INTERNAL DATA STRUCTURES

STANDARD CALLING SEQUENCE

This calling sequence is used by most of the upper level routines. It is sometimes expanded by adding on to the end of it.

ANS(150)	R4	See :hdref refid=ANSWER..
JTB(6)	I2	Time array, Year, Day, Hour, Min, Sec, Millisec.
JATA(512)	I2	Digital currents. Close packed with channels sequential and cups in order. Data not telemetered -2, missing data -3.
JNE	I2	Number of channels per cup in measurement.
LSTAT(4)	L1	Status word. LSTAT(1) last good status word LSTAT(2) actual TLM status LSTAT(3-4) interpreted as I2 = 0 ok, = -1 status missing
JTLMOD	I2	GSFC mode word, 1-L, 2-M, 3-E1, 4-E2, At MIT other values are possible. 10-B 48 sec, 11-B 9.6 sec, 12-B 1.92 sec
JCLK	I2	Index to indicate integration time + seteling tim os 30 ms. 1-60, 2-240, 3-960 milliseconds.
TEMP(3)	R4	Instrument Temperature in degrees C TPMC, TPMOD, TCUP

CCA COMMON

This common is maintained by GSFC for their production.
The only variables controlled by MIT are the logical switches LPLS.

LSYS(32)	L1	system switching vector for GSFC.
LMAG(32)	L1	magswitching vector.
LPLS(32)	L1	Plasma switching vector used in MIT processing. (See :hdref refid=ft02.).
WORK(25-30)		**spares**
IBAD		# of 48 sec ave deleted from mag hourly average
IPCH	I4	# of mag hourly average cards punched
SCN1	I4	ID of spacecraft data in EDR1
SCN2	I4	ID of spacecraft data in EDR2
TIME2	R8	Time of record in EDR2
IY2		Year of data in EDR2
IDAY2		Day of data in EDR2
MSEC2		Millisecond of data in EDR2
TIME1	R8	Decimal day of data in EDR1
WORK(432-500)		**spares**

CDOCP COMMON

This common controls the creation of the proto HA array, and the averaging of the data to make the hourly average tape.
These variables can be changed by &RUNNT, see :hdref refid=FT02..

INB	I4	Number of entries in IB
IB(9)	I4	Indices of variables in DOCP VAR array that involve the B field.
NP(2)	I4	NP(ITLMOD) gives the number of entries in table IAP, IAPOFF, and ICP for mode ITLMOD
IAP(60,2)	I4	ANS(IAP(I, ITLMOD)) is the source of the data for DOCP, see :hdref refid=STDCALL.. If IAP(I, ITLMOD) < 0 special processing is done.
ICP(60,2)	I4	VAR(ICP(I, ITLMOD)) is the destination for the data for DOCP. ICP(I, ITLMOD) is th position in the Hourly Average Array, see :hdref refid=HA..
IAPOFF(60,2)	I4	Fill data is used by DOCP if ANS array does not have IAPOFF(I, ITLMOD) + IAP(I, ITLMOD) valid data values.
NA	I4	Maximium used index in VAR array.
LANG(100)	L4	True if corresponding value in VAR, proto HA array, is to be treated as an angle when taking hourly averages.
LTESTA(100)	L4	If TRUE then this value will not be averaged under certain data conditions.
NAR(2)	I4	Maximium used index in VAR array. First value for normal data, second for GS-5 data with short L Mode.

CMODE COMMON

CMODE is an MIT-only common and should be avoided if at all possible. It is loaded by most but not all versions of NXTMOD. The standard calling sequence (:hdref refid=STDCALL.) gives most of these variables in a more reliable manner.

VARIABLE	TYPE	DEFINITION
IYR	I4	Year of data.
IDOY	I4	Day of year.
IHR	I4	Hour of day.
IMIN	I4	Minute of hour.
SEC	R4	Second of minute including fraction.
ICLK	I4	Integration time flag. 1 60 millisec 2 240 millesec 3 960 millisec
ISTAT	I4	Status word.
ICOMM	I4	Command word?
IDATAN(4,144)	I4	Digital currents.
ITLMOD	I4	Flag to indicate type of mode. 1 L-mode 2 M-mode 3 E1-mode 4 E2-mode
TEMP(3)	R4	Temperature of instrument in degrees C.
IENGDN(10)	I4	Engineering counts?
MODTAL	I4	Count of the mode.
IKINDS	A4	Spacecraft type?
MINDEX	I4	Minimum channel number returned for M-mode.

LPLS COMMON

This common is used by SELSUM, the SELECT for Summary tape production, and by DOCAL. In the former case it keeps a record of the number and reasons for rejecting spectra.
In both cases it controls the writing of the spectral tape.

IUNIT	I4	Fortran unit number that the spectal tape is written out on. If IUNIT > 20 then a long spectral record is written.
LDMP(2)	L4	Controls if the record is to be dumped.
LED(16)	L1	Indicates that the corresponding test failed.
LMAX(16)	L1	!

MITRUN COMMON

This common is only used in the MIT production. Set with namelist &RUNNT.
It controls the type of processing to be done.
For a more complete definition of the variables, see :hdref refid=ft02..

IUNIT(10)	I/O unit numbers for MIT processing.
TJUMP	Time data jump test
FACT	?
GAPSEC(20)	Expected time gap between data points
FITMOD	Fitmod
SKPODD	?

NDYCOM COMMON

This common is to support DODP. Read in on unit 5.

NYRF	Year of first data to be plotted.
NDAYF	Day of first data to be plotted.
NEXT	Number of days to be overlapped on Nday plots.

PLCONS COMMON

The block data for this common are loaded with PLSBEG. The variables that can be changed are changed by PLSNT and are marked *&PLSNT*.
See :hdref refid=ft02..

IDSRN(15)	I/O unit numbers for selective printing. *&PLSNT*
ISC	!
VJNE(16,2)	E mode voltage at middle of step
DVDE(16,2)	E mode voltage across step
CJN(16,2)	One dimensional distribution function = CURRNT*CJN/(VJNE**SN*DVDE)
VOLTSC	Not used = 0.01
J1E(2)	Min channel number used in calculating flux or distribution function
J2E(2)	Max channel number used in calculation flux etc.
FON(2)	Conversion factor for current in femto amps to
flux in	$/cm^2/sec$.
J3E(2)	Min channel number used in calculating temp
J4E(2)	Max channel number used in calculating temp
EN(2)	TEMP = EN*(VOLT(LOW)**2-VOLT(HI)**2)/ALOG10(DIST(HI)/DIST(LO))
SN(2)	See CJN above (defaulted to 1., 1.)
FAC(3)	Square root of ratio of integration times
SIGNOI	Signal noise level
DCRTN(256)	DC return current conversion table
VJNL(16)	L Mode voltage at middle of step
VJWL(17)	L Mode voltage at lower edge of step
VJNM(128)	M Mode voltage at middle of step
VJWM(129)	M Mode voltage at lower edge of step
II	Spacecraft ID, 1 Voyager 1, 0 Voyager 2 from SUMMARYT *&PLSNT*
IEND	Maximum # of calls to FNCDRV *&PLSNT*
EPS	Wanted fractional error in χ^2
FLAM	Normal starting value Λ for nonlinear fit *&PLSNT*
QK(4,2)	!
NK(4,2)	!
SK(4,2)	!
WK(4,2)	!

VK(4,2)	!
DELTAL(2)	!
IPQF(2,2)	# channels up from peak for alphas *&PLSNT*
IPRF(2,2)	# channels down form peak for alphas *&PLSNT*
IPQ(4,2)	# channels up from peak for protons *&PLSNT*
IPR(4,2)	# channels down from peak for protons *&PLSNT*
CN(4,3)	Directional cosines of cups
COSB(3)	Cosine of angle between cup and B field
COS2B(3)	Square of cosine of angle between cup and B field
SIN2B(3)	Square of sine of angle between cup and B field
CALCUR(12)	!
CLOCK(3)	Plasma cup integration time in sec.
CAP(2)	Integration capacitance in microfarads
GAIN(2)	Gain of amplifier
VO	Voltage for first step of modulator. Set in PLSBEG
ALPHA	N_α/N_p threshold for alpha analysis *&PLSNT*
NQ(4)	!
MASS(4)	!
KEY(4)	!
LANIS(4)	!
NCOM(2)	!
NVAR(2)	!
FNOIS	!
CSIG	Multiplier of CNOISE to get minimum current for analysis *&PLSNT*
FSIG	! *&PLSNT*
NS	Number of spectra to be averaged together *&PLSNT*
xtras(243)	Spares

PSTUFF COMMON

This common is used by DODP.
It is loaded by the namelist SCALE from unit 5.
For a description of DODP and its input see the DODP write up.

F	Horizontal scale factor
X12	Length of xaxis
SCNAME	Spacecraft name
IDSRN	Data set number
NUMDAY	Number of days per panel. One for a day plot.
NOROT	Print solar rotation number
TPTYPE	!