Technical memo number 3—May 27, 2005

NAMING CONVENTION FOR DATA FILES

Matt Gray, University of Minnesota

(If you use information or advice from this memo, please acknowledge it and the net site http://etacar.umn.edu/ in any resulting publications; thanks)

1. Introduction

This report defines and justifies the naming conventions for data files associated with the Eta Carinae HST Treasury Project.

2. Definition

We have chosen our **identification number** to provide a concise means for date and instrument identification for a particular observation or data file. The ID consists of the following:

2.1 Instrument Code

A single lowercase letter denoting the instrument used to acquire the data.

c	STIS/CCD	**m**	MAMA (spliced)	**u**	VLT/UVES
s	Spliced STIS/CCD	**e**	MAMA (separate orders)		

2.2 Date Code

The **date code** portion of the identification string consists of three characters: a single alphanumeric character corresponding to the year, and two digits representing the 'fraction' of the year determined by the MJD. The formula for the **fractional year** $f(m)$ from MJD m is as follows:

$$f(m) = 2000.0 + \frac{(m - 51544.5)}{365.25}$$

The fractional year is then split into two parts: the *year* itself, or $\lfloor f(m) \rfloor$, and the *fractional component*, $\lfloor (f(m) - \lfloor f(m) \rfloor) * 100 \rfloor$.

The **year character** is determined as follows: for years $[1990, 1999]$, the last digit of the year is the year character. For years $[2000, 2025]$, the capital letter of the alphabet corresponding to the last two digits is the date code, with `A` as the zeroth letter. The following table provides some representative examples:

1995	5	**1999**	9	**2003**	D
1996	6	**2000**	A	**2004**	E
1997	7	**2001**	B	**2005**	F
1998	8	**2002**	C	**2006**	G

The **fraction** portion of the ID string is simply the two digit *fractional component* defined previously. Combined, these three characters allow for unambiguous identification of fractional years on the interval $[1990, 2025]$, which is certainly sufficient for our purposes.

2.21 Example

The fractional year 2001.23 becomes `B23`.

2.3 Observation Number

The final part of an identification number is a number referring to the observation's place in chronological ascending order for a given fractional date. So the first observation for the same fractional date and instrument is given the designation 0010 and so on sequentially in time. There also may be a suffix (i.e. for patched data). IF there is a suffix then it is out of the normal data sequence. The observation numbers correspond to ascending Modified Julian Days, taken from the FITS file key `TEXPSTRT`.

2.31 Observation Sequence

Observations are numbered according to chronological order within a certain group, determined by the date code. There are, however, some cases where observations occur very close to each other, and differ in fractional year by only .01. Therefore, a new date code is assigned to a batch of observations only if the group of observations differ more than .01 in fractional year from the previous group.

For example, observations with a fractional year of 2002.24 would be under the date code `C23`, since 2002.23 is sufficiently close to 2002.24 that the observations are grouped together.

3. Summary

3.1 Example

Putting it all together, a single observation number looks like this:

cA21-0040

3.11 Decoding

The first letter is 'c', corresponding to the STIS/CCD instrument. The 'A' refers to the year 2000, and the sequence number is 0040. Therefore, the ID number is interpreted as the following:

> *The observation is the fourth in the series of CCD observations beginning on 2000.21.*

3.2 Further information

For inquiries and information about the Eta Carinae Treasury Program, please visit the web site at

`http://etacar.umn.edu/`