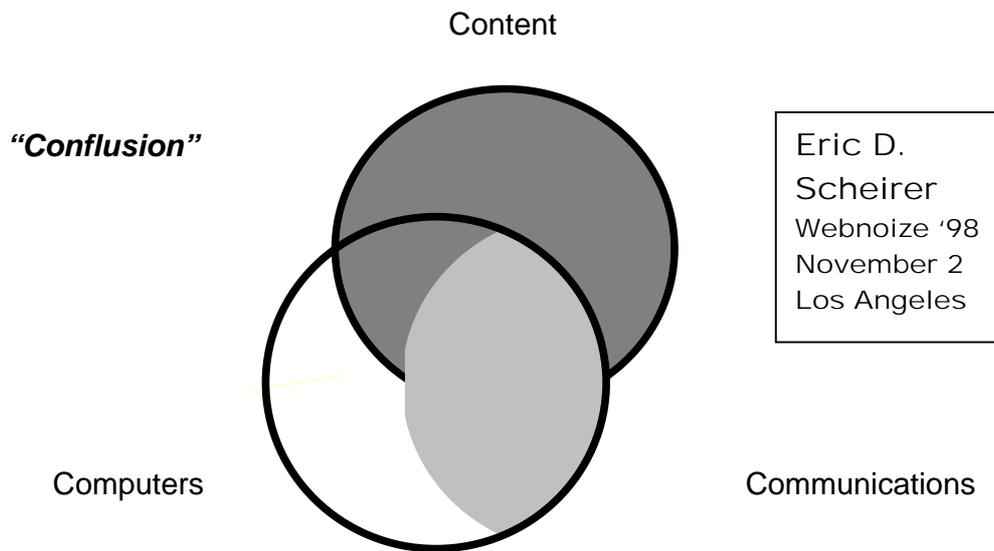
Any industry whose products can be distributed through digital networks will find itself in the epicentre of this merger.

   The movie industry has recently seen its secure formats being brooken. Today, DVD movies are ilegally compressed, distribtuted, and shared among a limitited group of users on the Internet with highspeed connections. Within a not too distant future, this group might not be that limitited.

# 5 Recommendations

In his book, Kevin Kelly presents ten rules for the new network ecomony that both arise from the economy itself and guide its future. On the basis of our analysis , we here present some recommendations on how the music industry should handle the transitions to a network economy.

## 5.1 You are not so different - listen to the consumer

The interest of consumers and industry are not so diverse. Consumers want cheap music of decent quality, for this they need some type of middlemen. The record companies are excellent middlemen, but they currently refuse to sell what a growing number of the consumers want: cheap e-music.

## 5.2 Do it now before it is to late

The industry has to venture into this area soon or new middlemen will gain sustainable foothold, including middlemen of illegal nature.

## 5.3 You cannot have total control

The industry has to let go of some of the control with every unit and step from recording to consumption.

## 5.4 You hold the key

The traditional industry can use their control of content to shape the form of how e-music is shaped, but the longer they wait the more limited their influence will be.

## 5.5 Seek new opportunities

The traditional industry cannot ignore the new type of business models emerging, they have to pursue new paths that radically differ from the atom based scarcity models currently followed. Income may come via new channels.

## 5.6 Get paid

The industry has to co-operate on developing reliable micropayment systems., and actively venture into the development of new channels of income.

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