Reference Guide and History of FOS Calibration Reference Files and Tables

Cynthia J. Taylor [1] and Charles D. (Tony) Keyes [1]

Summary

Complete tabulations of *recommended* FOS Flat Fields and Inverse Sensitivity files (IVS) have been presented in CAL/FOS-090 (Keyes & Taylor 1993) and CAL/FOS-093 (Taylor & Keyes 1993) respectively. Tabulations of *recommended* Dead Diode reference files will be presented in CAL/FOS-112, currently in preparation. The remaining *recommended* reference files and reference tables will be presented in CAL/FOS-113, also in preparation. A complete history of all reference files and tables, *whether recommended for use in actual calibration or not*, will also be in CAL/FOS-113.

Using the Dead Diode reference file as an example, the format of the tabulation and the history as appears in the reports is shown below. Electronic versions of the tables of recommended files will be posted on STEIS in ASCII and postscript formats. The tables for Flat Fields and IVS are currently found on STEIS in /instrument_news/fos as: “flat_field_tables_apr93.asc”, “flat_field_tables_apr93.ps”, “ivs_tables_jun93.asc”, and “ivs_tables_jun93.ps”. These postings will be updated with each new delivery of reference files.

Tables 1 and 2 show the recommended Dead Diode reference files for each detector and observation date. The “Begin Date” is the USEAFTER date associated with each file and is the earliest date a file should be used. The “End Date” is the last date a file should be used. Since the Dead Diode reference file reflects the dead or disabled diodes at a particular date, the appropriate file must be used or errors will occur. CAL/FOS-112 will cover this in more detail. The last column shows the diodes disabled (on a scale of 0-511 - IRAF uses 1-512).

Table 3 tracks the history of all the Dead Diode reference files in CDBS. The Dead Diode reference files are a good example since they show bad deliveries plus superceding deliveries. Flat Fields and IVS have equally complex histories, while the remaining reference files and tables have fairly simple histories. CAL/FOS-113 will cover the histories of all types of reference files and tables in greater detail.

1. Space Telescope Science Institute, Baltimore. MD 21218

References

Keyes, C.D. and Taylor, C.J., 1993, Instrument Science Report CAL/FOS-90, *FOS Flat Field Reference Files: A Quick Reference Guide to the Appropriate File for a Particular Date and Instrumental Configuration*.

Taylor, C.J. and Keyes, C.D., 1993, Instrument Science Report CAL/FOS-093, *FOS Inverse Sensitivity Reference Files: A Quick Reference Guide to the Appropriate File for a Particular Date and Instrumental Configuration*.

Table 1: Recommended Amber Dead Diode Reference Files

Filename	Begin Date (USEAFTER)	End Date	Diodes Disabled on 0-511 scale
c5s1508ay.r4h	24 April 1990	26 Aug 1990	2,6,212,235,261,285,344,381,405,409,486
c5s15086y.r4h	27 Aug 1990	13 Sept 1990	2,6,212,285,405,409,486
c5s15083y.r4h	14 Sept 1990	14 Dec 1990	2,6,110,212,285,405,409,486
c5s15084y.r4h	15 Dec 1990	26 Oct 1991	2,6,110,197,212,285,405,409,486
c5s15088y.r4h	27 Oct 1991	13 Dec 1991	2,6,29,110,197,212,285,405,409,486
c5s15080y.r4h	14 Dec 1991	2 Aug 1992	2,6,29,110,189,197,212,285,405,409,486
c861559ay.r4h	3 Aug 1992	10 Oct 1993	2,6,29,110,189,197,212,285,380,405,409,486
da80843ny.r4h	11 Oct 1993	11 Oct 1993	2,6,29,110,189,197,212,285,380,381,405,409,412,486
dap1024ay.r4h	12 Oct 1993		2,6,29,110,189,197,212,285,308,380,381,405,409,412,486

Table 2: Recommended Blue Dead Diode Reference Files

Filename	Begin Date (USEAFTER)	End Date	Diodes Disabled on 0-51 1 scale
c6q16023y .r4h	24 April 1990	17 May 1990	47,49,55,73,201,218,219,223,268,284,409,415,427,451,465,472
c6q1601jy .r4H	18 May 1990	10 June 1990	47,49,55,73,201,218,219,223,225,268,284,409,415,427,451,465,472
c6q1601gy .r4h	11 June 1990	31 Oct 1990	47,49,55,73,201,218,219,223,268,284,409,415,427,451,465,472
c6q1601dy .r4h	1 Nov 1990	19 Feb 1991	31,47,49,55,73,201,218,219,223,225,235,241,268,284,409,415,427,451, 465,472,497
c6q1601ny .r4h	20 Feb 1991	31 May 1991	31,47,49,55,73,201,218,223,225,235,241,268,284,398,409,451,465, 472,497
c6q16019y .r4h	1 June 1991	19 June 1991	31,47,49,55,73,201,218,223,225,235,241,268,284,398,409,451,465,471, 472,497
c6q1601ry .r4h	20 June 1991	27 Aug 1991	31,47,49,55,73,201,218,223,225,235,241,268,284,398,409,441,451,465, 471,472,497
c6q16020y .r4h	28 Aug 1991	12 April 1992	31,47,49,55,73,101,201,218,223,225,235,241,268,284,398,409,441,451, 465,471,472,497
c6p1432my .r4h	13 April 1992	14 Feb 1993	31,47,49,55,73,101,201,218,223,225,235,241,268,284,398,409,427,441, 451,465,471,472,497
d2a16223y .r4h	15 Feb 1993	2 May 1993	31,47,49,55,73,101,201,218,223,225,235,241,268,284,398,409,415,427, 441,451,465,471,472,497
d4s1044fy .r4h	3 May 1993	6 Sept 1993	31,47,49,55,73,101,144,201,218,223,225,235,241,268,284,398,409,415, 427,441,451,465,471,472,497
das1303py .r4h	7 Sept 1993		31,47,49,55,73,101,144,201,218,223,225,235,241,268,284,292,398,409, 415,427,441,451,465,471,472,497

Table 3: History of FOS Dead Diode Reference Files in CDBS

Filename	Detector	USEAFTER Date	CDBS Entry Date	Comment (Diodes are on 0-511 scale)
8cd1134iy.r4h	AMBER	1 Jan 1990	21 Feb 1989	No original USEAFTER - replaced by c5s1508ay.r4h
8cd1134qy.r4h	BLUE	1 Jan 1990	21 Feb 1989	No original USEAFTER - replaced by c6q16023y.r4h
a9412493y.r4h	AMBER	1 Jan 1990	4 Sept 1990	No original USEAFTER - replaced by c5s15083y.r4h
b3e1056fy.r4h	AMBER	1 Jan 1990	14 Mar 1991	No original USEAFTER - replaced by c5s15084y.r4h
b3e1056hy.r4h	BLUE	1 Jan 1990	14 Mar 1991	No original USEAFTER - replaced by c6q1601ny.r4h
b811640ny.r4h	BLUE	1 Jan 1990	2 Aug 1991	No original USEAFTER - replaced by c6q1601ry.r4h
bbj0956fy.r4h	BLUE	1 Jan 1990	19 Nov 1991	No original USEAFTER - replaced by c6q16020y.r4h
bcb1250hy.r4h	AMBER	1 Jan 1990	11 Dec 1991	No original USEAFTER - replaced by c5s15088y.r4h
c1m1438ay.r4h	AMBER	1 Jan 1990	22 Jan 1992	No original USEAFTER - replaced by c5s15080y.r4h
c481104ry.r4h	BLUE	13 April 1992	8 April 1992	Incorrect diodes disabled [a] - replaced by c6p1432my.r4h
c5t11032y.r4h	BLUE	13 April 1992	29 May 1992	Incorrect diodes disabled [b]- replaced by c6p1432my.r4h
c7u1508gy.r4h	RED	3 Aug 1992	30 July 1992	Detector listed as Red instead of Amber - replaced by c861559ay.r4h
c5s1508ay.r4h	AMBER	24 April 1990	25 Aug 1992	Replaces 8cd1134iy.r4h [c] - includes correct USEAFTER
c5s15086y.r4h	AMBER	27 Aug 1990	25 Aug 1992	Added to reflect correct date of enabling diodes 235, 261, 344, and 381- includes correct USEAFTER
c5s15083y.r4h	AMBER	14 Sept 1990	25 Aug 1992	Replaces a9412493y.r4h [d] - includes correct USEAFTER
c5s15084y.r4h	AMBER	15 Dec 1990	25 Aug 1992	Replaces b3e1056fy.r4h - includes correct USEAFTER
c5s15088y.r4h	AMBER	27 Oct 1991	25 Aug 1992	Replaces bcb1250hy.r4h [e] - includes correct USEAFTER
c5s15080y.r4h	AMBER	14 Dec 1991	25 Aug 1992	Replaces c1m1438ay.r4h [f] - includes correct USEAFTER
c6q16023y.r4h	BLUE	24 April 1990	25 Aug 1992	Replaces 8cd1134qy.r4h [g] - includes correct USEAFTER
c6q1601jy.r4h	BLUE	18 May 1990	25 Aug 1992	Added to reflect correct date of disabling diode 225 - includes correct USEAFTER
c6q1601gy.r4h	BLUE	11 June 1990	25 Aug 1992	Added to reflect correct date of enabling diode 225 - includes correct USEAFTER
c6q1601dy.r4h	BLUE	1 Nov 1990	25 Aug 1992	Added to reflect correct date of disabling diodes 31, 225, 235, 241, and 497 - includes correct USEAFTER
c6q1601ny.r4h	BLUE	20 Feb 1991	25 Aug 1992	Replaces b3e1056hy.r4h [h] - includes correct USEAFTER
c6q16019y.r4h	BLUE	1 June 1991	25 Aug 1992	Added to reflect correct date of disabling diode 471 - includes correct USEAFTER
c6q1601ry.r4h	BLUE	20 June 1991	25 Aug 1992	Replaces b811640ny.r4h [i] - includes correct USEAFTER
c6q16020y.r4h	BLUE	28 Aug 1991	25 Aug 1992	Replaces bbj0956fy.r4h - includes correct USEAFTER
c861559ay.r4h	AMBER	3 Aug 1992	25 Aug 1992	Replaces c7u1508gy.r4h - detector correctly listed as AMBER

Table 3: History of FOS Dead Diode Reference Files in CDBS

Filename	Detector	USEAFTER Date	CDBS Entry Date	Comment (Diodes are on 0-51 1 scale)
c6p1432my .r4h	BLUE	13 April 1992	25 Aug 1992	Replaces c481 104ry .r4h and c5t1 1032y .r4h - correct diodes
d2a16223y .r4h	BLUE	15 Feb 1993	16 Feb 1993	Noisy diode 415 disabled
d4s1044fy .r4h	BLUE	3 May 1993	28 April 1993	Noisy diode 144 disabled
d9h1244ay .r4h	BLUE	7 Sept 1993 [j]	17 Sept 1993	Delivered with incorrect USEAFTER date - replaced by das1303py .r4h
da80843ny .r4h	AMBER	11 Oct 1993	8 Oct 1993	Noisy diodes 381 and 412 disabled
dap1024ay .r4h	AMBER	12 Oct 1993	25 Oct 1993	Diode 308 died
das1303py .r4h	BLUE	7 Sept 1993	28 Oct 1993	Diode 292 died - correct USEAFTER date

a. Diodes 47, 55, and 101 should have been disabled and diode 189 should have been not disabled.
b. Diodes 47, 55, and 101 should have been disabled and diode 189 should have been not disabled. Error version accidently delivered to PODPS.
c. File c5s1508ay .r4h includes diode 486 which was disabled pre-launch, but was enabled in 8cd1 134iy .r4h.
d. File c5s15083y .r4h has same diodes disabled as a9412493y .r4h, but files c5s1508ay .r4h, c5s15086y .r4h, and c5s15083y .r4h show correct sequence of diode disabling.
e. File c5s15088y .r4h reflects the date that diode 29 died and has diode 189 enabled. File bcb1250hy .r4h has diode 189 disabled and diode 29 enabled.
f. File c5s15080y .r4h reflects correct diode 189 disable date and has same diodes disabled as c1m1438ay .r4h.
g. File c6q16023y .r4h includes diodes 73, 284, and 415 which were disabled pre-launch but not disabled in 8cd1 134qy .r4h. diodes 31 and 225 were disabled in 8cd1 134qy .r4h but enabled in c6q16023y .r4h.
h. File c6q1601ny .r4h has same diodes disabled as b3e1056hy .r4h, but files c6q16023y .r4h, c6q1601jy .r4h, c6q1601gy .r4h, c6q1601dy .r4h, and c6q1601dy .r4h show correct sequence of diode disabling and re-enabling.
i. File c6q1601ry .r4h has same diodes disabled as b81 1640ny .r4h, but files c6q16019y .r4h and c6q1601ry .r4h show correct sequence of diode disabling.
j. Accidently delivered to PODPS with USEAFTER date of 17 Sept 1993, USEAFTER date was corrected in CDBS.