Appendix B
HST File Names

This appendix describes the syntax of HST data file names, which encode a large amount of information about the files themselves. Datasets retrieved from the Archive as described in Chapter 1 consist of multiple files in FITS format, each with a name that looks like this:

```
ipppssoot_sfx.fits
```

- ***Rootname***: The first part of the file name (`ipppssoot`) is the *rootname* of the dataset to which the file belongs. All files belonging to a given dataset share the same rootname.
- ***Suffix***: The three-character second part of the name (`sfx`) is called the *suffix,* and it indicates the type of data the file contains.
- ***Format***: The identifier `.fits` indicates that this file is in FITS format.

For example, an FOC data file named `x3l80101t_d0f.fits` is a FITS file belong to the dataset with rootname `x3l80101t`, and its suffix `d0f` indicates that it contains raw science data.

In order to use IRAF/STSDAS tasks to work with data from instruments other than NICMOS and STIS, you will want to convert these FITS files into GEIS format. See page 2-11 for instructions on how to convert FITS files to GEIS files using **strfits**. Like FITS files, the names of GEIS files also derive from a file's rootname and suffix, and they look like this:

```
ipppssoot.sfx
```

Generally the suffixes of GEIS files end either in "`d`", indicating a binary data file, or "`h`", indicating an ASCII header file. The two GEIS files `x3l80101t_d0h` and `x3l80101t_d0d` together contain the same information as the single FITS file `x3l80101t_d0f.fits`.

The identifier referred to here as a “suffix” has often been called an “extension” in the past. However, the individual pieces of FITS files are also known as “extensions” (see “Working with FITS Image Extensions” on page 2-4). For clarity, this handbook will use the term “extension” when refering to a component of a FITS file and the term “suffix” when referring to the three character identifier in a filename.

Rootnames

Rootnames of HST data files follow the naming convention defined in Table B.1, which expands on the previous convention as follows: an initial “N” indicates a NICMOS exposure, an intial “O” indicates a STIS exposure, and the rootnames of files containing association products (see below) end in a number (0-8).

Table B.1: IPPPSSOOT Root File Names

Character	Meaning
I	Instrument used, will be one of: ***E*** - Engineering data ***F*** - Fine Guidance Sensors ***N*** - Near Infrared Camera and Multi-Object Spectrograph ***O*** - Space Telescope Imaging Spectrograph ***S*** - Engineering subset data ***T*** - Guide star position data ***U*** - Wide Field/Planetary Camera-2 ***V*** - High Speed Photometer ***W*** - Wide Field/Planetary Camera ***X*** - Faint Object Camera ***Y*** - Faint Object Spectrograph ***Z*** -Goddard High Resolution Spectrograph
PPP	Program ID; can be any combination of letters or numbers (46,656 combinations possible). There is a unique association between program ID and proposal ID.
SS	Observation set ID; any combination of letters or numbers (1,296 possible combinations).
OO	Observation ID; any combination of letters or numbers (1,296 possible combinations).
T	Source of transmission or association product number ***M*** - Merged real time and tape recorded ***N*** - Retransmitted merged real time and tape recorded ***O*** - Retransmitted real time (letter ‘O’) ***P*** - Retransmitted tape recorded ***R*** - Real time (not recorded) ***T*** - Tape recorded ***0*** - Primary association product (number zero) ***1-8*** - NICMOS background association product

Suffixes of Files Common to all Instruments

The three-character suffix of a data file (e.g., `d0h`) identifies the type of data that a file contains. Because the meanings of these suffixes change from instrument to instrument, please refer to the appropriate instrument-specific Data Structures chapter for their definitions. Several types of file suffixes are, however, common to all instruments.

OMS Files

Observatory Monitoring System (OMS) files, having suffixes `cm*` or `ji*`, contain Observation Logs describing how the HST spacecraft behaved during a given observation. OMS headers, which you can read with the IRAF task **imheader** (see "Working with GEIS Files" on page 2-11), are divided into groups of keywords that deal with particular topics such as SPACECRAFT DATA, BACKGROUND LIGHT, POINTING CONTROL DATA, and LINE OF SIGHT JITTER SUMMARY. The headers themselves provide short descriptions of each keyword.OMS tables and images record spacecraft pointing information as a function of time. For more information on OMS files, you can consult Appendix C or the STScI Observation Logs WWW pages at:

```
http://www.stsci.edu/ftp/instrument_news/Observatory/
obslog/OL_1.html
```

PDQ Files

The suffix `pdq` denotes Post Observation Summary and Data Quality Comment files—*PDQ files*—which contain predicted as well as actual observation parameters extracted from the standard header and science headers. These files may also contain comments on any obvious features in the spectrum or image, as noted in the OPUS data assessment, or automatically extracted information about problems or oddities encountered during the observation or data processing. These comments may include correction to the keywords automatically placed in the OMS files. The sample PDQ file on page 5-9 gives an example of such a correction.

OCX Files

The suffix `ocx` denotes Observer Comment Files—*OCX files*—which are produced by STScI personnel to document the results of real-time commanding or monitoring of the observation, along with keywords and comments. Prior to April 17, 1992, OCX files were not always archived separately and, in some cases, were prepended to the trailer file.

After early February 1995, OCX files were produced only when an observation was used to locate the target for an Interactive Target Acquisition. At this time, mission and spacecraft information were moved to the PDQ reports and the Observation Logs (OMS jitter image and jitter table).

Trailer Files

Trailer files (suffix `trl`) are FITS ASCII tables that log the processing of your data by the OPUS pipeline.

Note that trailer files are formatted with 132 columns.

Associations

The STIS and NICMOS calibration pipelines sometimes produce single calibrated images from *associations* of many exposures. These associations allow HST pipeline processing to proceed further than it has in the past. For example, a NICMOS observer might specify a dithering pattern in a Phase II proposal. NICMOS would then take several exposures at offset positions, and the pipeline would combine them into a single mosaic. In this case, the original set of exposures constitutes the association, and the mosaic is the *association product*. Similarly, a STIS observer might specify a CR-SPLIT sequence in a Phase II proposal. STIS would gather several exposures at the same pointing, and the STIS pipeline would process this association of exposures into single image, free of cosmic rays, that would be the association product.

When you search the Archive with StarView for observations involving associations of exposures, your search will identify the final association product. The rootnames of association products always end in zero (see Table B.1 above.) If you request both Calibrated and Uncalibrated data from the Archive, you will receive both the association product and the exposures that went into making it. The corresponding association table, located in the file with suffix `asn` and the same rootname as the association product, lists the exposures belonging to the association. You can read this file using the STSDAS **tprint** or **tread** tasks (see “Tables” on page 3-2). The exposure IDs in the association table share the same `ipppss` sequence as the association rootname, followed by a base 36 number `nn` (`n` = 0-9,A-Z) that uniquely identifies each exposure, and a character `t` that denotes the data transmission mode (see Table B.1).

In practice, STIS and NICMOS store the exposures belonging to associations differently. The exposures belonging to a STIS association all reside in the same file, while the exposures belonging to a NICMOS association reside in separate datasets. See the relevant Data Structures chapters for more details.

Information on the exposures belonging to an association is also available through StarView (see Chapter 1). From the <Welcome> Screen, click on **[HST Instrument Searches]** to get the <HST Instruments> screen, and then click on the **[Associations]** button for the instrument of interest. You can then search for the various exposures belonging to an association by entering the rootname of the association in the Association ID field and clicking on **[Begin Search]** . An Association Results Screen will display the results of the search, which you can step though using the **[Step Forward]** button. Figure B.1 below gives an example of a NICMOS Association Results Screen. Note the differences between the association rootname and coordinates and those of the individual exposure.

Figure B.1: Association Results Screen from StarView