**Contract Annex 1**

**Specification of Requirements for digitisation of VHS-tapes**

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# Introduction

Royal Danish Library has physical collections with an extensive amount of video recordings. Parts of these will be digitised in-house whereas some media digitisation must be outsourced. RDL has examined its collections and selected a number of Items as candidates for digitisation in 2019. Only Items with unique, preservation-worthy Danish cultural heritage have been chosen for digitisation.

This tender includes the following materials:

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| Priority | Format & Type | Content & Age | Number of Items | App. Minutes per Item | App. Hours in Total |
| **1** | **VHS, “Zulu”** | Broadcast, 2000-2005 | 4631 | 200 | 15420 |
| **2** | **VHS, “Charlie”** | Broadcast, 2004-2005 | 546 | 200 | 1820 |

These broadcast collections are identical with regard to the technical specifications. They are both recorded on no name industrial standard 200+5 min. tapes. Unfortunately some unwanted audio timestamps has been included on some of the tapes, and since we do not know which tapes, they will have to be checked before digitising (see req. 1.1.2 below).

## 1 Requirements for digitisation of VHS Tapes

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| * 1. Digitisation process
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|
| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.1.1 | Prior to the digitisation the service provider must give attention to visual inspection of the tapes. We know these collections well, and we expect no need for baking, repair etc. If the supplier should find this necessary, supplier must contact RDL for returning the tape.For minor issues, the suppliers findings, actions and comments must be documented in the accompanying metadata-file for each digitised tape. See section 3.1.2 below. |  |
| 1.1.2 | After the operator has inserted an Item in the VTR/replay equipment the Item must be played for a few minutes to check the following parameters when applicable:1. There is a risk of unwanted audio timestamps on these broadcast tapes. More exact a voice telling the time every 10 seconds Steps must be taken to avoid these timestamps on the Deliverables. Supplier must specify how.
2. RF level and general condition
3. The audio and/or video level
4. Presence of « drop outs »
5. Number of audio tracks
6. Vertical and horizontal sync
7. Servo lock

Findings, actions and comments must be documented in the accompanying metadata-file for each digitised tape. See section 1.2.1 below. |  |
| 1.1.3 | Digitisation must be done in 'overscan' mode to include the entire image field. |  |
| 1.1.4 | The Preservation File must have 5-10 seconds of black screen leading in and out of the content. Note that colour bars are regarded as content. |  |
| 1.1.5 | Signal handling on the machine must be set so that both highlights and shadows are fully rendered (Gamma). Likewise, colour adjustment must be set to match the colour bar of the tape material (Chroma). |  |
| 1.1.6 | If an Item is too defective to be digitised, partly or entirely, this and the reason for it must be documented in the corresponding metadata-file. |  |
| * 1. Metadata
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| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.2.1 | For each deliverable, there must be one metadata-file.This file must be a Premis 3.0 xml file, with an embedded PBCore 2.1 section with technical metadata about the deliverable.The RDL will supply a sample Premis metadata xml file, the Premis 3.0 schema as xsd file and the PBCore 2.1 schema as an xsd file |  |

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| 1.2.2 | The Premis file must as a minimum contain the following information:the deliverable’s filename, as an identifieran MD5 checksum of the deliverablePRONOM registry identifier for the deliverables file formatat xpath /premis/object[1]/objectCharacteristics[1]/objectCharacteristicsExtension[1] the supplier must embed the PBCore 2.1 section with technical metadata. See section 1.2.x for specificationsany findings, actions or comments resulting from the visual inspection specified in section 1.1.1 must be documented in a Premis event at xpath /premis/event[1]findings and actions from the initial playback of the tape, specified in section 1.1.2 must be documented as a Premis event, at xpath /premis/event[2]the outcome of the digitization must be documented as a premis event, at xpath /premis/event[3]if the tape is too damaged to be digitised (see section 1.1.6), this must be documented in this event any additional findings or operator comments about the tape, digitization or resulting deliverable must be documented in a Premis event at xpath /premis/event[4]an id for each operator working on the creation of the deliverable. The first operator must be documented at xpath /premis/agent[1], the second at xpath /premis/agent[2] etc.Each event described above must be linked to the correct operator.This information must NOT contain names or other personal information. However the supplier must maintain a list that links these id’s to operators for the duration of the project. This list must be deleted when the project is completed.See Appendix 1.1 metadata-spec-technical for a field by field guide to what information must be supplied in the Premis xml file.  |  |
| 1.2.3 | The deliverables technical characteristics must be documented as PBCore 2.1 metadata. This must be generated by the software mediaInfo, using MediaInfoLib – v19.07 or higher and output whit the option –Output=PBCore2the resulting xml must be placed at xpath /premis/object[1]/objectCharacteristics[1]/objectCharacteristicsExtension[1] in the premis file. |  |
| 1.2.4 | An automated quality analysis report must be made for each digitisation. The report must include relevant digitisation metadata and, if possible, state minor errors, e.g. a minor dropout in a single sequence, including a time stamp.This report must be included in the Premis metadata structure at xpath /premis/object[1]/objectCharacteristics[1]/objectCharacteristicsExtension[2] |  |
| 1.2.5 | Service Providers are welcome to suggest other relevant metadata not specifically mentioned in this document. |  |
| * 1. Quality Assurance (QA) and Quality Control (QC )
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| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.3.1 | The proposal must include a detailed description of QA processes (maintenance and check of equipment), QC processes and quality analysis supplied by the Service Provider.We expect attention to us wanting an as exact reproduction of the content as possible. |  |
| 1.3.2 | Each batch delivered by the supplier must include a report with an overview of results (e.g. number of Items digitized, rejected, cleaned, repaired etc.) and general findings from the digitisation process. Technical data of machines, converters, software, including version, models and settings must also be present.See section 2 “Delivery Structure” below.The proposal must include an example of such a technical report.  |  |
| 1.3.3 | The Service Provider must deliver a test sample with 5-10 tapes. The Items included in this Test Sample will be chosen by RDL and the Test Sample must be digitized utilizing the same process as will be used throughout the project. When the test sample is approved, the Service Provider can commence with production accordingly. See section 5 below.RDL reserves the right to withdraw from the Contract upon evaluation of the test sample(s). If RDL chooses to withdraw from the Contract, only the Deliverables from the test sample and logistics will be paid for. Within 5 Work Days of receiving the test sample(s) RDL will decide whether to continue the assignment. |  |
| * 1. Deliveries and Deliverables’ File Formats
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| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.4.1 | The file format of the digitised VHS tapes must be in MPEG2 422@ML, I-Frame, 50Mbps, with mpg2 audio stream, 48000 Hz, stereo, s16p, 384 kb/s, delivered as transport stream with the filename extension “.ts”. |  |
| 1.4.2 | The supplier must transfer files to a server specified by RDL. Transfers can be done by rsync via ssh, by SFTP or by FTPS.The supplier must specify which transfer method is preferred. |  |
| 1.4.3 | The deliveries must be tranferred in batches. RDL and the supplier will agree upon the frequency and size of the batches. |  |
| 1.4.4 | For each batch, a file containing checksums for all ts and xml files must be included.Format: 'md5sum'. See <https://en.wikipedia.org/wiki/Md5sum> See section 2 “Delivery Structure” below. |  |
| * 1. Logistics, Safety, Handling, and Storage
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| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.5.1 | The Service Provider is expected to propose solutions for completion of the assignment from start to finish. It is important that all procedures are risks assessed and that the routines to the furthest possible extent take into account that the Items are considered cultural heritage. |  |
| 1.5.2 | The Service Provider must be responsible for the entire logistics process from Collection of Items to Return of Items and Delivery of Files. The Service Provider bears all responsibility for all risks the Items are exposed to, from the time the Service Provider starts to pack the Items for storage and transport, to when the Items are returned to RDL, and RDL has acknowledged receipt. |  |
| 1.5.3 | A proposal must include specifications of routines in connection with transportation and handling of the Items to minimise any possible risks. |  |
| 1.5.4 | For the duration of the project, the Items must be stored in a climate-controlled and highly secured depot (fireproof and locked) that meets the standards for archival storage. |  |
| 1.5.5 | The Service Provider must ensure that:1. Items are not lost in the process,
2. Items are not damaged in machines,
3. Items are not damaged by improper handling or storage (climate requirements: <+19oC and <45% RH),
4. Items are not exposed to inappropriate changes in climate conditions, shock, etc.,
5. Items are secured against theft, weather and other threats,
6. Each Item must be insured at a value of at least €250 from Collection of Items to Return of Items, as the content is unique cultural heritage,
7. Data exchange between RDL and the Service Provider is secure,
8. A backup of data is kept for at least 60 days after the Delivery of Files, so that a full re-delivery is possible. After approval of a batch of Deliverables RDL will ask for the deletion of all Deliverables and all digital copies in the Service Provider’s possession. The deletion must then be done as soon as possible after the 60 days have passed from the date of the Delivery of Files.
9. Items are in the same covers at the Return of Items as they were on the Collection of Items.
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| 1.5.6 | RDL’s statement of receipt does not preclude RDL from later lodging a complaint, if it is found that the returned Items are not in the same extent or condition as they were, before the packing had commenced. |  |

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| * 1. Transportation of items
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| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.6.1 | The Service Provider is responsible for making sure that the transport vehicle is of sufficient size to allow easy and efficient loading. |  |
| 1.6.2 | The Service Provider must also ensure that transport vehicles are never left unattended and refuelling happens before transportation. |  |
| 1.6.3 | All shipments must be scheduled for delivery only on contiguous Work Days to ensure that Items are not left in an unregulated environment for an extended period of time. The Service Provider must conduct the Collection of Items between 10 am and 2 pm on a Work Day. The Service Provider must announce the date for the Collection of Items a minimum of 5 workdays in advance. |  |
| 1.6.4 | The driver sent by the Service Provider must sign for the reception of intact Items (an Item list specifying the barcodes and packaging of the Items will be provided by RDL).  |  |
| 1.6.5 | Once the Service Provider has transported the Items to the facility of the Service Provider, all the Items must be scanned, and a list of scanned Items must be sent by email to RDL. |  |
| 1.6.6 | After the digitisation - and before the return shipment - the Service Provider must check the order, number and condition of the Items and match these against the numbers that were registered at the reception of the Items. |  |
| 1.6.7 | The Items must be returned in the same order listed on the Item and packaging list (an Item list specifying the barcodes and packaging of the Items will be provided by RDL on the date of the Collection of Items). |  |
| * 1. Delivery in 2019
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| Req. no. | Requirement | Service Provider compliance: yes + description /no + description |
| 1.7.1 | The supplier must be able to perform the digitisation and delivery of both collections in 2019. This includes the approval of the files by RDL. |  |

# 2. Delivery structure

dl\_b1\_rt1/

A delivery must be placed in a folder named *dl\_bx\_rtx.* All files belonging to the delivery must be in this folder.

“dl” stands for delivery. First batch is named b1 (batch 1) and the first delivery of the first batch is named “rt1” (roundtrip 1). Later corrections of the batch is placed in folders named rt2, rt3, etc.

↳ barcodexxx/ The resulting files from the digitisation of the tape must be placed in a

 subfolder named with the relevant barcode.

 ↳ barcodexxx.ts

 ↳ barcodexxx.xml

↳ barcodeyyy/

 ↳ barcodeyyy.ts

 ↳ barcodeyyy.xml

↳ …

↳ technical\_report See req. 1.3.2 above. File format by suppliers choice.

↳ checksums.txt See req. 1.4.3 above

↳ transfer\_complete An empty file always generated as the last file signalling that the

 delivery is done and complete.

# 3. Process of delivery, payment and returning of materials

The Service Provider must complete a test-delivery approved by RDL. When the test-delivery is approved, the Service Provider can move on to production following the process illustrated below:

