



## Cover naming scheme

### Version 0.1

Based on the PhonoNet GmbH Deutschland document Cover naming scheme Version 1.1

#### *Description of Structure*

PhonoNet Cover data is available in JPEG format. The files names consist of two parts. The first 8 characters encode the barcode. The following three characters describe the covers format (only j for JPEG at this time), resolution (0 for 80 x 80, 3 for 300 x 300, 6 for 600 x 600, c for 1.200 x 1.200 pixel) and the content of the picture (1 for front, 2 for backside).

Encoding of barcodes into the PhonoNet naming scheme takes four steps. In the first step 13-character barcodes are shortened to 12 digits. This is achieved by dropping a leading zero if the first digit is zero. Otherwise the check digit (last digit) is dropped. In the second step the 12 digit code is divided into four 3 digit parts. The third step transforms these parts into the 33-system individually. In the last step the four converted parts of the barcode are put together again. The 33 character system uses all digits and all English characters except I, l and o. Case does not matter. The transformation works as follows (left: decimal, right: 33 character system):

0 -> 0	10 -> a	20 -> m	30 -> x
1 -> 1	11 -> b	21 -> n	31 -> y
2 -> 2	12 -> c	22 -> p	32 -> z
3 -> 3	13 -> d	23 -> q	
4 -> 4	14 -> e	24 -> r	
5 -> 5	15 -> f	25 -> s	
6 -> 6	16 -> g	26 -> t	
7 -> 7	17 -> h	27 -> u	
8 -> 8	18 -> j	28 -> v	
9 -> 9	19 -> k	29 -> w	

Conversion of three digit decimal numbers works by analogue calculation. The number is divided by 33. The whole-numbered result is the first character. The rest is the second character. These two results are then represented by their 33 character system value as outlined in the table above.

000 -> 00	012 -> 0c	038 -> 15
001 -> 01	...	...
002 -> 02	032 -> 0z	998 -> x8
003 -> 03	033 -> 10	999 -> x9
004 -> 04	034 -> 11	
...	035 -> 12	
010 -> 0a	036 -> 13	

011 -> 0b 037 -> 14

The four converted blocks are then concatenated.

The file extension consists of 3 characters which are encoded individually. The first character describes the cover format (only j for JPEG at this time). The second character describes the resolution (0 for 80 x 80, 3 for 300 x 300, 6 for 600 x 600, c for 1.200 x 1.200 pixel). The third character describes the content of the picture (1 for front, 2 for backside).

Cover have a 64 byte trailer of the following format:

```
1234567890123456789012345678901234567890123456789012345678901234  
LLLLnnnnnnnnn.nnnJJJmmTThhMMssPPPPxPPPPbbQQQZZZZZZZZZZdddddddRRRR
```

The different sections have these meanings:

LLLL: PhonoNet Supplier information

nnnnnnnn.nnn: Filename

JJJmmTThhMMss: Date of cover creation

PPPPxPPPP: Resolution (Pixel x Pixel)

bb: Color depth in Bit pro Pixel

QQQ: Quality in percent

ZZZZZZZZ: Name of equivalent second cover

ddddddd: Name of equivalent third cover

RRRR: Reserved

The name of equivalent second and third cover are taken from the reference code list. This list assigns one cover to up to three mediums (see also description of PhonoNet reference code list). All of the above fields are mandatory except for colour depth and the equivalence information.

## **Example**

A Front cover with 300 x 300 pixel resolution and barcode 5099706321323 is encoded as follows.

**Step 1:** The 13 digit barcode is shortened by dropping of the check-digit:  
5099706321323 -> 509970632132

**Step 2:** This barcode is divided into four parts which are encoded individually: 509, 970, 632, 132

**Step 3:** Encoding of single parts:

509 -> fe	(509 divided by 33 = 15 Rest 14 => fe)
970 -> wd	(970 divided by 33 = 29 Rest 13 => wd)
632 -> k5	(632 divided by 33 = 19 Rest 5 => k5)
132 -> 40	(132 divided by 33 = 4 Rest 0 => 40)

**Step 4:** Concatenation which leads to fewdk540. The file extension contains a j for JPEG format, a 3 for 300 x 300 pixel resolution and a 1 for the front side. The final result is fewdk540.j31