



Image 1 a.



Image 1 b.



Image 2.



Image 3.



Image 4.

FEATURES

- Parallel interface with PC/Notebook (USB Available)
- 10 buttons / Menu driven
- External headphone jack
- Built-in microphone
- 40 minutes of MP3 file play with a *Click!* Disk
- ADPCM voice recording (170 minutes of recording)
- Cylinder type rechargeable Li-Ion battery
- Display : Dot matrix : 128seg X 64com
Size : 33mm(L) X 23mm(H)
- RISC type of CPU
- Easy function upgrade by S/W
- Internal rechargeable circuit



Image 5.

MP3 & MS Audio Play

- **Decoding Spec.**
MPEG 1/2/2.5 Audio Layer 3 Decoding & MS Audio 4.0
- **Function**
Play/Pause/Stop/FF/REW/Sound control
- **Sound Control**
Volume/Treble/Bass
- **S/N Ratio**
90dB
- **Downloading Time**
MB / 10seconds

Voice Record & playback

- **Function**
Record/Playback/Pause/Stop/FF/REW
- **Recording Time**
170 Minute of Continuous Recording with a disk
- **Voice File Upload/Download through Parallel Interface (USB Available)**

Organizer

- **Phone book**
(MS Outlook Express File Upload/Download through Parallel Interface (USB Available))
- **Calendar**
- **World Time**

Portable Data Storage

- File Down/Up load from/to PC
- Storing Data on a *Click!* Disk
- Large Storage Capacity up to 40MB in a Disk

Accessories

- Manual
- Parallel cable with port
- PC Program
- Cylinder type of rechargeable Li-Lon battery (1EA)
- Headphone
- A *Click!* Disk
- AC/DC Adapter



Image 6.

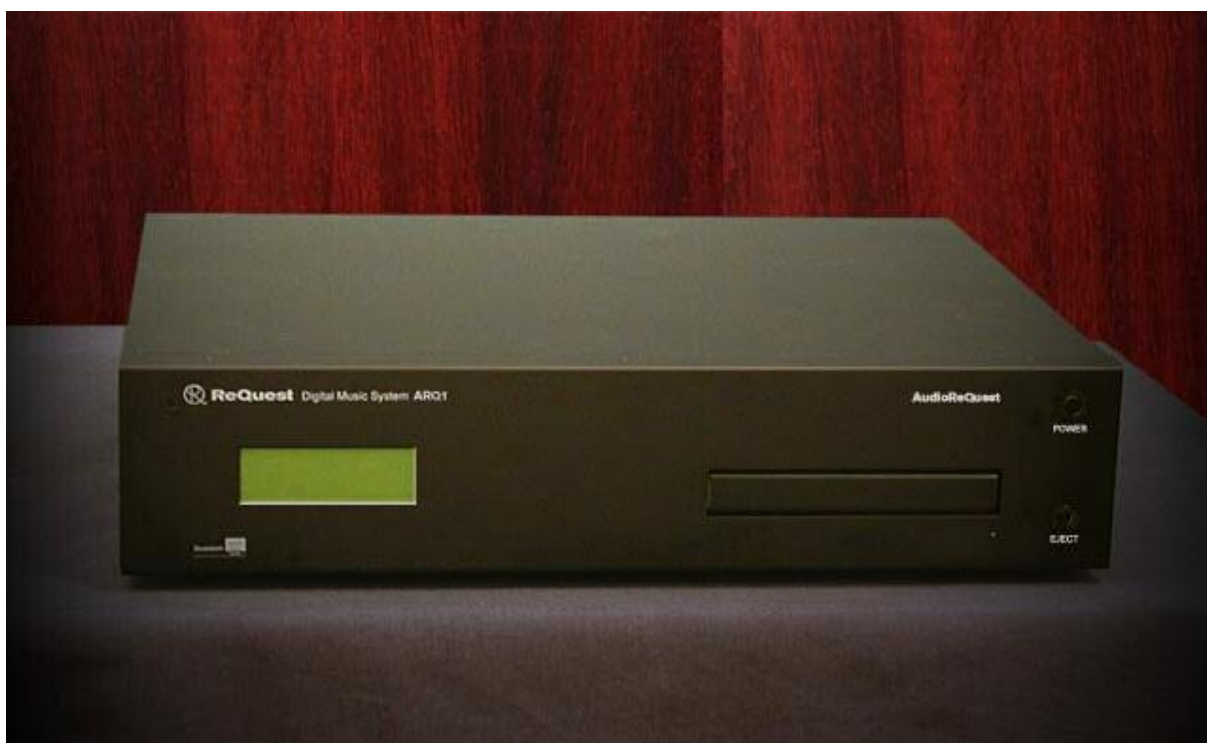


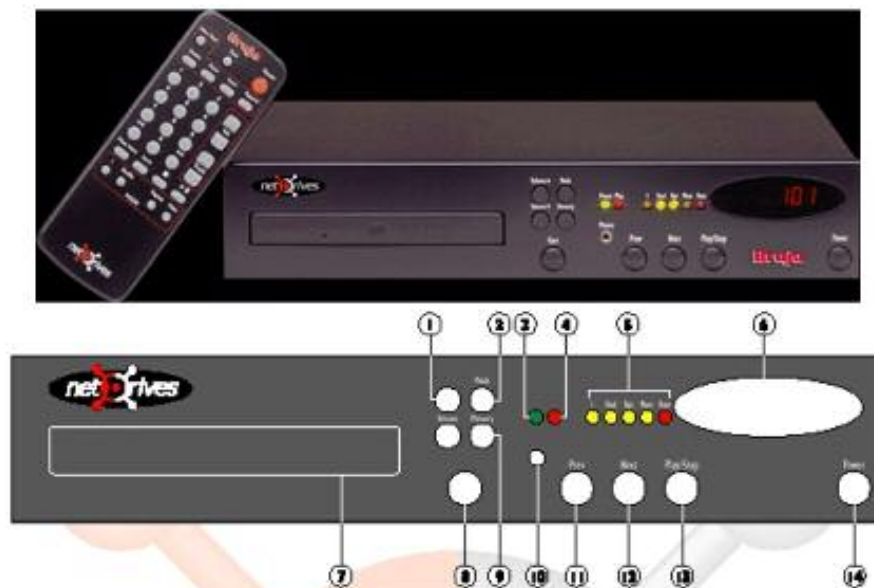
Image 7.

Leistungsmerkmale:

- English OSD
- Super Fine Video Quality
- 100~230VAC Universal Netzspannung
- Unterstützt beides NTSC/PAL
- Digital Audio Ausgang sowie DolbyAC-3 2 Kanal oder dts audio Ausgang
- Unterstützt MP3 Format mit programing function



Image 8.



- | | |
|----------------------------|---------------------------|
| 1. Volume UP/Down Buttons | 8. Eject Button |
| 2. Mode Button | 9. Memory Button |
| 3. Power Indicator | 10. Earphone Jack |
| 4. Play Indicator | 11. Previous Track Button |
| 5. Mode Indicator | 12. Next Track Button |
| 6. LED Track Index Display | 13. Play/Stop Button |
| 7. Disc Tray | 14. Power On/Off Button |

CD format auto-detection:
Automatically identifies CD-DA or MP3 media

Single CD capacity:
Can play over 200 CD-quality tracks of MP3 information, as well as standard audio CD's

Memory capacity:
63 memory locations available for arranging audio tracks into a playlist

Play modes:
Single track play, Sequential, Shuffle, Repeat, 10 Second Sampling

Audio output:
Output through earphones, multimedia speakers or RCA outs to any stereo system.

Remote control:
31-key Infrared remote control

Media supported:
Standard CDs, CD-R or CD-RW media

Formats supported:
Supports CD-DA, ISO-9660, Joliet and Romeo formats MP3 CD, MPEG 1 & MPEG 2 Audio Layer 3 (except 256K bits and 320K bits)

Image 9.



Image 10.



COMPONENT

1. Main Body - Installed 32X CD Rom Drive, Power in, Volume Level and Line in.
2. Remote Control - 128 x 64 Dot Matrix deluxe LCD panel installed.
3. Cigarette Lighter Connector - To supply 12V power.
Power Cable - To connect directly from dashboard.
4. Cassette Deck (Option) - You have to prepare the connector between the MP Shuttle and your car audio without using Line in.

HARDWARE FEATURES

CPU : CMS3202116 66MHz (66 M FPS)
 Memory : 2 Mbyte DRAM (OPTION : 8 Mbyte DRAM)
 EPROM : 4 Kbit
 LCD : 128x64 Dot Matrix with Backlight
 CDROM Interface : E-DC (40 Pin Connector)
 MP3 Decoder : Micronas MAR3507D
 DAC : Philips TDA1311A
 Option: Wireless signal transfer of FM Radio - FM frequency
 88.0 MHz or 89.6 MHz



Image 11.

* * *

NOTE FROM THE ICC

Context: The WCO has contacted the ICC regarding the definition of "sound recording" in the context of heading 85.20 and whether the transfer of MP3 files containing sound onto static memories would fit this definition.

The following paragraphs offer additional information on this topic.




Recording of sound (and images): interpretation of definitions, tentative

Recording means **“to register (sound or images) in a permanent form by mechanical or electrical means for reproduction”** (American Heritage Dictionary). A similar specific definition is used in French when *enregistrer* (record, in French) applies to sound or images.¹

Recording is **a)** a process and **b)** the result of this process. A record is something you can keep in a “permanent form” (read “storage”), ideally forever, in order to reuse it, or “replay” it in the case of a sound (or images), multiple times for “reproduction” of the original sound (or images) captured through this process. Optionally you could be able to duplicate and/or archive this record.

Applying these interpretations to classical “recording” scenarios

recording a concert with a tape recorder






	Recording	Replay
		
Acoustic vibrations	are translated, thanks to a microphone, into electric signals, in turn translated to magnetic signals stored on tape	magnetic signals stored on tape are used to regenerate acoustic vibrations

This is the most common and undisputed use of recording of sound.

- a)** It’s a one step process of **recording a sound**
- b)** You end up with **a sound record** in the permanent form of analogue magnetic signals stored on a tape. Thanks to it, you can enjoy again (a subset of the acoustic vibrations of) the concert.

¹ See Annex Ia for full definitions extracted from English and French dictionaries for **RECORD/ENREGISTRER**, **DUPLICATE/DUPLIQUER** and **COPY/ COPIER** verbs.

recording a radio station session²

Emitting		Recording		Replay
At the radio station	At the radio transmitter	User's radio receiver	User's recorder	
		often embedded into the same device		
				
Original records, tape or CDs, or live session are converted to electric analogue signals ³	which are transformed and sent through the air as analogue airwaves	These signals are received, converted to electric analogue signals and then to acoustic vibrations so you can listen to the radio "live"	These same electric signals are translated to magnetic signals stored on tape	Magnetic signals stored on tape are used to regenerate acoustic vibrations

- a) It's a multiple step process. In most cases, the radio session is based on original audio track records, either analogue or digital. These records are translated to electric signals, sent wirelessly, then they are received on your radio, and, **during the final step**, transferred to a recording device and "recorded" on a media, either analogue or digital.
- b) Even if you don't capture "real world" sound as in the first scenario, you end up with a record allowing you to replay this session.

So, according to the interpretation put on above,

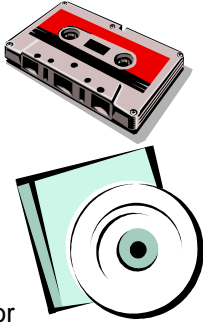

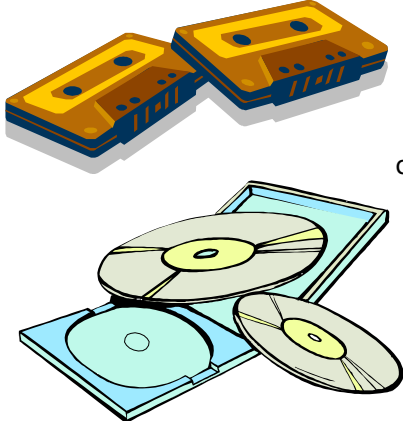
- a) the user device is doing a **recording of sound**,
- b) the user end up with a **sound record**.

Even if it's not acoustic vibrations "per se". And whether it being analogue or digital. This is coherent with classifications listed Note 3 of HSC Annex.

² This case is the one described in Note 3) of HCC Annex H20

³ For legal reasons, in some countries, they are also archived for a well-defined reasonable amount of time

Copying a tape

Copying/Duplicating		Replay
 <p>or</p>		 <p>or</p>
<p>Signals stored on original disc, CD or are translated into electric signals</p>	<p>and then back to magnetic signals stored on tape copy</p>	<p>Each of the record, either the original or the copy, can be used to regenerate acoustic vibrations⁴</p>

This is the most common use of copy. You end up with an **additional** record similar to the original one.

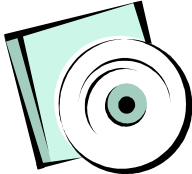



According to the interpretations put on above,

- a) the copying device is not doing a recording of “real” sound. If it’s a device dedicated to duplication, it does not include any audio components,
- b) **but you end up with a sound record.**

Applying these interpretations to MP3-related scenarios

⁴ Actually, when these are analogue records, the copy is never exactly the same as the original, the signals being a little « perturbed » during the process, thus resulting in a small but unavoidable loss of quality. Digital records do not have this problem.

“Ripping” an audio CD on your PC as MP3 files

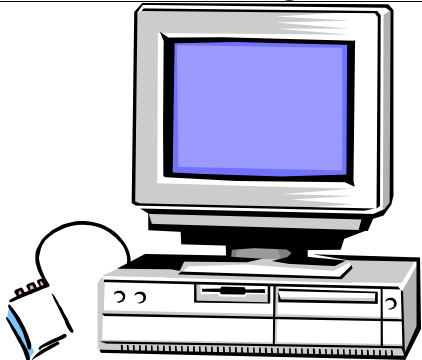
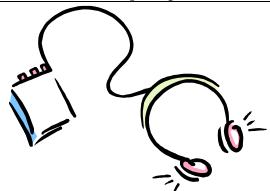
Original record	Ripping		Replay
	Step 1: actual “ripping”	Step 2 (optional): converting to MP3	MP3 or WAV files and a multimedia PC
			
Digitized sound, with error correction information	Each digital audio track record of the CD is extracted, decoded, error correction information are removed, and digitised sound is saved (often temporarily) as a WAV file	Uncompressed WAV files are shrunken down as MP3 files using standardized sophisticated (but slightly destructive) algorithms ⁵	After decompressing if MP3 files, digitised sound is translated into electric analogue signals thanks to a sound card and sent to speakers to regenerate acoustic vibrations

Once you have the proper software (Audio CD Ripper or CDDA utility or integrated “Jukebox” software) and hardware (CD-reader), you can extract data from your CD, this data being uncompressed digitised sound. By additionally encoding them as MP3 files, you save up to 90% of data size. You end up with files on your PC you can replay at libidum using adequate software (MP3 player).

According to the interpretations put on above, this is mostly similar to the previously studied scenario of copying an audio tape,

- a) the ripping device is not doing a recording of “real” sound,
- b) **but you still end up with a sound record you can replay.**

“downloading” MP3 files from your PC (or the Internet) to an MP3 player

Downloading	Replay
	
Data files (usually MP3) are copied from the PC storage to the MP3 player storage (usually using dedicated software)	MP3 files are decompressed, digitised sound is translated into electric analogue signals and sent to headset to regenerate acoustic vibrations

⁵ See Annex Ib for definitions of MP3 and related concepts

- a) It's a process of copying/moving a data file from a storage media, the PC's one, to another storage media, the MP3 player's. Usual PC storage is a hard disk and usual MP3 player storage is flash memory. But some ultra-portable PCs don't even include a hard disk, and some high storage MP3 player are based on a hard disk instead of flash memory. And **the storage kind clearly has no impact on either the process or its result**. It's not a recording of "real" sound. In fact, none of the two devices, in most cases, during the download process, know or check if it's actually a valid audio file or not;
- b) but you still end up with a sound record you can replay on your MP3 player.**

Conclusion: should MP3 players considered as recording of sound capable devices?

The difficulty, compared to a tape player for example, lays in the fact an MP3 player actually handles 3 usually separate features :

- a) a1/ Receive existing data files, transcription of audio files
b) a2/ Store them, like a magnetic tape or other **recording media**
c) Replay them, like a tape player or other **audio players**.

The last ambiguity is in the a1/ feature. Should we consider this data file transfer as a recording of sound ?

Based on previous scenarios and definition studied, and on **common interpretation** of "sound recording" by people actually recording real sounds, **MP3 players are not doing a real "recording of sound"**⁶. And this is what their name implies, the fact they are replaying sound already recorded. But they are clearly recording the data transferred from the PC to their internal storage in a permanent form that is an optimised digital sound record! And even if the replay feature is the principal one, you can barely use the device without downloading songs into it⁷. So, **from a technical perspective, these devices are recording data files that are (a kind of) sound**.

⁶ Note, however, this is subject to very few exceptions. One or two devices, commonly named MP3 recorders incorporate additional circuitry (including analogue/digital converter, processing power, Line IN female jack) and dedicated software to handle an actual recording of an analogue electric signal into an uncompressed WAV file (MP3 isn't supported yet, since it requires a lot of processing power). These devices are capable of recording of "real" sound.

⁷ Some come preloaded with songs.

Annex I, Definitions

Annex Ia, Definitions for Record, Duplicate & Copy

American Heritage Dictionary

RECORD, transitive verb, 1. To set down for preservation in writing or other permanent form. **2.** To register or indicate: *The clerk recorded the votes.* **3a.** To register (sound or images) in permanent form by mechanical or electrical means for reproduction. **b.** To register the words, sound, appearance, or performance of by such means: *recorded the oldest townspeople on tape; recorded the violin concerto.*

DUPLICATE, transitive verb, 1. To make an exact copy of. **2.** To make twofold; double. **3.** To make or perform again; repeat: *a hard feat to duplicate.*

COPY, transitive verb, 1. To make a reproduction or copy of. **2.** To follow as a model or pattern; imitate. See synonyms at imitate.

French, Le Petit Larousse Illustré

ENREGISTRER I 1. Consigner par écrit (une information) en vue de la conserver. *Enregistrer la déclaration d'un témoin. [...] Il transcrire et fixer (une information) sur un support matériel. Le barographe enregistre les variations de la pression atmosphérique.* ♦ **Spécialmt.** Transcrire et fixer (un son, une image) sur un support matériel sensible (disque, film, bande magnétique, etc.) afin de les conserver et de pouvoir les reproduire.

DUPLIQUER 1. Faire un double, un duplicata d'un document. ♦ **Spécialmt.** Copier un enregistrement sur support magnétique, en faire un double. *Dupliquer une bande, une cassette.* 2. **biol.** Opérer la duplication de.

COPIER 1. Reproduire à un ou à plusieurs exemplaires ; établir une copie. *Peux-tu me copier cette recette de cuisine ?* 2. Reproduire une oeuvre originale, chercher à imiter. *Copier les grands maîtres.*

Annex Ib, Definitions for MP3 & MPEG

extracted from www.MP3.com

What are MP3s?

MP3s are digital audio files that have been shrunken down while still maintaining their original sound quality

Why are they called MP3s?

MP3 is short for MPEG Audio Layer 3. MPEG refers to the Moving Pictures Experts Group, an organization that sets international standards for digital formats for audio and video. The file-shrinking technology itself was developed by the Fraunhofer Institute in Germany.

Ripping: Extracting songs from a CD onto your PC.

Encoding: Converting the uncompressed files (like WAV) into a format like MP3.

extracted from www.MPEG.org

What is MPEG ?

MPEG (pronounced M-peg), which stands for **Moving Picture Experts Group**, is the name of family of standards used for coding audio-visual information (e.g., movies, video, music) in a digital compressed format.

The major advantage of MPEG compared to other video and audio coding formats is that MPEG files are much smaller for the same quality. This is because MPEG uses very sophisticated compression techniques.

* * *

NOTE FROM THE EC¹⁾

- 1) At its 28th Session, and on the basis of Doc. NC0497, the HS Committee examined the classification of MP3 players in the nomenclature appended to the Harmonized System Convention.
- 2) The Committee considered that the essential point to be addressed was the meaning of the term “sound recording” in the context of HS heading 85.20. In other words, does this heading cover only the recording of “acoustic vibration”, or should it be taken in a broader sense to cover also the transcription of data onto flash memory? The Committee decided to provide an answer to this question at its next session, in May 2002, on the basis of a new document.
- 3) The EC would agree to an affirmative response to the above-mentioned question. This means that the EC would also agree with the classification proposed by the Secretariat in paragraph 12 of Doc. NC0497, except in the case of the two apparatus incorporating a flash memory, which are referred to in paragraphs 5 (i) and 6 (ii) of that document. This “flash memory card” is, to all intents and purposes, a recording device, and for that reason the apparatus concerned are excluded from heading 85.19 and fall to be classified in heading 85.20, by application of GIR 1.
- 4) If the Committee shares this view, the EC would propose the following amendment to the Explanatory Notes to the HS Nomenclature :

Explanatory Note to heading 85.20. Insert the following text :

“The term “sound recording” also includes recording by methods other than those making use of the effects of acoustic vibrations, e.g., by recording data sound files, downloaded from an Internet page or a compact disc by an automatic data processing machine, onto the internal memory (e.g., flash memory) of a digital audio device (MP3 player).

This heading does not include apparatus that only reproduces sound from an external sound medium (flash memory cards; heading 85.19).”

- 5) In the light of whatever classification decision the HS Committee may make with regard to the apparatus referred to in Doc. NC0497, and of its reply on the meaning of the term “sound recording” in the context of HS heading 85.20, the Committee may consider it necessary to draft corresponding amendments to the Explanatory Notes to other HS headings, such as headings 85.19 and 85.20.

* * *

¹ Original text French, except for the proposed amendment to the Explanatory Notes, which was submitted in English, French and Spanish.

NOTE FROM THE CANADIAN ADMINISTRATION

1. At the 24th Session of the Harmonized System Review Sub-Committee (RSC), the Swiss Administration submitted a paper regarding MP3 players (NR0202E1) related to the proposal to amend heading 85.19.
2. During the discussion of that item it was agreed the question of whether the transfer of an audio file (i.e., a collection of data that can be converted to reproduce previously recorded sound) from a computer to an MP3 player constituted “sound recording” for classification purposes needed to be resolved. The Secretariat was asked to submit to the Harmonized System Committee (HSC) a request to determine the classification of various MP3 players; to that end, the Secretariat produced document NC0497E1.
3. Preliminary discussions were held at HSC/28 and it was decided to address the specific question of whether data transfer constitutes sound recording at the next session of the HSC and consider the classification of the goods listed in document NC0497E1.

Sound recording

4. The sixth edition of *The IEEE Standard Dictionary of Electrical and Electronics Terms* does not define “sound recording”, but does include the following definitions:

Sound recording system: A combination of transducing devices and associated equipment suitable for storing **sound** in a form capable of subsequent reproduction (*emphasis added*).

Sound: (A) An oscillation in pressure, stress, particle velocity, etc., in a medium with internal forces (for example, elastic, viscous), or the superposition of such propagated oscillations; (B) An auditory sensation of such propagated oscillations.

5. Based on those definitions, Canada considers “sound recording” to be the process of capturing sound, converting it to a suitable format and storing it for subsequent reproduction; therefore, the transfer of an audio data file from one storage medium to another does not constitute sound recording.
6. This is consistent with the position expressed by the Secretariat in document NC0497E1 and with the definition of “sound recording apparatus” in the Explanatory Note to heading 85.20 (page 1481). The same principle (i.e., that copying previously recorded sound does not constitute sound recording) would apply regardless of the storage medium.

MP3 Players

7. Canada is concerned that the “MP3” file format is being over emphasized; it is simply a data storage format.

8. In 1988 the Movie Picture Experts Group (MPEG) was established as a working group of ISO/IEC in charge of standards for coded representation of digital audio and video. MP3 is short for MPEG-1 Layer 3, which is the layer that stores digital audio. Using advanced audio compression techniques MP3 can decrease the size of an audio file to less than a tenth of the original with minimal loss in quality. Although not the only format for digital audio files, it is currently the most common in commercial trade.
9. The term MP3 players is a commercial description of sound re-producing apparatus utilizing solid-state electronic storage media (as opposed to magnetic tape, CDs or DVDs) on which the audio file is stored in the MP3 format. The classification of the apparatus and the media would not change if the audio file were in a different format. The MP3 format is no more relevant to the classification of an MP3 player than is the video format (e.g. VHS or Beta; PAL or NTSC) to the classification of pre-recorded videotapes. Further, the ability to decode an MP3 format audio file does not necessarily indicate that the apparatus is what is commercially known as an MP3 player.

Classification of the goods described in document NC0497E1

10. **Canada** agrees with the Secretariat that the goods described in paragraph:
- 5 (i) are classified under heading 85.19 (subheading 8519.99) as sound reproducing apparatus without sound recording capability.
 - 5 (ii) are classified in heading 85.20 (subheading 8520.90); the microphone allows ambient sound to be captured and stored for reproduction.
 - 5 (iii) are classified under heading 85.27 (subheading 8527.13); the terms of that heading direct that the radio tuner determines the classification, regardless of what other sound recording or reproducing apparatus may be present.
11. Although we do not consider the goods described in paragraph 6 to be MP3 players of the type under discussion at the RSC, we offer the following comments :

Paragraph 6(i)

The goods are described as having either a CD drive and a hard disk, or a CD drive and flash memory. Although the text indicates that the ability to read MPEG-4 format "can be added", that is not a reason to infer the goods may have a DVD drive when none is mentioned. If the description is inaccurate or incomplete, it must be revised. As described, the presence of an input connection for a microphone indicates the goods are capable of recording sound; therefore **Canada** feels they are properly classified under heading 85.20 (subheading 8520.90).

NOTE: DVD video is based on the MPEG-2 format; MPEG-4 is the Internet multimedia standard.

Paragraph 6(ii)

As the goods reproduce sound stored on a compact disc or in solid-state storage, and there is no indication they are capable of recording sound, Canada agrees with the proposed classification under heading 85.19 (subheading 8519.99).

Paragraph 6(iii)

The goods are described as a Digital Versatile Disc (DVD) player that is able to read MP3 format files. There is no indication of any data source other than the DVD drive; therefore, the MP3 files must be being read from a disc. The ability of the goods to decode MP3 files is irrelevant to their classification.

The classification of DVD players will be the subject of another agenda item; these goods should be classified in accordance with the decision to be made under that item.

Paragraph 6(iv)

The goods are described as a Compact Disc (CD) player that is able to read MP3 format files. There is no indication of any data source other than the CD drive; therefore, the MP3 files must be being read from the CD drive. The ability of the goods to decode MP3 files is irrelevant; they should be classified as would any CD player. Given there is no indication of an ability to record sound, Canada agrees with the proposed classification under heading 85.19 (subheading 8519.99).

Paragraph 6(v)

Although the goods will be connected to a car radio, the radio is not included; thus, they are similar to those of paragraph 6(ii), rather than those of 5(iii). Canada agrees with the proposed classification under heading 85.19 (subheading 8519.99).

Paragraph 6(vi)

Canada agrees with the proposed classification under heading 85.27 (subheading 8527.21); the presence of the radio tuner directs the goods to that heading, regardless of what other sound recording or reproducing apparatus is present.

12. For consistency with the structure of the Harmonized System and to ensure the viability of the classifications for these goods, we suggest the Committee should focus on the apparatus and not the data storage format, both when classifying the goods and when considering any Compendium entries.
