Sony ID7000 Data Handling and Storage

Export, data management, and retention policy

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Adapted from: FCCF SOP – Data handling on Sony ID7000 systems filecite turn1file0

Purpose

This protocol defines mandatory rules and best practices for **data export, organization, storage, sharing, and deletion** for experiments performed on the **Sony Spectral Cell Analyzer ID7000**.

The aim is to: - Prevent data loss - Avoid unnecessary duplication of experiments and unmixing matrices - Ensure compliance with FCCF data-retention policies - Reduce congestion on instrument and analysis workstations

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Scope

This SOP applies to: - All users of the **Sony ID7000** - All **instrument PCs** and **external analysis workstations I and II** - All data types generated by the ID7000 software, including: - FCS files - Experiment files (`.exdat`) - Spectral reference controls

Core rules (read before use)

> ⚠ Mandatory rules
>
> Failure to follow these rules may result in **permanent data loss** without notice.

- **Export FCS files and experiments immediately after each measurement**
- **Only store data inside your personal `USER` folder**
- **All data outside the `USER` folder will always be deleted**
- FCCF performs **bi-weekly deletion** of:
  - All experiments and library controls in the ID7000 software
  - Exported experiments and FCS files in `USER` folders older than **6 months**
- Users are responsible for **early deletion of data no longer needed**

Data types and definitions

Data type	File extension	Description
FCS files	`.fcs`	Event-level flow cytometry data
Experiment files	`.exdat`	ID7000 experiment definitions, layouts, and settings
Reference controls	internal / exported	Spectral reference controls stored in the library or exported

Exporting FCS files

Using ID7000 Data Agent

- FCS file export is handled by the **ID7000 Data Agent**
- The Data Agent starts automatically when FCS export is initiated
- The Data Agent icon appears in the **task tray**

Monitoring export status

- Hover over the **ID7000 Data Agent** icon to view export progress and status
- A **log file** documenting the export is written to the output folder

Opening the export folder

1. Right-click the **ID7000 Data Agent** icon
2. Select **Open Latest Output Folder**
3. Review exported files and the associated log file

Exporting experiment files (.exdat)

1. In the ID7000 software, go to:
   - **File → Database**
2. Click **Export**
3. Select the experiment(s) to export
4. Click **Export**

> ⚠ Unmixing matrices
>
> Avoid creating multiple unnecessary unmixing matrices. Multiple matrices generate **multiple datasets** during FCS export and complicate downstream analysis.

Folder structure and organization

Mandatory folder structure

> 💡 One USER folder per user
>
> Create **one folder named with your username** as a subfolder of `USER` on the desktop and **use only this folder** for all exports.

Recommended structure:

```
USER/
  <username>/
      fcs/
      experiments/
      reference_controls/
      projects/
          project_A/
          project_B/
```

- You may save the export path in **ID7000 Preferences**
- Use subfolders to separate:
  - FCS files
  - Experiment files
  - Reference controls
  - Project-specific datasets

Data deletion and cleanup

> ⚠ Data deletion policy
>
> FCCF routinely deletes data without further notice.

You must: - Delete **old experiments** immediately after analysis on the analysis PC - Delete **already analyzed FCS files** from all PCs - Delete unnecessary **reference controls** from the library after export

Additional rules: - Do **not** make reference controls public (creates duplicates) - Export reference controls before deletion if they are still needed

Sharing reference controls

If you want to share reference controls with colleagues: - Export them to a **dedicated folder** - Include clear metadata: - Associated project - Experiment name - Date - Fluorochrome / antibody information

Use of external analysis workstations

All rules in this SOP apply equally to: - External Analysis Workstation I - External Analysis Workstation II

Recommended workflow to reduce device usage time

> ℹ Efficiency recommendation
>
> To minimize time at the instrument PCs:

1. Perform **experiment setup** on:
   - External Analysis Workstation I (older, slower)
2. Export the experiment file (`.exdat`)
3. Import the experiment on the instrument PC
4. Perform **unmixing adjustments** on:
   - External Analysis Workstation II (newer, faster)
5. Export/import `.exdat` files as required

Long-term storage and transfer

- The **recommended storage location** is the **BTC data server**
- Instructions for access:
  - `https://btc-community.uni-bonn.de/your-network/`

Best practice

Transfer data to BTC as soon as possible after export and verify file integrity before deleting local copies.

Buffers Required

Full composition, preparation, storage, and safety information for each buffer lives in its own linked buffer document — only a concise per-buffer summary is reproduced here, generated automatically from that document.

None

Troubleshooting

Issue	Likely cause	Action
Missing FCS files	Export not completed	Check Data Agent log and re-export
Duplicate datasets	Multiple unmixing matrices	Remove redundant matrices and re-export
Data deleted unexpectedly	Stored outside USER folder	Always export into USER//

Version history

Version	Date	Author	Changes
v1.0	2025-11-21	Dillon Corvino	Converted FCCF Sony ID7000 data handling SOP into this repo's Quarto protocol standard.
v1.1	2026-09-18	Dillon Corvino	Replaced `# Buffers used` (bare `library(tidyverse)`, leaked R package-startup warnings) with an auto-generated `# Buffers Required` section