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**SAFEGUARDING THE MUSICAL HERITAGE. *SOUNDS OF THE PAST*:
A DIGITIZATION PROJECT OF THE NATIONAL
AND UNIVERSITY LIBRARY IN ZAGREB**

Abstract. Music Collection of the National and University Library in Zagreb comprises part of Croatian musical heritage, including music prints, music manuscripts and a collection of sound recordings. The text gives an overview of the activities connected to the Music Collection digitization, with an emphasis on the digitization of historical sound recordings on 78 rpm gramophone records, which constitute the oldest and important part of Croatia's musical sound heritage. Due to its historical and cultural significance some of the material held by the Music Collection, represents a priority when it comes to the protection, preservation and accessibility. With the goal of preserving and making available part of Croatian sound history, the Library launched a project for digitizing historic sound recordings. The project asserted itself as a good solution for preserving and making a valuable part of Croatian sound heritage accessible online. The project's results are presented in the virtual collection *Sounds of the past* which contains high-quality metadata as well as bio-bibliographic and contextual data. As inseparable parts of the old gramophone record, original record labels can be seen there, as well as what record covers and publisher's catalogues looked like. Its additional value lies in the accompanying materials, which include texts and clippings from the leading newspapers of that time. The major part of the collection of sound recording's collection comprises items released by the Edison Bell Penkala company, an important platform for producing and publishing of gramophone records situated in Zagreb during the 1920s.

Keywords: musical heritage ; historical sound recordings ; gramophone records on 78 rpm ; digitization project ; sound digitization ; sound restoration

1. Introduction

Institutions dealing with heritage material, especially archives, libraries and museums have a significant role in safeguarding the existing knowledge as well in disseminating this knowledge to the public. Rare and valuable material of national and cultural significance is held within national libraries, especially their special collections, and music is no exception. Music and music material should be considered within the context of the totality of music representations, which include graphic representations of music (printed music, music manuscripts) as well as its sound representations bound to different media and sound carriers.

In the beginning of sound publishing, recordings were released on different physical carriers, which have been identified as unstable and unable to preserve sound content. Until recently, those materials were rather neglected and their importance for cultural heritage rather forgotten. Therefore, it is the obligation primarily of the heritage institutions to raise awareness about the significance of these materials within the context of current and contemporary praxis and guidelines for safeguarding and longtime preserving.

2. Music Collection of the National and University Library in Zagreb

As one of the four special collections of the National and University Library in Zagreb (NUL), the Music Collection comprises music material not only in printed and written form

(music prints and music manuscripts) but also in numerous sound recordings on different sound carriers. The Music Collection was established in 1945, however, over the years, different music materials have been added to the collection, mainly through the legal deposit of music prints copies and sound recordings and, to a lesser extent, through the purchase of foreign publications. Music manuscript scores most frequently belong to the musical legacies of various Croatian composers and are mostly obtained through gifts or bequests and as such represent valuable resources as well as the starting point of a systematic research of music. For example, among many others, the Library holds - the legacy of Blagoje Bersa, a significant representative of Croatian musical modernism, an extensive legacy of Ivan Zajc, a composer who marked the history of Croatian music in the second half of the 18th century. Also, bequests of Fran Lhotka, Antun Dobronić, Ivan Brkanović, Stanislav Preprek, Jakov Gotovac, Hubert Pettan, Božidar Širola, significant composers who represent valuable part of Croatian music history. In addition, the Music Collection comprises extensive holdings of sound recordings on gramophone records, audio cassettes and compact disks obtained mainly through legal deposit [1].

Besides the already mentioned material, the Music Collection contains historical sound recordings – sound discs from the early period of sound recording and publishing. Given that the publication of the early sound discs preceded the establishment of the sound recordings legal deposit act, these discs were obtained mostly through individual bequests of collectors, and to a lesser extent, through the purchase of selected editions.

Exceptionally valuable is the collection *Fonoteka Čapka*, a unique collection of sound recordings comprising more than 6,000 gramophone records, donated by the private collector, engineer Eduard Čapka. Čapka had systematically been assembling collection of gramophone records for over 70 years and it now includes numerous editions - from the old 78 rpm shellac gramophone records to more recent vinyl records, featuring the repertoire of Croatian composers and performers. Apart from works of classical music, this extensive collection comprises shellac records of folk and popular music, along those of salon music, a type of music that was very popular at the beginning of 20th century. It can be said that today's holdings of the Music Collection of the NUL include a very valuable part of sound recordings from the early period of Croatian phonography.

2.1. Digitizing music from the Music Collection. With the purpose to preserve and make available part of musical heritage, the Library has been digitizing music material for a more than a decade. Having been digitized manuscript music scores are now available through the virtual collection *Digitized Heritage*, which can be accessed on the website of the Library [2]. The first thematic collection of music material available on the library website was the one entitled *Solo songs of Croatian composers*, which includes solo songs of selected Croatian composers.

Gradually, the number of collections and the overall amount of content increased and today part of the most important manuscript music scores held by the Library exist in their digitized form. Among the works that have already been digitized and that are to be launched online within the framework of *Digitized heritage* is: the opera score of *Nikola Šubić Zrinjski* by the already mentioned composer Ivan Zajcjr., whose 100-year death anniversary is being commemorated in 2014. Also, one of the most famous works of the composer Blagoje Bersa, his symphonic poem *Sunčana polja*, will be available. Additionally, sixteen masses of the composer Johan Petrus Haibel, which form a part of Music Collection's holdings, have been completely digitized. Until fairly recently the masses were considered to be lost in the Đakovo Cathedral fire, but thanks to the Croatian musicologist Franjo Ksaver Kuhač, who

had deposited the masses in his own private collection before the fire, today they exist as part of Franjo Kuhač's legacy in the Library's Music Collection [3, p. 147]. The autograph of the first Croatian opera – Vatroslav Lisinski's *Ljubav i zloba* (*Love and malice*) from 1846 –has also been digitized and will soon be available online. For quite some time now, the website offers access to *Cithara octochorda*, an early printed collection of songs in Latin and Kajkavian intended for choral and folk singing. *Cithara* (3rd edition, printed in 1757, in Zagreb) is interesting because it contains some parts of the old Zagreb church rite as well as some chants and songs present in today's religious practice [4]. Additionally, *Crkvena lira*, a handwritten Cantual from the mid-18th century by the Franciscan Fortunat Pintarić, has also been digitized and is soon to be available online.

2.2. Historical sound recordings from the Music Collection's holdings. As already mentioned above in the text, the Music Collection comprises gramophone records from the early period of sound producing. For the purpose of getting insight into the earliest period of Croatian recording industry, it is necessary to give a short overview of the beginnings of recorded sound, whose importance for the development of phonography cannot be overstated.

As phonographic industry developed and as the markets expanded, Croatia kept familiar with the latest techniques of sound recording. The well-known newspapers of that time such as *Jutarnji list* or *Obzor* represent a valuable source of information about this. Already in the 19th century, Zagreb audience was well familiar with the latest achievements in sound recording. In 1890 Edison's phonograph was presented in the center of Zagreb. Despite this familiarity with the recorded sound that existed already in the 19th century, Croatia's history of phonography had not really begun to develop until the early 20th century.

The first gramophone records of Croatian performers and of the works of Croatian composers appeared in the former Austro-Hungarian Empire in the first years of the 20th century. As early as 1899, a trader from 39 Ilica Street, Mavro Drucker offered for sale all types of "mechanical music machines", while in the following year, 1900, phonograph was first mentioned in the newspaper *Obzor*, and the citizens were invited to participate in the Zagreb presentation of the Edison phonograph [5]. Also, newspapers from 1900 reported that one already could buy Columbia turntables and cylinders in 24 Marovska Street in Zagreb from the trader Ferdinand Budicki. In the first decade of the 20th century, the market of selling and trading records expanded. At that time, representatives of foreign companies resided in Zagreb and among them were Milan Obuljen, F. Brusicki, Šandor Kudelka, and Löwin, who was then a Viennese representative. During the 1920s there were well known traders like E. Fischer in Jurišićeva Street, Tomay in 49 Ilica Street, and Pavao Kauders at 17 Zrinski Square. However, it should be noted that the earliest gramophone records of Croatian performers were recorded and produced abroad (Vienna, Berlin, London, Prague) [6].

Early foreign editions of gramophone records originate from the beginning of the 20th century. Among them there were *Odeon Premier Record*, *ABC Grand Record*, *Gramophone Concert Record*, *Emil Berliner's Gramophone* and *The Gramophone Company*, known as a Berliner's European subsidiary, which recorded Croatian interpreters in Vienna. One of the earliest performers was Albin Lukasch, a Croatian baritone who recorded five disks for *The Gramophone Company* in the early 20th century (1901). These are the first recordings made abroad by some Croatian performer. Recording experts of that early period brought their recording equipment to some of the more important regional centers. It was a well-known fact that the *The Gramophone Company* recorded for our market in Ljubljana, Zagreb, Beograd, Osijek and some other centers through its representatives [7, p. 143]. Among the older sound recordings, there are certain items that have to be mentioned: those released by the Elektroton

Company and, to a large extent, the ones released by the Edison Bell Penkala Company (later in the text EBP), a subsidiary of the English company Edison Bell International, London.

Not only because it released, but also because it produced and manufactured gramophone records, the EBP Company figured as an important producer and publisher active in Zagreb in the first half of the 20th century. Numerous recordings of that period exist and they provide us with an insight into the national music publishing as well as the musical repertoire from the beginning of the 20th century. Domestic production began in 1924, when the owner of Edison Bell from London founded the Edison company subsidiary in Zagreb. Firstly the company published licensed records. After 1926, the Edison Bell Company consolidated with the Penkala Company factory and created a joint-stock company called Edison Bell Penkala (EBP), which started its own production. Its repertoire included opera and operetta arias, popular songs, folk songs, couplets, military music performed by the well-known musicians and actors of that time. Some of the most famous performers were Dejan Dubajić, Arnošt Grund, Vlaho Paljetak, Marta Pospišil Griff, Milan Šepec, Mario Šimenc, Tinka Wesel Polla and others. Throughout the whole decade, from the 1926 to 1933, the company produced, recorded and published records whose repertoire, besides the Croatian performers, ensembles and composers, often included the foreign repertoire.

3. Digitization of sound for preservation and access

Recently, the professional community has been focused on sound recordings as very valuable and fragile materials which have to be preserved. The role of the libraries is especially emphasized in the context of preserving and making available the sound content and even preserving original physical carriers. In order to achieve that, legislative, financial and organizational measures need to be encouraged as well as the continual public awareness of the audio heritage's critical position [8, p. 21]. As a preservation method, digitization has been strongly advised by many guidelines, documents and strategies [9], but the goals of a long-term preservation of audio material involve more complex preservation measures due to the instability of media and complexity of the technology [10].

Since there is no national standard for digitization evaluation and selection criteria, general guidelines and best practices are carried out. Due to the fragile material of the shellac gramophone records and the fear of losing the content, in digitizing priority is given to valuable historical sound recordings [11, p. 95].

With the goals of preserving and making a valuable part of the national sound heritage available to a larger public, the digitization project *Croatian sound musical heritage: digitizing the oldest records on 78 rpm* was launched under the support of the Ministry of Culture of the Republic of Croatia as *Croatian sound musical heritage: digitizing the oldest records on 78 rpm*.

3.1. The project of digitizing the earliest Croatian 78 rpm gramophone: *Sounds of the Past*.

As mentioned above, some of the oldest Croatian gramophone records are preserved as part of the Music Collection. Its holdings comprise older 78 rpm gramophone records from the beginning of 20th century made from shellac. The disadvantages of the older records are closely linked to the quality and pureness problems of shellac, as a component material used in disc production which causes fragility and brittleness of disks. Also, some issues are connected to the lack of speed standardization, which means that one has to adjust the disk to its right speed in order not to hear distorted sound. During the time, discs were often damaged due to improper handling, which frequently consisted in playing the disks using the stylus (steel needle) which was likely to damage the grooves of the disks. Steel needles had to be

often replaced regularly by new ones – something that were not done properly in everyday us. Therefore, the digitization project was launched with the goals to preserve and make available the oldest part of Croatian phonography. It was agreed that the project should enable the following:

- the original sound file (uncleaned) in uncompressed format (WAV)
- optimally cleaned-up sound file in uncompressed format (WAV)
- optimally cleaned-up sound file in compressed format (mp3)
- quality metadata
- contextual data.



Figure 1. Gramophone record released by Premier Record, 1909.
An excerpt from the opera *Porin* by Vatroslav Lisinski

The project consisted of several project phases. Preliminary activities included gathering the necessary data with the reports about what had been done. In addition, material selection, copyright research (for further publishing on the web) and selection of associates were carried out. It was agreed that the process of digitizing the sound would be done by professional sound engineers of the outsourcing company because The Library didn't own the necessary equipment.

According to the phases of the project, materials were examined in collaboration with the professionals from the Library's Preservation Department and the necessary actions were taken including the scanning of sound disk labels. Standing out as particularly interesting parts of the older sound discs are their covers (also digitized), which bring some new and useful information about their publishers. The cleaning of sound disks was entrusted to the experts in the outsourcing company.

After the digitization and the sound restoration processes had been completed, the library submitted each digital sound file from the outsourcing company in the original uncompressed format (WAV), the restored uncompressed audio format (WAV) and compressed format (mp3). All digital files are stored in the library information system. Although some of the sound recordings were slightly damaged, it has to be stated that the sound content of all gramophone records has been successfully digitized and restored.

Sound recordings are catalogued and their bibliographic descriptions are available through the electronic catalogue of the Library. Cataloguing has been done in MARC21 format and the links to the digital files have been added to the field 856 (Electronic location and access) in the bibliographic descriptions. Thanks to this link, there is an easy access from the library's catalogue to the digitized sound.

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FMT    MU
LDR    00000njm a22 i 4500
001    000762016
003    HR-ZaNSK
005    20140529101002.0
007    sd d |nd| |msl|e
007    cr nnannmpaup
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040    |a HR-ZaNSK |b hrv |c HR-ZaNSK |e ppiak
080    |a 784.2(086.72) |2 MRF 1998.
1001   |a Lisinski, Vatroslav
24511  |a Zorko moja : |b iz opere "Porin" / |c od Lisinskoga. Molitva "Offertore" / od V. [Vilka]
        Novaka ; |izvodi| Ernesto vitez Cammarotta, operni pjevač.
260    |a [S. l.] : |b Premier Record, |c 1909.
300    |a 1 gramof, ploča : |b 78 o/min. mono ; |c 25 cm.
500    |a Zvučne datoteke digitalizirane sa šelak gramof. ploče
533    |a Vrste datoteka: 1 arhivska matrica (izvorni format wav) ; 3 korisnička primjerka (mp3)
7001   |a Novak, Vilko, |c skladatelj |4 cmp
7001   |a Cammarota, Ernesto |4 prf
70012  |a Novak, Vilko, |c skladatelj |t Molitva "Offertore"
8564   |u http://mz.nsk.hr/zbirka78/?p=412 |y Zorko moja
85640  |u http://mz.nsk.hr/zbirka78/wp-content/uploads/2013/08/DSC02307-1024x1017.jpg
8564   |u http://mz.nsk.hr/zbirka78/?p=465 |y Molitva "Offertore"
85640  |u http://mz.nsk.hr/zbirka78/wp-content/uploads/2013/08/DSC02308-998x1024.jpg

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Figure 2. An example of the catalogue record for digitized sound recording in MARC21 format

In order to provide quality metadata, the project was followed by the metadata research. The descriptive metadata research included the examination of professional and reference literature, including the relevant periodicals from the beginning of the 20th century, which often revealed some unknown details. This data with all the gathered details create a more complete image of an early era of sound recording and releasing, giving it an added value under the light of its broader historical context.

Beside the primary level of information, which comprised in sound content, there is a secondary level of information (usually provided by the actual physical carrier) which is especially significant for the authentication of the primary content from the original carrier [12]. Older gramophone records comprise very scant, incomplete and sometimes false information on sound carriers, so the research was carried out comprehensively. Furthermore, besides the usual publishers' numbers there are matrix numbers on the records comprising important information which reveals not only the recording technique, but sometimes even the names of the recording experts responsible for the recording of individual sound disks. After the digitization, all of the records were supplemented with necessary descriptive, administrative and technical metadata within the Dublin Core metadata set: creator, format, identifier, language, publisher, publication date, publisher's number, type, subject and rights. Comprehensive research concerning copyright and neighboring rights was carried out. While all the recordings free from copyright have been given *free access* status and are available for listening on the Sounds of the past web page, the copyrighted recordings have been given the restricted access status and are available for listening in-house only.

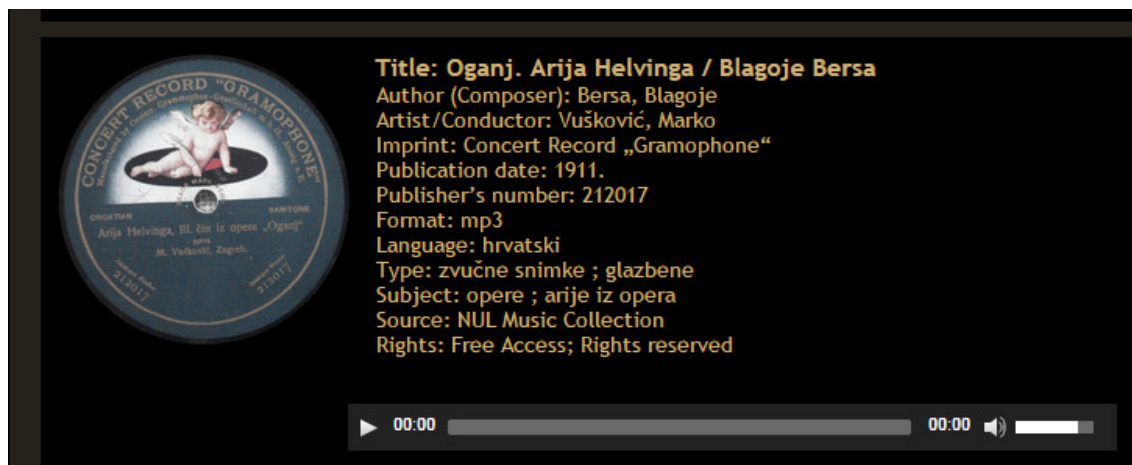


Figure 3. Aria of Helvinga, an excerpt from the opera *Oganj* by Blagoje Bersa. Printscreen from the *Sounds of the past* digital collection including metadata of the digital file with the audio player.

The final phase of the project consisted in presenting the results of the project within the framework of *The Sounds of the past* digital collection launched at the end of 2013[13].

Sounds of the past has been designed as a unique thematic place where wide public can get access to early sound recordings of the old Croatian phonographic production. It is also a virtual place where information about the history of Croatian phonography can be found, along with a range of facilities and new services of additional value. Besides complete bibliographic data and necessary metadata, this additional value is represented by the material which although not physically connected to the originals provides additional content and context. A good example of this are publisher catalogues from the early 20th century that have lists of releases with publishing numbers usually ordered by date relevance, which helps a lot in gathering credible information.

Thanks to the rich holdings of the Library, which include music prints, small prints (concert and theater programs) as well as an extensive fund of periodicals (newspapers and magazines), it was possible to provide insight into the earliest period of Croatian phonography. Also, the consulted materials have become a valuable source of information within the wider context of creating an image of the early 20th century music repertoire and sound recording, its publishing and performing. By launching the collection online, the Library has not only established a new service of sound listening over the Internet, but also offered a framework for placing the sound recordings in their respective historical contexts, which gives them additional value.

The collection has been made in an Open Source system— Word Press and, shortly after launching; the sound recordings were prepared for the harvesting by The European Library (TEL), which is the Library's aggregator for *Europeana*. It was agreed that all records would be in format MARC21 and the system librarian mapped the MARC21 records in MARC XML scheme. After that, the records identification numbers with the hyperlinks for thumbnails were sent to TEL. All of the digital files planned to be ingested in *Europeana* is allocated free access status. The collection is planned to become part of *Europeana* in June 2014.

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    <subfield code="c">od Lisinskoga. Molitva "Offertore" / od V. [Vilka] Novaka ; [izvodi] Ernesto vitez Cammarotta,
    operni pjevač.</subfield>
  </datafield>
  - <datafield tag="260" ind2=" " ind1=" " >
    <subfield code="a">[S. l.] :</subfield>
    <subfield code="b">Premier Record,</subfield>
    <subfield code="c">1909.</subfield>

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Figure 4. Part of the MARCXML scheme



Figure 5. Sounds of the past digital collection homepage

4. Conclusion

Shellac gramophone records on 78 rpm from the Music Collection, along with its printed and manuscript music and other sound recordings, represent a valuable part of Croatian musical, both written and audio, heritage. In alignment with its basic functions, the Library launched a digitization project with the aim of preserving and making a part of music material available online as well as establishing some new library facilities and services. Besides the possibility of listening to digitized sound recordings, the digital collection *Sounds of the past* provides high-quality metadata as well as bio-bibliographic and contextual data. As the inseparable part of the old gramophone record, original record labels can be seen there as well as what record covers and publisher's catalogues looked like. Its additional value is represented by the accompanying materials including texts, clippings and advertisements from the leading newspapers of the time which contextually create a more complete image of the musical and performing period belonging to the early Croatian phonography.

The research has revealed an area concurrent with the technological development in sound recording and production of the early 20th century. It has also established Croatia's affiliation with the major European musical influences and has reinforced its place on the cultural map of Europe of that period. By launching the project and making the *Sounds of the past* collection online, the Library has achieved its goals – it has preserved, gave access and functionality to the heritage material from its holdings, and above all it has provided some added value as a creative input.

References

- [1] Music Collection. National and University Library in Zagreb. Available at: <http://www.nsk.hr/en/music-collection/> (2014-07-23).
- [2] Digitized heritage. National and University Library in Zagreb. Available at: <http://db.nsk.hr/> (2014-07-23).
- [3] Blažeković, Zdravko, Stipčević, Ennio. *Johann Petrus Jakob Haibel i njegovih šesnaest novopronađenih misa iz Đakova!* Glazba iz arhiva : studije i zapisi o staroj hrvatskoj glazbi / urednica Jelena Hekman, 147–157, Zagreb : Matica hrvatska, 1997
- [4] Cithara octochorda. Available at: <http://db.nsk.hr/HeritageDetails.aspx?id=835> (2014-07-23).
- [5] *Obzor* [newspapers], 40, 263 (15.11.1899.), p. [3]
- [6] *Obzor* [newspapers], 41, 284 (12.12.1900.)
- [7] Kunej, Drago, *Intertwinement of Croatian and Slovenian Musical Heritage on the Oldest Gramophone Records*, Narodna umjetnost. 51, 1 (2014), 131–152
- [8] Royan, Bruce, *Audiovizualna građa i nasljeđe*, Audiovizualna građa i nasljeđe / uredila Sanja Vukasović-Rogač, 17–21, Zagreb : Knjižnice grada Zagreba, 2010
- [9] IASA-TC 03 *The Safeguarding of the Audio Heritage: Ethics, Principles and Preservation Strategy, guidelines for preserviomg audio heritage*. Available at: http://www.iasa-web.org/IASA_TC03/TC03_English.pdf (2014-07-23)
- [10] Beagrie, Neil, *National digital preservation initiatives : an overview of developments in Australia, France, the Netherlands, and the United Kingdom and of related International Activity Council*. Available at: <http://www.clir.org/pubs/reports/pub116/pub116.pdf> (2014-07-23)
- [11] Šojat-Bikić, Maja, *Digitalizacija zbirke mehaničkih glazbenih automata Ivana Gerersdorfera: prilog digitalnom očuvanju hrvatske zvučne baštine te povijesti*

- bilježenja i reprodukcije zvuka od 1880-ih do 1920-ih godina*, *Arti musices*, 41, 1 (2010), 61–96.
- [12] Brylawski, Samue, *Preservation of Digitally Recorded Sound. In building a national strategy for preservation : issues in digital media archiving*, Washington, DC: Council on Library and Information Resources and Library of Congress, 2002. Available at: <http://www.clir.org/pubs/reports/pub106/sound.html>. (2014-07-23)
- [13] *Sounds of the Past*, Available at: <http://mz.nsk.hr/zbirka78/en/>(2014-07-23)

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