MP3: SECOND VERSE

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They took the credit for your second symphony,
Rewritten by machine and new technology,
And now I understand the problems you can see. [1]

I. INTRODUCTION

New technology usually brings with it fear that things as we know them will change or be replaced. In 1980, The Buggles released the song "Video Killed the Radio Star" which satirized the emergence of music video as an eventual replacement of music radio. Now, the music industry faces new technology that it fears will do more than supplement its status quo. The amazing growth of the Internet is introducing new technology to people worldwide who can "download" the latest program with the simple click of a mouse button. Never before have so many types of music been so easily and freely accessible. But is all this information really "free"?

II. NEW TECHNOLOGY, MUSIC ON-LINE, AND COPYRIGHT

New technology has led to pirate Internet sites, where digitized music is downloaded or uploaded[2] without regard to copyright licens-

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[1] THE BUGGLES, *Video Killed the Radio Star, on* AGE OF PLASTIC (Island Records 1980).

[2] Downloading often refers to transfer from a larger "host" system (such as the Internet) to a smaller "client" system (such as a personal computer), while uploading

ing. Thus, a person can now make digital quality copies of musical recordings using his computer. However, computer files created from music CDs are very large and very time-consuming to upload, transfer, and download. The typical modem connection to the Internet operates at fifty-six kilobytes per second. An average three-minute musical recording is about thirty million bytes. Therefore, at fifty-six kilobytes, the song would take over an hour to upload or download.[3] Widespread copying was previously not a threat due to the time inconveniences. Today, however, new technology allows for perfect fidelity copies, regardless of the copy generation.[4] One such example is MPEG 1 LAYER 3 (MP3), a compression technology that reduces the sizes of files by a factor of ten, with little or no loss to the music quality.[5] Now, thanks to MP3, the average song takes only about twenty minutes to download.

There are two forms in which music can be delivered on-line: by "streaming" or by "downloading."[6] Streaming (or webcasting) technology allows a user to listen to music over the Internet in much the same way that one listens to the radio in that music is served from web sites in real time to a user's computer, providing instant gratification.[7]

Downloading technology allows delivery of sound files in much the same way as delivery of word processing files or any other kinds of computer files.[8] These files can be played on personal computers and special devices such as the Diamond Rio. The Rio is equipped

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is transferring programs over a digital communications link from a smaller or peripheral "client" system to a larger or central "host" one. *See Free On-line Dictionary of Computing* <http://wombat.doc.ic.ac.uk/foldoc/index.html> (visited April 1, 2000).

[3] I. Trotter Hardy, *Copyright and ANew-Use@ Technologies,* 23 NOVA L. REV. 659, 705 n.47 (1999).

[4] *Id.* Copy generation is the serial copying of a work. The original work would be the first generation. The first copy made of the original would be the second generation. A copy from the copy would be a 3rd generation copy, and so forth.

[5] Heather D. Rafter, et al., *Streaming into the Future: Music and Video on the Internet*, 547 PRACTISING L. INST./PAT 605, 615 (1999).

[6] Bob Kohn, *A Primer on the Law of Webcasting and Digital Music Delivery,* 20 ENT. L. REP. 4, 5 (1998).

[7] *Id.*

[8] *Id.* at 4.

with decoding audio software and hardware. Similar to a Walkman or Discman, the Rio is a portable means of listening to downloaded music.[9] Furthermore, the software necessary to play sound files on a person's computer can be downloaded for free off the Internet.[10] Once a song is downloaded onto a computer's hard drive, the user is not required to be on-line to hear the music, as is necessary with streaming.[11]

There are several music download formats: a2b (www.a2b.com), liquidaudio (www.liquidaudio.com) and MP3 (www.MP3.com).[12] MP3 is the most popular because of its easy access. Unlike a2b and liquidaudio, MP3 is an "open format," meaning it contains no copyright control measures and can easily be re-copied and distributed.[13] Furthermore, the other two formats also charge for their encoding software, while MP3 does not.[14] Therefore, MP3 may encourage piracy and violation of music copyright by allowing users to illegally reproduce, transmit, and publicly perform songs and sound recordings.

One of the most important concepts to understand about music copyright is that it actually involves two separate copyrights: 1) copyright in musical work, and 2) copyright in a sound recording.[15] For example, Northern Song, Ltd., a music publishing company, owns the copyright to the musical work "Helter Skelter" by John Lennon and Paul McCartney. In 1988, the pop group U2 recorded their version of the musical work "Helter Skelter" for their album *Rattle and Hum*. Each sound recording has its own separate copyright owned by its respective record company. In particular, Island Records owns the sound recording copyright for U2's version of "Helter Skelter." Thus, if someone wanted to use U2's version of "Helter Skelter," he would need the permission of Island Records to use the sound recording, and

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[9] Recording Industry Association of America v. Diamond Multimedia Systems, 180 F.3d 1072, 1074 (9th Cir. 1999) [hereinafter "RIAA"].

[10] Kohn, *supra* note 6, at 4.

[11] Neil J. Rosini & Howard M. Singer, *Music and the Internet, Patent,* 545 PRACTISING L. INST/PAT 865, 871 (1999).

[12] Rafter, *supra* note 5, at 614.

[13] Barak D. Jolish, *Scuttling the Music Pirates: Protecting Recordings in the Age of the Internet*, 17-SPG ENT. & SPORTS Law 9, 10 (1999).

[14] *Id.*

[15] Kohn, *supra* note 6, at 5.

the permission of Northern Song, Ltd. to use the underlying musical work. However, if someone wanted to make a new recording of "Helter Skelter," he would only need permission from Northern Song, Ltd.

The rights most often involved in on-line copyright infringement of sound recordings and musical works are the reproduction right in section 106(1) of the Copyright Act, section 106(3)'s distribution (through transmissions) right, and section 106(4)'s public performance right.[16] Unauthorized on-line transmission of music violates the copyrights to reproduce musical works and sound recordings. Likewise, temporary copies made in random access memory (RAM) of a computer qualify as copies under section 106(1).[17] Thus, playback of a song from an authorized music web site could constitute infringement because playback requires copying into the RAM of the computer.[18]

III. MEASURES BEING TAKEN TO PROTECT MUSIC COPYRIGHTS ON-LINE

The Internet and MP3 are raising new issues of copyright infringement. Congress, however, has taken note of these emerging problems and has reacted by passing several new acts. First, in 1992, Congress enacted the Audio Home Recording Act (AHRA).[19] This act protects consumers from copyright infringement liability for making non-commercial home copies.[20] Sections 1003 and 1004 of the Act create a royalty scheme whereby importers, manufacturers, and distributors of digital audio recording equipment must pay a percentage of their goods' transfer prices to a royalty payment fund to be distributed to copyright holders in sound recordings.[21] Additionally, section 1002 requires that all importation, manufacturing or distributing of digital audio recording devices have a serial copy management system (SCMS) or an equivalent system to control copying and prevent un-

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[16] *Id.*

[17] Nancy A. Bloom, *Protecting Copyright Owners of Digital Music B No More Free Access to Cyber Tunes,* 45 COPYRIGHT SOC'Y U.S.A. 179, 185 (1997).

[18] *Id.*

[19] *Id.* at 620. *See* Audio Home Recording Act, 17 U.S.C. §§ 1003, 1004 (1999).

[20] *Id.*

[21] Audio Home Recording Act, 17 U.S.C. §§ 1003, 1004 (1999).

authorized recording.[22]

Then, in 1995, the Digital Performance Right in Sound Recordings Act (DPRSRA) amended sections 106 and 114 of the Copyright Act.[23] The right to reproduce has always pertained to both copyrighted musical works and sound recordings.[24] However, prior to the DPRSRA and its addition of section 106(6), a performance license was not required for copyrighted sound recordings.[25] Section 106(6), as amended, elaborates on the right of public performance to include sound recordings performed by digital audio transmission.[26] Thus, today an MP3 version of U2's "Helter Skelter" would require licensing from both Northern Song, Ltd for use of the musical work and from Island Records for use of the sound recording. Similar to the AHRA, the DPRSRA also provides a form of compensation for copyright owners.[27] This compensation comes from ISPs and some web site owners who are required to pay public performance and mechanical license fees for making sound recordings available for public performance by digital transmission.[28]

Because different rights are involved for sound recordings and for musical works, different licenses under section 114 and section 115 are required. In a long and complex formula, section 114 determines whether digital public performance of music is infringing or not and if a license under section 115 is required.[29] Furthermore, section 115(a)(1) extends the availability of compulsory license to digital phonorecord deliveries.[30] Thus, licenses that may be required for use of sound recordings on-line include: 1) reproduction license; 2) transmission license; and 3) digital performance license.[31] The licenses required for use of a musical work on-line include: 1) mechanical li-

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22 *Id.*

23 *Id.* at 199.

24 *Id.*

25 Rafter, *supra* note 5, at 618.

26 *Id.*

27 *Id.*

28 *Id.*

29 *Id.*

30 Copyright Act, 17 U.S.C. § 115(a)(1) (1999). (A digital phonorecord delivery is the transmission of a digital copy of music.).

31 Rosini &. Singer, *supra* note 11, at 868.

censes for reproduction and phonorecord delivery; and 2) public performance license from the copyright owner or from a performing rights society.[32] Web site owners may obtain blanket licenses from ASCAP (www.ascap.com), BMI (www.bmi.com), SESAC (www.sesac.com), and the Harry Fox Agency.[33] Collection of royalties of public performances of musical works is important because licensing of public performances is a main income source for owners of musical works.[34]

Most recently, in 1998, Congress enacted the Digital Millennium Copyright Act.[35] This act limits liability relating to material on-line, and creates a safe harbor for Internet Service Providers[36] (ISPs) by requiring volition on the part of the ISP to find direct infringement.[37] In addition, the act calls for injunctive relief rather than monetary damages for ISPs who are held to be infringing.[38] However, in order to receive limited liability protection, service providers must comply with certain requirements listed in section 512(i) of the Act.[39] This section also requires ISPs to designate an agent who specifically deals with complaints of infringement.[40] No limited liability protection under this section is given to those ISPs who do not have such an agent.[41]

Limited liability of copyright infringement is important for ISPs who do not have control over the actions of their users. Because the

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[32] *Id.* at 869. (A performing rights society is an a organization that licenses public performances of musical works on behalf of the copyright owners of such works. An example of a performing rights society would be ASCAP.).

[33] Rafter, *supra* note 5, at 618.

[34] Bloom, *supra* note 17, at 197.

[35] Jennifer E. Markiewicz, Comment, *Seeking Shelter From the MP3 Storm: How Far Does the Digital Millennium Copyright Act On-line Service Provider Liability Limitation Reach?*, 7 COMMLAW CONSPECTUS 423, 433 (1999).

[36] An ISP is a company which provides other companies or individuals with access to, or presence on, the
Internet. *Free On-line Dictionary of Computing* (visited April 1, 2000). <http://wombat.doc.ic.ac.uk/foldoc/index.html>

[37] Markiewicz, *supra* note 35, at 434.

[38] *Id.* at 434. (Injunctive relief would require the ISP to remove the infringing site from the server.).

[39] Digital Millennium Copyright Act, 17 U.S.C. § 512(i) (1999).

[40] Digital Millennium Copyright Act, 17 U.S.C. § 512(c)(2) (1999).

[41] *Id.*

World Wide Web is accessible to almost anyone, an ISP cannot prevent someone from creating his own website and infringing material on-line. Furthermore, with the arrival of MP3, there has been an emergence of music "pirate" sites where users who have not obtained permission to do so upload copyrighted music for others to download free of cost. These pirate sites are a major concern of the music industry, which earns royalties from the copyright of musical works and sound recordings.

Besides the new legislation mentioned earlier, copyright owners could turn to technology to protect their works. One such technology is digital watermarking, which is digital information embedded in a digital work to identify it as a copyrighted original.[42] These watermarks are not detectable when listening to digitized sound recordings, cannot be removed, do not interfere with the quality of the music files, and remain recognizable through file conversions.[43] Furthermore, although digital watermarks cannot prevent theft, they may be able to deter copyright infringement.[44]

A watermark is divided into individual bits that are randomly distributed and hidden in the work, making it virtually impossible to remove.[45] If someone tries to delete a watermark, it will result in an obvious degradation of quality.[46] Therefore, imitations would be easy to detect if the original has a watermark but the copy does not.[47] Files with digital watermarks can also contain hidden information, such as the author's name or a unique reference number.[48] Watermark detection software allows a user to see this information, see which files are copyrighted, and see which files may be infringing copies.[49] Although on its face, one would not be able to tell if a particular file is watermarked as copyrighted, search engines could be designed to only re-

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[42] Rosemarie F. Jones, Comment, *Wet Footprints? Digital Watermarks: A Trail to the Copyright Infringer on the Internet,* 26 PEPP. L. REV. 559, 568-69 (1999).

[43] *Id* at 569.

[44] *Id.*

[45] *Id* at 569 n.99.

[46] *Id.*

[47] *Id.*

[48] *Id* at 570.

[49] *Id.*

trieve links to watermarked files.[50] Furthermore, music-playing hardware and software could be programmed to read the watermarks, and perhaps even be programmed to limit the number of times a work can be copied, opened, or retrieved.[51] Such technology has already been successfully implemented in DVDs.[52]

Other possible copyright protection technologies include password protection, encryption, firewalls, and micropayment systems.[53] However, these technologies are easier to overcome, especially for the experienced hacker. Nonetheless, section 1200 et seq. of the Copyright Act helps to strengthen the protection these technologies may provide. Section 1201 prohibits the circumvention of a technological measure used to control access to a copyrighted work.[54] Furthermore, a person who violates section 1201 may face civil actions under section 1203 or criminal actions under section 1204.[55] Section 1202 is also designed to protect the integrity of copyright management systems by imposing civil or criminal sanctions for providing false copyright management information and for the alteration or removal of copyright management information.[56]

Not surprisingly, most pirate music sites originate from university ISPs.[57] This is due to the fact that schools offer their students discounted Internet connections that are fast and powerful enough to download sizable files. However, universities can institute policies to make sure the Internet is used lawfully. One way to do this is by limiting bandwidth.[58] For example, Boston University limits its download connection to 2MBs, which is not large enough to download MP3 files or large software programs.[59] Many universities have forbidden students from setting up unauthorized music web sites.[60] Students who

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50 *Id.* at 570-71.
51 Jolish, *supra* note 13, at 11.
52 *Id.*
53 *Id.* at 10.
54 17 U.S.C. § 1201 (1999).
55 *Id* at §§ 1201, 1203-04.
56 17 U.S.C. § 1202 (1999).
57 Jolish, *supra* note 13, at 10.
58 Ken Morico, *The Click Police,* U. MAG. 9 (1999).
59 *Id.*
60 *Id.*

use the school's computer system for illegal purposes, including copyright infringement, may be punished by losing their computer privileges or even by being expelled.[61]

Another example of a university taking action was the University of Oregon. The University noticed very large loads of data transmitting from one student's site and investigated.[62] The school discovered that the student had been freely transmitting the equivalent of about 250 full-length MP3 songs every hour over the school's network.[63] The student was charged with violating the No Electronic Theft (NET) Act, which makes distribution of copyrighted material illegal even when no profit is involved.[64]

In addition to these measures, educational programs have been developed to help eliminate piracy. For example, the SoundByting Campaign is a nonprofit association that represents over 350 U.S. music record companies.[65] The campaign is aimed at teaching students and university administrators the importance of respecting copyrighted material on the Internet. Besides providing an informational web site (www.soundbyting.com), the campaign offers kits with student curriculum and educational materials discussing music on the Internet. The campaign is aimed at clarifying what is legal and illegal and helping students understand that their actions can potentially harm rather than benefit the recording artists.[66]

Additionally, in 1998, companies and organizations representing information technology, consumer electronics businesses, ISPs, security technology companies, and worldwide recording industries formed the Secure Digital Music Initiative (SDMI).[67] Their goal was to develop a "voluntary, open framework, storing digital music neces-

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[61] *SoundByting, Copyright 101: The Penalty Box* (visited Nov. 24, 1999). <http://www.soundbyting.com/html/copyright_101/box_index.html>.

[62] David Konopka, *Web Pirate,* U. MAGAZINE, Nov. 1999 at 9.

[63] *Id.*

[64] *Id.* at 10.

[65] *SoundByting, Who We Aren't* (visited Nov. 24, 1999). <http://www.soundbyting.com/html/who_we_arent/arent_index.html>.

[66] *SoundByting, Who We Aren't* (visited Nov. 24, 1999). <http://www.soundbyting.com/html/who_we_are/are_index.html>.

[67] *Secure Digital Music Initiative (SDMI) Fact Sheet* (visited Nov. 24, 1999). <http://www.sdmi.org/public_doc/FinalFactSheet..html>.

sary to enable a new market to emerge."[68] The SDMI has already produced a protective technological standard for portable devices.[69] This standard is the ARIS audio watermarking technology.[70] Portable devices will be able to be upgraded to incorporate this technology.[71] However, until it is incorporated, the device will be able to play only music compatible with that particular device, whether the music is protected or not.[72] Once the technology is incorporated, if consumers do not upgrade their devices, they will not be able to play music that has incorporated the ARIS technology.[73]

IV. IS MP3 A GOOD THING? – DIFFERENT PERSPECTIVES

Thus, with the advent of all this new protective technology and legislation, is MP3 really as troublesome as the record companies make it out to be? The Recording Industry Association of America (RIAA) feels that the ease of use and lack of copyright protection of MP3 files encourages piracy on the Internet.[74] In its case against the manufacturer of the Diamond Rio, the RIAA asserted that pirated MP3 files will "discourage the purchase of legitimate recordings," and predicted that revenue losses due to illegal MP3s will "surpass the $300 million that is allegedly lost annually to other more traditional forms of piracy."[75]

The SoundByting campaign points out that "there is a difference between free music that is deliberately given away and 'stolen' music that is put on-line without authorization."[76] The site stresses that it is a

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[68] *Id.*

[69] *Id.*

[70] *SDMI Announces Portable Device Technology Will Be Available* (visited Nov 27, 1999). <http://www.sdmi.org/pr/NY_sep_24_1999_PR.html>.

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] RIAA, *supra* note 9 at 1073. (The RIAA sued the manufacturers of the Diamond Rio alleging the Rio violates the AHRA by enabling users to make serial copies of MP3 files.).

[75] *Id.* at 1074.

[76] *SoundByting: Top 10 Myths* (visited Nov. 24, 1999). <http://www.soundbyting.com/html/top_10_myths/myths_index.html>.

matter of principle: It is the artists' right to control their own works.[77] In particular, Kelly Curtis, Pearl Jam's manager, is quoted on the site: "The band takes such pride in the packaging and presentation of its music that for an album to come out in a way that isn't as they intended just isn't fair."[78] Likewise, other artists such as Van Halen have also spoken out by asking their fans not to copy their unreleased songs.[79]

There is also the misconception that music on the Internet should be free just like the radio.[80] This misconception leads to piracy. People forget that radio stations pay ASCAP or similar agencies large license fees to play their songs.[81] Perhaps the ISPs could obtain blanket license fee agreements for on-line music performances from agencies such as ASCAP.[82] Web sites may be able to charge per hit to the site, per download of song, or sell advertising space to pay fees and still be able to offer music for free.[83] Yet, fans still feel they are helping by opening up what they perceive is a music industry favoring the few.

Large record companies have come to dominate the music industry.[84] These companies have enough money and marketing capabilities to introduce new artists and continue promotion of established artists.[85] However, even large record supported by a large label get a relatively small percentage of album revenues.[86] Popular bands such as U2 earn large profits only because they are established enough to have leverage over the record label and gain substantial profits through touring proceeds.[87]

Independent record labels or "Indies" try to take up where the

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[77] *SoundByting: E-Mailbag* (visited Nov. 24, 1999). <http://www.soundbyting.com/html/email_bag/email_index.html>.

[78] *Id.*

[79] *Id.*

[80] Bloom, *supra* note 17, at 202.

[81] *Id.*

[82] *Id.* at 203.

[83] *Id.* at 204.

[84] Rafter, *supra* note 5, at 611.

[85] *Id.*

[86] *Id.* at 612. (Assuming a profit is even made, new artists might earn less than ten percent of all net revenue generated on an album.).

[87] *Id.*

larger record companies leave off by offering new artists an alternate route.[88] However they are more limited financially and with their resources than the larger record companies.[89] Once an indie obtains some notoriety, a larger label buys it.[90]

For this reason, some see MP3 as a good thing.[91] Proponents of MP3 accuse the recording industry of "stifling creativity and technological advancement, and seeking to maintain their protected position in the entertainment market."[92] The proponents feel MP3 will cause the music industry to open up, make a wider variety and amount of music available to the public and permit a more equitable distribution of profit.[93] That is because MP3 technology offers unknown, unsigned bands a way to get on their own what the record companies would have them sign their lives away for: airplay and promotion. This is so important that most of these artists are willing to waive royalties in exchange for the exposure.

MP3 definitely has its advantages. MP3 sites offer ease of access, ability to hear music samples, ability to obtain information about artists, and the ability to order music instantaneously.[94] It also has a lot to offer artists. A web site devoted to MP3 files, www.MP3.com, offers artists increased exposure in the form of radio advertisements, MP3.com CDs, and other MP3.com-related media.[95] Artists are given their own free web pages to design as well as free disk space and unlimited downloads.[96] Additionally, an artist's musical works can be featured in a particular musical genre, allowing users to find new music they would probably like.[97] MP3.com also offers a CD program called DAM (Digital Automatic Music). Using this program, an artist

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[88] *Id.* at 611.

[89] *Id.* (This is due to the high costs associated with promotion and distribution through traditional retail channels).

[90] *Id.* at 612.

[91] Jolish, *supra* note 13, at 9.

[92] Rafter, *supra* note 5, at 625.

[93] *Id.* at 609.

[94] Rafter, *supra* note 5, at 613.

[95] *MP3.com* (visited Nov. 24, 1999), <http://www,mp3.com/aboutus.html?hpbbau>.

[96] *Id.*

[97] *Id.*

can sell and market his music without startup costs, set the price at which he wishes to sell his CD, and earn 50% of the earnings.[98] MP3.com also offers free tour calendar service so fans can keep up with their favorite new artists.[99]

V. CONCLUSION

MP3 raises concerns of how to protect the rights of copyright owners and make sure they get their share. New technology and legislation address those concerns. Several new companies such as Audio Explosion (www.audioexplosion.com) are offering MP3 files formatted with a technology designed to prevent illegal copying.[100] Sony has developed technology that only allows users to move but not copy recordings.[101] Furthermore, technology can be used to track pirated music sites to their ISP which in turn can be made to remove the offending site.[102] Lastly, new technology such as digital watermarking and new legislation such as the Digital Millennium Act will help to make sure that only the true copyright owner gets "credit for [his] second symphony" even if it is "rewritten by machine and new technology."[103] Now that they see the problem, the on-line community and the traditional music labels can work together towards a solution.

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[98] *Id.*

[99] *Id.*

[100] *AudioExplosion* (visited Nov. 25, 1999). <http://www.audioexplosion.com/mjuice/info?article=about_mjuice&sid=&lo=yes> (Mjuice.com has developed a secure digital song delivery and transaction system that ensures proper compensation for music, while removing the threat of on-line piracy. The company's Mjuice MP3 song files provide a high level of security for music rights holders while maintaining MP3's excellent sound quality and instant recognition among Web music fans.).

[101] Jolish, *supra* note 13, at 11.

[102] Rafter, *supra* note 5, at 626 n.37.

[103] *See supra* p.1 and note 1.