Sonneborn

INTERNATIONAL ULTRAVIOLET EXPLORER

THREE AGENCY

INFORMATION INTERCHANGE

OCTOBER 1985

INTRODUCTION

The International Ultraviolet Explorer (IUE) satellite system is a cooperative program among the European Space Agency (ESA), the United Kingdom's Science and Engineering Research Council (SERC), and the United States National Aeronautics and Space Administration (NASA).

Observations using the spaceborne telescope are made for sixteen hours each day from the observatory at NASA's Goddard Space Flight Center near Washington, DC, in the United States; and for eight hours each day from the ESA observatory facility at Villafranca del Castillo, near Madrid, Spain.

Day to day functioning of the system, as well as dissemination of the scientific data obtained from it, require that considerable information must be exchanged among the three agencies involved.

Since the beginning of the IUE program, the required information exchanges have evolved to meet changing needs. Much has been documented, some has not. As a result, it was decided at the "Three Agency Meeting" at Villafranca del Castillo in November 1979, that NASA would assume the responsibility of compiling a document to define the required information exchanges. The document would be supplied to the IUE management of ESA and SERC for their comment and agreement.

In the years between 1979 and 1984 extensive "red line" modification was incorporated into the document. This new release includes all the informal changes plus some formal modifications. As with the original release, its acceptance by the three agencies is indicated by the signatures on the "Concurrence" page.

TABLE OF CONTENTS

Introduction	i
Table of Contents	ii
Concurrences	v
Summary by Information Item	1.0
Observatory Schedules	2.0
GSFC Observatory Schedule	2.1
VILSPA Observatory Schedule	2.2
Archival Data	3.0
Archival Data Tape and IUESOC Archival Tape Information Listing from GSFC IUESOC to NSSDC	3.1
Photowrite Archival Negative and Photowrite Archival Negative Information Listing	3.2
Documentation on Formats and Contents of Standard IUE Data Tapes (The IUE Image Processing Information Manual)	3.3
Archival Data Tapes from the ESA Data Centre to the NSSDC	3.4
Archival Data Tapes from the NSSDC to the ESA Data Centre	3.5
Archival Data Tapes from the NSSDC to the SERC Data Centre	3.6
Archival Data Tapes Containing VILSPA Images Reprocessed at GSFC from the NSSDC to the ESA Data Centre	3.7
Logs	4.0
GSFC Observatory Log to ESA	4.2
Merged Observatory Log to the SERC Support Team	4.3
VILSPA Observatory Log to IUESOC	4.4
Annual Merged Log, IUESOC to NSSDC	4.5
Annual Merged Log, IUESOC to ESA Operations	4.6
Annual Merged Log, IUESOC to SERC Support Team	4.7
GSFC Monthly Observation Logs to ESA & SERC	4.8
Discrepancy Lists	4.9
Newsletters	5.0
IUE NASA Newsletter	5.1
IUE ESA Newsletter	5.2
Advance Copies of Relevant Articles for any Agency Newsletter	5.3

TABLE OF CONTENTS (CONT'D)

Calibrations	6.0
Wavelength & Geometric Calibration Data	6.1
Intensity Transfer Function (ITF)	6.2
Maintenance Shift Accomplishment Records	6.3
Spacecraft Calibration & Engineering Time Accounting	6.4
Instrument Engineering Images and Processed Calibration Spectra, IUESOC to VILSPA	6.5
Instrument Engineering Images and Processed Calibration Spectra, VILSPA to IUESOC	6.6
Partial Read Evaluation Images, IUESOC to VILSPA and SERC	6.7
Partial Read Evaluation Images, VILSPA to IUESOC	6.8
Absolute Sensitivity Functions	6.9
Spectral Image Processing System	7.0
IUESIPS Production Processing Modification Report (PPMR)	7.1
VILSPA Image Processing Software Modification Report	7.2
Updates to Chronology of Modification to IUESIPS Output Products, IUESOC to VILSPA and SERC	7.3
Updates to Chronology of Modification to IUESIPS Output Products, VILSPA to IUESOC	7.4
Updates to Time History of IUESIPS Configurations, IUESOC to VILSPA	7.5
Updates to Time History of IUESIPS Configurations, VILSPA to IUESOC	7.6
Operational Software Changes	8.0
GSFC Discrepancy Report (DR)	8.1
MOD Configuration Change Request (CCR)	8.2
Operations Procedure (PROC) Updates	8.3
Sigma-9 Control Center Software System Revisions	8.4
Flight Operations Manual	9.0
Flight Operations Directive (FOD)	9.1
Flight Operations Manual (FOM) Updates	9.2
Spacecraft Anomaly Report (SCAR)	9.3
Handover Information	9.4
Handover Time Accounting	9.5
Radiation Strip Charts	9.6
Scientific & Technical Reports	10.0
Scientific & Technical Reports	10.1

TABLE OF CONTENTS (CONT'D)

APPENDICES

Format of SOC Generated Archival Tapes	A.1
Format of VILSPA Generated Archival Tapes	B.1
Format of NSSDC Generated Archival Tapes	C.1
IUESOC Archival Tape Information Listing Format	D.1
IUESOC Photowrite Archival Negative Information Listing Format	E.1
Sample TAPESCAN Output	F.1
GSFC Observatory Log & Merged Log Tape Format	G.1
GSFC Observatory Log & Merged Log Printout Format	H.1
VILSPA Observatory Log Tape Format	I.1
VILSPA Observatory Log Printout Format	J.1
Data Base Discrepancy List Printed Format	K.1
Data Base Discrepancy List Data Base Format	K.2
Data Base Discrepancy List Exchange Rules	K.3
PPMR Format	L.1
VILSPA Image Processing Software Modification Report	M.1
GSFC Discrepancy Report Format	N.1
MOD Configuration Change Request (CCR) Form	O.1
Sample IUE Flight Operations Directive	P.1
Sample SCAR Form	Q.1
Radiation Strip Charts	R.1
List of Acronyms, Abbreviations & Definitions	S.1

CONCURRENCES

This document identifies the operational and data information products which are exchanged among the United Kingdom's Science and Engineering Research Council, the European Space Agency, and the United States National Aeronautics and Space Administration as part of the International Ultraviolet Explorer program and, where appropriate, defines the form of those information products.

It is agreed that any changes in those products, or the form thereof, will be implemented only by a mutually approved correction or supplement to this document.

For the National Aeronautics and Space Administration:

J. P. Corrigan 5 Mar 85

J. Patrick Corrigan — Date
NASA Project Manager

5 March 1985

Yoji Kondo — Date
NASA Project Scientist

For the European Space Agency:

Brian Taylor — Date 15/8/85
ESA Project Manager

29-7-85

Willem Wamsteker — Date
IUE Observatory Controller

For the Science and Engineering Research Council:

P. J. Barker — Date
SERC Project Manager

24 April 1985

M. C. W. Sanford — Date
SERC IUE Support Team Leader

SUMMARY BY INFORMATION ITEM

	INFORMATION ITEM	FROM	TO	FORMAT	FREQUENCY
	OBSERVATORY SCHEDULES				
2.1	GSFC Observatory Schedule	IUESOC (TOC)	VILSPA SERC (Team)	Typed	Three Months
2.2	VILSPA Observatory Schedule	VILSPA	IUESOC (TOC) SERC (Team)	Typed	Three Months
	ARCHIVAL DATA				
3.1	Archival Data Tape and Archival Tape Information Listing	IUESOC (DMC)	NSSDC	Tape; Form; Printout	Four Weeks
3.2	Photowrite Archival Negative & Photowrite Negative Information Listing	IUESOC (DMC)	NSSDC	Film negative; Printout	Four Weeks
3.3	Documentation on Formats and Contents of IUE Data Tapes (IUE Image Processing Information Manual)	IUESOC (IPC)	NSSDC VILSPA SERC (Team) SERC (WDC)	Written Documents	When Modified
3.4	Archival Data Tapes	VILSPA	NSSDC	Tape; Tape Content	Monthly
3.5	Archival Data Tape	NSSDC	VILSPA	Tape; Listing	As Generated
3.6	Archival Data Tapes	NSSDC	SERC (WDC)	Tape; Printout	As Generated
3.7	Archival Data Tape Containing VILSPA Images Reprocessed at GSFC	NSSDC	VILSPA	Tape; Listing	As Generated
	LOGS				
4.2	GSFC Observatory Log	IUESOC (DMC)	VILSPA	Tape	Monthly
4.3	Merged Observatory Log	IUESOC (DMC)	SERC (Team)	Tape	Monthly
4.4	VILSPA Observatory Log	VILSPA	IUESOC (DMC)	Tape; Listing	Monthly
4.5	Annual Merged Log	IUESOC (DMC)	NSSDC	Listings; Microfiche	Annually, In May
4.6	Annual Merged Log	IUESOC (DMC)	VILSPA	Tapes; Listings; Microfiche	Annually, In May
4.7	Annual Merged Log	IUESOC (DMC)	SERC (Team)	Tape; Listings; Microfiche	Annually, In May
4.8	GSFC Monthly Observation Logs	IUESOC (DMC)	VILSPA SERC (Team)	Printout	Monthly
4.9	Data Base Discrepancy List	IUESOC (DASS) VILSPA	VILSPA IUESOC(DASS)	Printout; Tape	Bimonthly

SUMMARY BY INFORMATION ITEM

	INFORMATION ITEM	FROM	TO	FORMAT	FREQUENCY
NEWSLETTERS					
5.1	IUE NASA Newsletter	IUESOC (Newsletter Editor)	GSFC, VILSPA and SERC Distribution Lists	Printed Document	Quarterly
5.2	IUE ESA Newsletter	VILSPA (Newsletter Editor)	ESA, GSFC, and SERC Distribution Lists	Printed Document	Quarterly
5.3	Advance Copies of Relevant Articles for Any Agency Newsletter	Originating Agency Editor	IUESOC VILSPA (Newsletter Editors)	Typed	As Generated
CALIBRATIONS					
6.1	Wavelength and Geometric Calibration Data	IUESOC (IPC)	VILSPA	Tape; Astronomer Analyses	When Needed
6.2	Intensity Transfer Function (ITF)	IUESOC (TOC)	VILSPA	Tape; Astronomer Analyses	When Needed
6.3	Maintenance Shift Accomplishment Records	IUESOC (TOC) VILSPA	VILSPA IUESOC (TOC)	Memo	At End of Maintenance Shift
6.4	Spacecraft Calibration and Engineering Time Accounting	IUEOCC VILSPA	VILSPA IUEOCC	Memo	Quarterly
6.5	Instrument Engineering and Processed Calibration Spectra	IUESOC (TOC)	VILSPA	Tapes	As Generated
6.6	Instrument Engineering Images and Processed Calibration Spectra	VILSPA	IUESOC (TOC)	Tapes	As Generated
6.7	Partial Read Evaluation Images	IUESOC (TOC)	VILSPA SERC	Photo-writes; List of Images	As Generated
6.8	Partial Read Evaluation Images	VILSPA	IUESOC (TOC)	Photo-writes; List of Images	As Generated
6.9	Absolute Sensitivity Functions	IUESOC (TOC)	VILSPA	Printout	As Needed

	INFORMATION ITEM	FROM	TO	FORMAT	FREQUENCY
SPECTRAL IMAGE PROCESSING SYSTEM					
7.1	IUESIPS Production Processing Modification Report (PPMR)	IUESOC (IPC)	VILSPA SERC (Team)	Standard Form	Monthly
7.2	VILSPA Image Processing Software Modification Report	VILSPA	IUESOC (IPC) SERC (Team)	Standard Form	Monthly
7.3	Updates to Chronology of Modification to IUESIPS Output Products	IUESOC (IPC)	VILSPA SERC (Team)	Written Documents	Six Months
7.4	Updates to Chronology of Modification to IUESIPS Output Products	VILSPA	IUESOC (IPC)	Written Documents	Six Months
7.5	Updates to Time History of IUESIPS Configuration	IUESOC (IPC)	VILSPA	Written Documents	As Prepared
7.6	Updates to Time History of IUESIPS Configuration	VILSPA	IUESOC (IPC)	Written Documents	As Prepared
OPERATIONAL SOFTWARE CHANGES					
8.1	GSFC Discrepancy Report (DR)	IUEOCC	VILSPA	Standard Form	As Required
8.2	MOD Configuration Change Request (CCR)	IUEOCC	VILSPA	Standard Form	As Required
8.3	Operations Procedures (PROC) Updates	IUEOCC	VILSPA	Tape	As Generated and Tested
8.4	Sigma-9 Control Center Software System Revisions	IUEOCC	VILSPA	Tape	As Generated and Tested
FLIGHT OPERATIONS MANUAL					
9.1	Flight Operations Directive (FOD)	IUEOCC	VILSPA	Standard Form	As Required
9.2	Flight Operations Manual (FOM) Updates	IUEOCC	Established Distribution	New Pages	As Generated
9.3	Spacecraft Anomaly Report (SCAR)	IUEOCC VILSPA	VILSPA IUEOCC	Standard Form	As Generated
9.4	Handover Information	IUEOCC/SOC VILSPA	VILSPA IUEOCC/SOC	Verbal	Daily
9.5	Handover Time Accounting	IUESOC (TOC)	Three-Agency Chairman	Typewritten	Six Months
9.6	Radiation Strip Charts	IUEOCC	VILSPA SERC (Team)	Charts	Two Weeks
SCIENTIFIC AND TECHNICAL REPORTS					
10.1	Scientific and Technical Reports	IUESOC VILSPA SERC (Team)	Other Two Agencies		As Generated

OBSERVATORY SCHEDULES

The observatory schedules are made so that a program is chosen for the dates on which a minimum number of its targets are in the solar avoidance region and the Beta=55-95 degrees zone (hot OBC). However, the observatory will attempt to honor requests to schedule operations on specific dates to allow the Guest Observers to cover desirable phases of variable stars, to utilize favorable planet-satellite configurations or to carry out simultaneous observations at other wavelengths etc. At GSFC the schedules are published at least three months in advance. The date, starting time of each shift, Principal Investigator's name, his program identification code and the names of the Resident Astronomers and Telescope Operators on duty are listed on the schedule.

ESA Observatory schedules are prepared for six-month intervals. The VILSPA operational schedules are prepared monthly.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: GSFC Observatory Schedule

FORM: Typewritten on letter size paper

FORMAT:

SEE APPENDIX:

FROM: IUESOC (TOC)
Resident Astronomer for Observatory Scheduling
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Resident Astronomer for Observatory Scheduling
Apartado 54065,
28080 Madrid
SPAIN

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 OQX
UNITED KINGDOM

TRANSMITTAL METHOD AND FREQUENCY: Air mail, once every three months, with revisions monthly

ADDITIONAL INFORMATION: The IUESOC Observatory schedule is generated for a one-month period, three months in advance.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: VILSPA Observatory Schedule

FORM: Typewritten

FORMAT:

SEE APPENDIX:

FROM: Villafranca Satellite Tracking Station
Resident Astronomer for Observatory Scheduling
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (TOC)
Attn: Resident Astronomer for Observatory Scheduling
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD AND FREQUENCY: Air mail, once every three months, with revisions monthly

ADDITIONAL INFORMATION: The VILSPA schedule is generated for six months starting on April first. It is under continuous review.

ARCHIVAL DATA

At both the GSFC and VILSPA ground facilities, raw data taken from the spacecraft are operated upon to make required corrections and calibrations. The processed data are then recorded and delivered to the observers.

1600 bpi copies of the archival tapes are prepared and sent to the National Space Science Data Center at GSFC.

The NSSDC processes the incoming tapes to high-density, blocked (VBS format) tapes, at 6250 bpi for storage.

The 6250 bpi tapes containing the data acquired at GSFC are duplicated for the SERC and ESA. The 6250 bpi tapes containing the data acquired at VILSPA are duplicated for the SERC.

The NSSDC and the ESA and SERC data centers send copies, at the requested bpi, of GSFC and/or VILSPA archival tapes to requesters, within the limitation that no Guest Observer's data may be given to anyone else until the original Guest Observer has had exclusive access to it for at least six months. At GSFC the six-month rule is interpreted as being six months and 20 days from the completion of the Guest Observer's data package. At VILSPA the six-month rule is interpreted as being six months from the first of the month subsequent to dispatch.

The formats of the archival tapes are shown in Appendices A, B, & C.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Archival Data Tape and IUESOC Archive Tape Information Listing From GSFC IUESOC to NSSDC

FORM: Magnetic Tape (1600 bpi); Printout; Tape Transaction Request (TTR)

FORMAT: VB Format Tape

SEE APPENDIX: A for Tape Format, D for Listing Formats

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: NSSDC
Attn: IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD AND FREQUENCY: Internal delivery, every four weeks

ADDITIONAL INFORMATION: Archival tape and tape information listing are handled as a package between IUESOC and NSSDC. The TTR is returned to the Data Management Center after NSSDC verifies receipt of tapes.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Photowrite Archival Negative and Photowrite Archival Negative Information Listing

FORM: Film negative and Printout

FORMAT:

SEE APPENDIX: E for Listing Format

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: NSSDC
Attn: Manager/Data Set Management Group
Code 633.4
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD AND FREQUENCY: Hand carry, every four weeks

ADDITIONAL INFORMATION: Photowrite and photowrite information listing are handled as a package from IUESOC to NSSDC. After NSSDC has checked the negatives against the information listing, the listing is signed and returned to the Data Management Center.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Documentation on Formats and Contents of Standard IUE Data Tapes (The IUE Image Processing Information Manual)

FORM: Written Documents

FORMAT:

SEE APPENDIX:

FROM: IUESOC (IPC)
Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: NSSDC
Attn: IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

Rutherford Appleton Laboratory
World Data Centre Manager
Building R3
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

Villafranca Satellite Tracking Station
Attn: IGCS Manager and Observatory Controller
Apartado 54065,
28080 Madrid
SPAIN

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD AND FREQUENCY: Hand carried within GSFC & mailed to others, when modified

ADDITIONAL INFORMATION: Provided so that Data Centers can inform requesters about the format and contents of IUE tapes which they distribute.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Archival Data Tapes

FORM: Magnetic Tape (1600 bpi); List of tape content

FORMAT: Identical to Guest Observer Tape

SEE APPENDIX: B

FROM: Villafranca Satellite Tracking Station
IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TO: National Space Science Data Center
Attn: IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION: At the NSSDC, the incoming tapes are processed to high density, blocked (VBS Format) tapes, at 6250 bpi, for storage. The 6250 bpi tapes are then duplicated and shipped to the SERC.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Archival Data Tape

FORM: Magnetic Tape (6250 bpi, VBS Format); Printout

FORMAT:

SEE APPENDIX: C for Tape Format; F for TAPESCAN Format

FROM: National Space Science Data Center
IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD AND FREQUENCY: Air freight, within three months of completion of image processing.

ADDITIONAL INFORMATION: Each 6250 bpi tape generated by NSSDC from the GSFC acquired data duplicated and shipped to ESA with the printout from a utility program (TAPESCAN) containing a portion of the image header for each file.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Archival Data Tapes

FORM: Magnetic Tape (6250 bpi, VBS format); Printout

FORMAT:

SEE APPENDIX: C for Tape Format; F for TAPESCAN Format

FROM: National Space Science Data Center
IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Rutherford Appleton Laboratory
World Data Centre Manager
Building R3
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD AND FREQUENCY: Air freight, within three months of completion of image processing

ADDITIONAL INFORMATION: The 6250 bpi tapes containing data acquired at GSFC and tapes containing data acquired at VILSPA are duplicated and shipped to the SERC along with the printout from the utility program (TAPESCAN) containing a portion of the image header for each file.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Archival Data Tape containing VILSPA images reprocessed at GSFC

FORM: Magnetic Tape (6250 bpi, VBS format); Printout

FORMAT:

SEE APPENDIX: C for Tape Format; F for TAPESCAN Format

FROM: National Space Science Data Center
IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD AND FREQUENCY: Air freight, within three months of completion of image processing.

ADDITIONAL INFORMATION: Each 6250 bpi tape generated by NSSDC from the GSFC reprocessed data duplicated and shipped to ESA with the printout from a utility program (TAPESCAN) containing a portion of the image header for each file.

LOGS

Logs are maintained at both observatories. These logs list the object observed, the Guest Observer's program identification code, position, comments, exposure times etc. for each observation made with the IUE. The logs are distributed by GSFC to the scientific communities associated with GSFC, ESA, and the SERC.

Distributed logs contain a footnote stating that releasable observations will be available upon request to the data centers. With the addition of that footnote, the observatory log fulfills the requirement for publication of a list of IUE observations available at the data centers, as required by the memorandum of understanding.

The printed merged logs explicitly flag all observations which are not releasable on the day of generation with an asterisk in the field immediately adjacent to the date of processing. This field may also contain some of the following pieces of information. Images that are available from the data centers only as raw data are flagged with an R and images for which data have been lost and are not available from the data centers are flagged with an L. At times, an image is reprocessed by the station that did not acquire it and the resulting data are archived. These images are flagged with the first letter of the processing station (G or V) (e.g. an image originally acquired at VILSPA and for which the data centers contain data processed at GSFC, would be flagged with a G).

The agencies have agreed to guarantee the accuracy of certain critical fields and have agreed upon defaults for these fields. This information has been included as part of Appendix G.

At VILSPA, the ESA and SERC observations are combined into a VILSPA Observatory Log. At GSFC IUESOC, the GSFC and VILSPA Observatory logs are merged into a composite log.

Observatory logs generated at GSFC are sorted by one of three primary sorts: right ascension, object classification or time of observation. Logs sorted by right ascension have successive subordinate sorts by program identification, time of observation, camera, image sequence number and object class. Associated with logs sorted by right ascension are logs containing solar system objects (object classes one through nine). Solar system logs are sorted by object class with successive subordinate sorts by object name, time of observation, camera and image sequence number. Logs sorted by object classification have successive subordinate sorts by right ascension, day of observation, camera and image sequence number. Logs sorted by time of observation have successive subordinate sorts by camera and image sequence number.

The overall schedule for major observatory logs and the merged log is shown on the next page. The annual merged log production is keyed to observational epochs of one calendar year beginning each April.

LOGS ORIGINATING AT GSFC

	TIME PERIOD	PREPARE & DIST.	PRIMARILY SORTED BY	CONTAINS
GSFC Monthly Log to ESA and SERC (Text)	One Month	Monthly	1) Time of Observation 2) Right Ascension	One Months Worth of GSFC Images
GSFC Log to ESA (VILSPA) (Tape)	Cumulative from Launch to Previous Month	Monthly	Time of Observation	File 1-GSFC Images Only File 2-VILSPA Images Processed at GSFC
Merged Log to SERC (Tape)	Cumulative from Launch to End of Previous Month for GSFC Images, what is Available for VILSPA Images	Monthly	Time of Observation	Merged GSFC and VILSPA Images
Annual Merged Log to ESA (Tapes, Text, & Microfiche)	Cumulative from Launch through March 31	Yearly in May	1) Right Ascension with Solar System Objects Separate (Tape, Text, Microfiche) 2) Object Classification (Tape, Text, Microfiche)	Merged GSFC and VILSPA Images and Preface Material
Annual Merged Log to SERC (Tape, Text & Microfiche)	Cumulative from Launch through March 31	Yearly in May	1) Right Ascension with Solar System Objects Separate (Text & Microfiche) 2) Object Classification (Text & Microfiche) 3) Camera & Image Sequence Number (Text) 4) Time of Observation (Tape)	Merged GSFC and VILSPA Images and Preface Material
Annual Merged Log to NSSDC (Text & Microfiche)	Cumulative from Launch through March 31	Yearly in May	1) Right Ascension with Solar System Objects Separate 2) Object Classification 3) Time of Observation	Merged GSFC and VILSPA Images and Preface Material

LOGS ORIGINATING AT VILSPA

	TIME PERIOD	PREPARE & DIST.	PRIMARILY SORTED BY	CONTAINS
VILSPA Log to GSFC (Printed)	Cumulative from April 1 through End of Previous Month	Monthly	1) Time of Observation 2) Stellar Coordinates 3) Object Type 4) Observing Programme 5) Camera & Image Number	VILSPA Images Only
VILSPA Log to GSFC (Tape)	Cumulative to End of Previous Month	Monthly	Time of Observation	VILSPA Images only except in September and January when merged log will be sent

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: GSFC Observatory Log

FORM: Tape

FORMAT:

SEE APPENDIX: G for Tape Format

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION: Log is cumulative from launch to the end of the previous month. Images on tape are ordered by time of observation. File one of the tape contains images acquired at GSFC. File two contains VILSPA images processed at GSFC.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Merged Observatory Log

FORM: Tape

FORMAT:

SEE APPENDIX: G for Tape Format

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION: Log contains images acquired at both GSFC and VILSPA cumulative from launch through the end of the previous month. Images are ordered by time of observation.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: VILSPA Observatory Log

FORM: Printed Listing and Tape

FORMAT:

SEE APPENDIX: I for Tape Format & Appendix J for the Listing Format

FROM: Villafranca Satellite Tracking Station
IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION: File one of the VILSPA Observatory log on tape contains both ESA and SERC observations cumulative since launch. Images on both files of the tape are sorted by time of observation. The VILSPA printed log contains the log information from both ESA and SERC observations cumulative for the current year (April 1 to March 31). The printed log contains five sorts: time of observation, stellar coordinates, object type, observing programme, and camera and image number.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Annual Merged Log

FORM: Three Printed Listings (XEROX Bound Output) and three sets of Positive and Negative Microfiche

FORMAT:

SEE APPENDIX: H

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: NSSDC
Attn: IUE Data Acquisition Scientist
Code 633.8
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD AND FREQUENCY: Internal GSFC mail annually in May

ADDITIONAL INFORMATION: Log is cumulative from launch through March 31 of the current year. Images on one set of listing and microfiche are sorted by right ascension, except for solar system objects (object classes 01-09), which are listed separately at the end of log. The images on the second set of listing and microfiche are sorted by object classification. The images on the third set of listing and microfiche are sorted by time of observation.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Annual Merged Log

FORM: Two Printed Listings (XEROX Bound Output), two sets of Positive and Negative Microfiche and two Tapes

FORMAT:

SEE APPENDIX: G for Tape Format & H for Listing and Microfiche Format

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, annually in May

ADDITIONAL INFORMATION: Logs are cumulative from launch through March 31. One tape contains four files: file one contains the general log preface; file two contains all non-solar system objects sorted by right ascension; file three contains a brief preface for solar system objects; file four contains solar system objects. The second tape contains two files: file one contains the general log preface; file two contains all objects sorted by object classification. Images on one listing and set of microfiche are sorted by right ascension, except for solar system objects (object class 01-09), which are listed separately at the end. Images on the second set of microfiche and listing are sorted by object classification.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Annual Merged Log

FORM: Three Printed Listings (XEROX Bound Output), two sets of Positive and Negative Microfiche and Tape

FORMAT:

SEE APPENDIX: G for Tape Format & H for Listing and Microfiche Format

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail, annually in May

ADDITIONAL INFORMATION: Log is cumulative from launch through March 31. Images on tape are ordered by time of observation. Images on one set of microfiche and printed listing are sorted by right ascension, except for solar system objects (object classes 01-09), which are listed separately at the end of the log. Images on the second set of microfiche and printed listing are sorted by object classification. Images on the third listing are sorted by camera and image sequence number.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: GSFC Monthly Observation Logs

FORM: Printout

FORMAT:

SEE APPENDIX: H

FROM: IUESOC (DMC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Observatory Controller
Apartado 54065,
28080 Madrid
SPAIN

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION: Monthly Observation Logs include a month's worth of observations. Listings are made in two forms:

a) images ordered by right ascension, and

b) images ordered by time of observation.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Data Base Discrepancy List

FORM: Printed Listing and Tape

FORMAT:

SEE APPENDIX: K for Tape and Listing Formats and for Discrepancy List Exchange Rules

FROM: IUESOC (DASS)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mailed when updates are prepared; bi-monthly

ADDITIONAL INFORMATION:

NEWSLETTERS

ESA and NASA each generates and distributes a newsletter covering its activities. The newsletters may contain such things as: observatory logs, Guest Observer schedules, discussion of pending changes, significant occurrences in the preceding period, and technical notes.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: IUE NASA Newsletter

FORM: Printed Document

FORMAT:

SEE APPENDIX:

FROM: IUESOC
IUE Newsletter Editor
Code 684.1
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: NASA Scientific Distribution List

Distribution List Provided by VILSPA Observatory Controller

Distribution List Provided by SERC IUE Support Team

TRANSMITTAL METHOD
AND FREQUENCY: Mail, approximately three times per year

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: IUE ESA Newsletter

FORM: Printed Document

FORMAT:

SEE APPENDIX:

FROM: Villafranca Satellite Tracking Station
IUE Newsletter Editor
Apartado 54065,
28080 Madrid
SPAIN

TO: ESA Scientific Distribution List

Distribution List Provided by GSFC Observatory Manager

Distribution List Provided by SERC IUE Support Team

TRANSMITTAL METHOD
AND FREQUENCY: Mail, quarterly

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Advance Copies of Relevant Articles for any Agency Newsletter

FORM: Typewritten

FORMAT: Camera Ready Copy

SEE APPENDIX:

FROM: Originating Agency
IUE Newsletter Editor

TO: IUE SOC
IUE Newsletter Editor
Code 684.1
NASA/Goddard Space Flight Center
Greenbelt, MD. 20771
U.S.A.

Villafranca Satellite Tracking Station
IUE Newsletter Editor
Apartado 54065,
28080 Madrid
Spain

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as generated

ADDITIONAL INFORMATION:

CALIBRATIONS

Magnetic tapes, photowrites, calibration logs, and astronomers' analyses are exchanged between GSFC and VILSPA for maintaining calibration of the IUE instrument.

An accounting of spacecraft time spent for Calibration and Engineering purposes is maintained by each observatory and exchanged at the Three Agency Meeting.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Wavelength and Geometric Calibration Data

FORM: Magnetic Tape and Astronomer Analyses

FORMAT: Standard IUESIPS Data File Format

SEE APPENDIX:

FROM: IUESOC (IPC)
Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as need arises

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Intensity Transfer Function (ITF)

FORM: Magnetic Tape and Astronomer Analyses

FORMAT: Standard IUESIPS Data File Format

SEE APPENDIX:

FROM: IUESOC (TOC)
Resident Astronomer for Image Calibration
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as the need arises

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Maintenance Shift Accomplishment Records

FORM: Memorandum

FORMAT: Describes observations and tests carried out during the maintenance shift.

SEE APPENDIX:

FROM IUESOC (TOC)
OR Attn: GSFC Calibration Committee Member
TO: Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO Villafranca Satellite Tracking Station
OR Attn: ESA & SERC Calibration Committee Members
FROM: Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Facsimile, at the conclusion of the maintenance shift.

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Spacecraft Calibration & Engineering Time Accounting

FORM: Memorandum

FORMAT:

SEE APPENDIX:

FROM: IUEOCC
OR Attn: IUEPOD
TO: Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
OR Attn: Observatory Controller
FROM: SERC/VILSPA Resident Astronomers
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: FAX quarterly

ADDITIONAL INFORMATION: The VILSPA memorandum provides VILSPA monthly use. The GSFC memorandum provides GSFC monthly use and cumulative total time for VILSPA and GSFC. A summary will be provided for each Three-Agency meeting.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Instrument Engineering Images and Processed Calibration Spectra

FORM: Magnetic Tapes

FORMAT: 1600 bpi, standard Guest Observer Tape Format

SEE APPENDIX:

FROM: IUESOC (TOC)
Resident Astronomer for Calibration
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: ESA Resident Astronomer for Calibration
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as generated

ADDITIONAL INFORMATION: Also included as part of the package are:

Copies of the relevant observing scripts
Labelprint for the tape(s)
200 μm photowrites of the raw images
100 μm photowrites of the processed images
Copies of a log of calibration spectra

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Instrument Engineering Images and Processed Calibration Spectra

FORM: Magnetic Tapes

FORMAT: 800 bpi, standard Guest Observer Tape Format

SEE APPENDIX:

FROM: Villafranca Satellite Tracking Station
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (TOC)
Attn: Resident Astronomer for Calibration
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as generated

ADDITIONAL INFORMATION: Also included as part of the package:

Copies of the appropriate "Daily Operations Log"
Labelprint for the tape(s)
Tape Contents Listing for tape(s)
200 μm photowrites of the raw images
100 μm photowrites of the processed images

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Partial Read Evaluation Images

FORM: Photowrites; List of Images

FORMAT: Original negative with 200 μm pixel size

SEE APPENDIX:

FROM: IUESOC (TOC)
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: SERC Resident Scientist
Apartado 54065,
28080 Madrid
SPAIN

Deputy IUE Project Manager
Rutherford Appleton Laboratory
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as generated

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Partial Read Evaluation Images

FORM: Photowrites; List of Images

FORMAT: Original negative with 200 μm pixel size

SEE APPENDIX:

FROM: Villafranca Satellite Tracking Station
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (TOC)
Attn: Resident Astronomer for Calibration
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as generated

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Absolute Sensitivity Functions

FORM: Printout

FORMAT:

SEE APPENDIX:

FROM: IUESOC (TOC)
OR Attn: Resident Astronomer for Calibration
TO: Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
OR Attn: ESA and SERC Calibration Committee Members
FROM: Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as need arises

ADDITIONAL INFORMATION:

SPECTRAL IMAGE PROCESSING SYSTEM

The IUE Spectral Image Processing System (SIPS) is updated at both ground stations, based upon the information exchanged between them.

The original SIPS package was developed at GSFC and provided to VILSPA for installation and use at that site.

The two image processing systems (GSFC and VILSPA) are maintained functionally equivalent. This functional equivalence of the two systems is checked on a roughly annual basis by performing byte-to-byte comparison of the output produced by identical images processed at the two installations.

Updates to the IUESIPS application programs are coordinated between both stations and implemented independently at the two locations. Changes affecting IUESIPS output products are documented in the Chronology of Modification to IUESIPS Output Products; changes affecting IUESIPS output tapes are documented in more detail in the Time History of IUESIPS Configurations. These documents are coordinated between both stations and are available to IUE Guest Observers via the NASA and ESA IUE Newsletters.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: IUESIPS Production Processing Modification Report (PPMR)

FORM: Standard Form

FORMAT:

SEE APPENDIX: L

FROM: IUESOC (IPC)
Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: VILSPA Image Processing Software Modification Report

FORM: Standard Form

FORMAT:

SEE APPENDIX: M

FROM: Villafranca Satellite Tracking Station
IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (IPC)
Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail, monthly

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Updates to Chronology of Modification to IUESIPS Output Products

FORM: Written Documents

FORMAT:

SEE APPENDIX:

FROM: IUESOC (IPC)
Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TRANSMITTAL METHOD
AMD FREQUENCY: Hand delivered at each IUE Three Agency Coordination Meeting (roughly 6 month intervals).

ADDITIONAL INFORMATION: Provided for update by VILSPA in preparation for publication.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Updates to Chronology of Modification to IUESIPS Output Products

FORM: Written Documents

FORMAT:

SEE APPENDIX:

FROM: Villafranca Satellite Tracking Station
IGCS Manager
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (IPC)
Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD
AMD FREQUENCY: Mailed as updated every 6 months.

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Updates to Time History of IUESIPS Configuration

FORM: Written Documents

FORMAT:

SEE APPENDIX:

FROM: IUESOC (IPC)
OR Task Leader for Image Processing
TO: Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
OR Attn: Observatory Controller and IGCS Manager
FROM: Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AMD FREQUENCY: Mailed when updates are prepared, as appropriate.

ADDITIONAL INFORMATION: Provided for update by VILSPA in preparation for publication.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Updates to Time History of IUESIPS Configuration

FORM: Written Documents

FORMAT:

SEE APPENDIX:

FROM: Villafranca Satellite Tracking Station
Observatory Controller
Apartado 54065,
28080 Madrid
SPAIN

TO: IUESOC (IPC)
Attn: Task Leader for Image Processing
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TRANSMITTAL METHOD
AMD FREQUENCY: Mailed when updates are prepared.

ADDITIONAL INFORMATION:

OPERATIONS SOFTWARE CHANGES

The IUE operations software system is designed, tested, and placed into operation at GSFC. When it is declared satisfactory for operations, it is supplied to VILSPA for adaptation to their hardware configuration. As new (updated) systems are built, complete deliveries are made to VILSPA. The following are contained in each system delivery:

a. Magnetic Tapes

   1. Database source tape at 1600 bpi, reflecting the current level used in the system build.

   2. Source and binary tapes at 1600 bpi, all files.

   3. Miscellaneous Items

      (a) Listing of SYSGEN deck
      (b) One-liner program descriptions
      (c) Memo describing system changes and Operations Manual updates.

The operations software system changes are controlled by the use of "Configuration Change Request" (CCR) and "Discrepancy Report" (DR) forms. These forms are numbered sequentially by IUEOCC and supplied to the software contractor for implementation. A review committee of GSFC operations and software development personnel reviews the CCRs and DRs periodically to establish priorities for implementation and status review. Copies of CCRs, DRs, and the priority list are provided to VILSPA. VILSPA inputs to the CCRs, DRs, and priority list are coordinated informally.

Operations Procedures (PROCs) software are also maintained at GSFC and delivered to VILSPA on computer magnetic tape. These procedures are updated as required by the IUE operations personnel. VILSPA provides inputs to GSFC on any PROC changes they desire. When the PROC files have been modified and fully tested, they are released to both the IUEOCC and VILSPA for operations.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: GSFC Discrepancy Report (DR)

FORM: Standard Form

FORMAT:

SEE APPENDIX: N

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Operations Engineer & Data Processing Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as required

ADDITIONAL INFORMATION: Priority list showing desired order of implementation of DRs & CCRs is also sent.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: MOD Configuration Change Request (CCR)

FORM: Standard Form

FORMAT:

SEE APPENDIX: O

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Operations Engineer & Data Processing Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Mail, as required

ADDITIONAL INFORMATION: Priority list showing desired order of implementation of DRs & CCRs is also sent.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Operations Procedures (PROC) Updates

FORM: Magnetic Tape

FORMAT:

SEE APPENDIX:

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Operations Engineer, Data Processing Manager,
and Observatory Controller
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Air freight, after generation and adequate testing.

ADDITIONAL INFORMATION: Description of changes in the PROC operation and techniques of usage are to accompany the tape.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Sigma-9 Control Center Software System Revisions

FORM: Magnetic Tape

FORMAT:

SEE APPENDIX:

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Operations Engineer & Data Processing Manager
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD AND FREQUENCY: Air Freight, after generation and adequate testing

ADDITIONAL INFORMATION: Description of functional changes are to accompany the tape.

Day-to-day spacecraft operations by two ground stations requires that standard operating procedures need to be maintained and events should be reported in a timely manner.

The Flight Operations Manual (FOM) provides a major single-reference source for IUE operations policy, Flight Operations Directives (FODs), the IUE spacecraft telemetry and command handbook, and other operation information. The FOM was published by GSFC and is updated as required. The FOD's are updated routinely and are distributed to the operating locations as major operating instructions are changed. Spacecraft anomaly reports for reporting anomalous events are issued as needed. Handover information at the time spacecraft command is exchanged between stations assures safe and efficient daily operations.

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Flight Operations Directive (FOD)

FORM: Standard Form

FORMAT:

SEE APPENDIX: P

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Operations Engineer
Apartado 54065,
28080 Madrid
SPAIN

TRANSMITTAL METHOD
AND FREQUENCY: Facsimile and/or mail, as required

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Flight Operations Manual (FOM) Updates

FORM: New Pages

FORMAT:

SEE APPENDIX:

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Established Distribution List:

IUEPOD (2 copies)
IUEOCC (7 copies)
IUESOC (7 copies)
CCOM (1 copy)
VILSPA (1 copy)

TRANSMITTAL METHOD
AND FREQUENCY: Mail as generated

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Spacecraft Anomaly Report (SCAR)

FORM: Standard Form

FORMAT:

SEE APPENDIX: Q

FROM: IUEOCC
OR Attn: IUEPOD
TO: Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
OR Attn: Operations Engineer
FROM: Apartado 54065,
28080 Madrid
Spain

TRANSMITTAL METHOD
AND FREQUENCY: Mail as generated

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Handover Information

FORM: Verbal

FORMAT:

SEE APPENDIX:

FROM: IUESOC/IUEOCC
OR RA/TO/OD on Duty
TO:

TO: Villafranca Satellite Tracking Station
OR RA/TO/OD on Duty
FROM:

TRANSMITTAL METHOD
AND FREQUENCY: Daily by SCAMA or phone.

ADDITIONAL INFORMATION: Information to be exchanged is set by FOD and three agencies as needs require.

IUE
THREE AGENCY
~~INFORMATION INTERCHANGE~~

PRODUCT: Handover Time Accounting

FORM: Typewritten

FORMAT:

SEE APPENDIX:

FROM: IUESOC (TOC)
Resident Astronomer for Observatory Scheduling
Code 684.9
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Three Agency Meeting
Program Chairman

TRANSMITTAL METHOD
AND FREQUENCY: VILSPA and GSFC summaries should be prepared immediately prior to each Three Agency Meeting for presentation at that meeting.

ADDITIONAL INFORMATION:

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Radiation Strip Charts

FORM: Charts

FORMAT:

SEE APPENDIX: R for Sample Chart

FROM: IUEOCC
IUEPOD
Code 602
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

TO: Villafranca Satellite Tracking Station
Attn: Operations Engineer
Apartado 54065
28080 Madrid
SPAIN

IUE Resident Scientist/UK
Rutherford & Appleton Laboratory
IUE Support Team
Building 25
Chilton, Didcot
Oxforshire OX 11 OQX
UNITED KINGDOM

TRANSMITTAL METHOD
AND FREQUENCY: Mail; every two weeks

ADDITIONAL INFORMATION:

SCIENTIFIC AND TECHNICAL REPORTS

IUE
THREE AGENCY
INFORMATION INTERCHANGE

PRODUCT: Scientific and Technical Reports

FORM:

FORMAT:

SEE APPENDIX:

FROM: IUESOC
IUE Operations Scientist
Code 684.1
NASA/Goddard Space Flight Center
Greenbelt, MD 20771
U.S.A.

Villafranca Satellite Tracking Station
Attn: Observatory Controller
Apartado 54065, Madrid
SPAIN

Rutherford Appleton Laboratory
IUE Support Team
Building R25
Chilton, Didcot
Oxfordshire OX 11 0QX
UNITED KINGDOM

TO: Other Two Agencies

TRANSMITTAL METHOD
AND FREQUENCY: Mail as generated

ADDITIONAL INFORMATION: For inclusion in data libraries.

APPENDIX A

FORMAT OF SOC GENERATED ARCHIVAL TAPES

DENSITY: ---------- 1600 bpi

RECORD FORMAT: ---------- VB (VARIABLE BLOCKED)

BLOCK SIZE: ---------- 32,760 bytes

LOGICAL RECORD LENGTH: ---------- 32,756 bytes

Within the logical records, the data content is as specified in the documentation given to the Guest Observer and to the National Space Science Data Center (NSSDC).

APPENDIX B

FORMAT OF VILSPA GENERATED ARCHIVAL TAPES

DENSITY: ---------- 1600 bpi

Guest Observers Record Format

APPENDIX C

FORMAT OF NSSDC GENERATED ARCHIVAL TAPES

DENSITY: ---------- 6250 bpi

RECORD FORMAT: ---------- VBS (VARIABLE, BLOCKED WITH SPANNED LOGICAL RECORDS)

BLOCK SIZE: ---------- 32,000 bytes

LOGICAL RECORD SIZE: ---------- 31,996 bytes

Within the logical records, the data content is as specified in the documentation given to Guest Observers and to the National Space Science Data Center (NSSDC).

APPENDIX D

IUESOC ARCHIVAL TAPE INFORMATION LISTING FORMAT

ORDERED BY MONTHLY DELIVERY DATE AND TAPE AND FILE NUMBER

03/12/84 IUE - NASA OBSERVATORY ARCHIVE TAPE DELIVERY RECORD

IMAGE SEQ NUM	PROG ID	ST ID		OBJECT ID	GO TAPE	ARCH FILE	DEL TO NSSDC YR/DAY	PROC DATE YR/DAY	SPECTRA COMP YR/DAY	SORT CODE
LWP 2765	PHCAL	G		TFLOOD	NA	/ -	84/090	84/046	84/046	1W
SWP 22248	PHCAL	G		TFLOOD	NA	/ -	84/090	84/046	84/046	1W
LWR 1060	IUESO	G			UQ4618D	/21-21	84/090	83/063	/	1 C
LWR 1090	IUESO	G			UQ4618D	/22-22	84/090	83/063	/	1 C
LWR 1091	IUESO	G			UQ4618D	/23-23	84/090	83/063	/	1 C
LWR 1092	IUESO	G			UQ4618D	/24-24	84/090	83/063	/	1 C
LWR 1093	IUESO	G			UQ4618D	/25-25	84/090	83/063	/	1 C
LWR 1094	IUESO	G			UQ4618D	/26-26	84/090	83/063	/	1 C
LWR 1095	IUESO	G			UQ4618D	/27-27	84/090	83/063	/	1 C
LWP 2810	CSFBW	G	HD	22049	WF2703B	/ 2- 5	84/090	84/052	/	1
LWP 2813	CSFBW	G	HD	137613	WF2703B	/ 6- 9	84/090	84/052	/	1
LWP 2814	CSFBW	G	HD	108903	WF2703B	/10-13	84/090	84/052	/	1
LWP 2805	CSFBW	G	HD	62509	WF2703B	/14-17	84/090	84/052	/	1
LWP 2803	CSFBW	G	HD	6860	WF2703B	/18-21	84/090	84/052	/	1
SWP 22305	FE237	G	NGC	1365	WF2703B	/22-25	84/090	84/052	/	1
SWP 22307	QSFMS	G	Q	1641+399	WF2703B	/26-29	84/090	84/052	/	1
LWP 2802	CSFBW	G	HD	19058	WF2703B	/30-33	84/090	84/052	/	1
SWP 22294	VVFBC	G	HD	31964	WF2776A	/ 2- 5	84/090	84/052	/	1
LWR 17255	VVFBC	G	HD	192909	WF2776A	/ 6- 8	84/090	84/052	/	1
SWP 22298	NPFHW	G	NGC	3132	WF2776A	/ 9-11	84/090	84/052	/	1
SWP 22292	VVFBC	G	HD	31964	WF9909E	/ 2- 4	84/090	84/051	/	1
LWR 17252	VVFBC	G	HD	31964	WF9909E	/ 5- 7	84/090	84/051	/	1
LWR 17253	VVFBC	G	HD	31964	WF9909E	/ 8-10	84/090	84/051	/	1
LWP 2755	OD29K	G	HD	19832	WF9915I	/ 2- 5	84/090	84/043	/	1D

APPENDIX E

IUESOC PHOTOWRITE ARCHIVAL NEGATIVE INFORMATION LISTING FORMAT

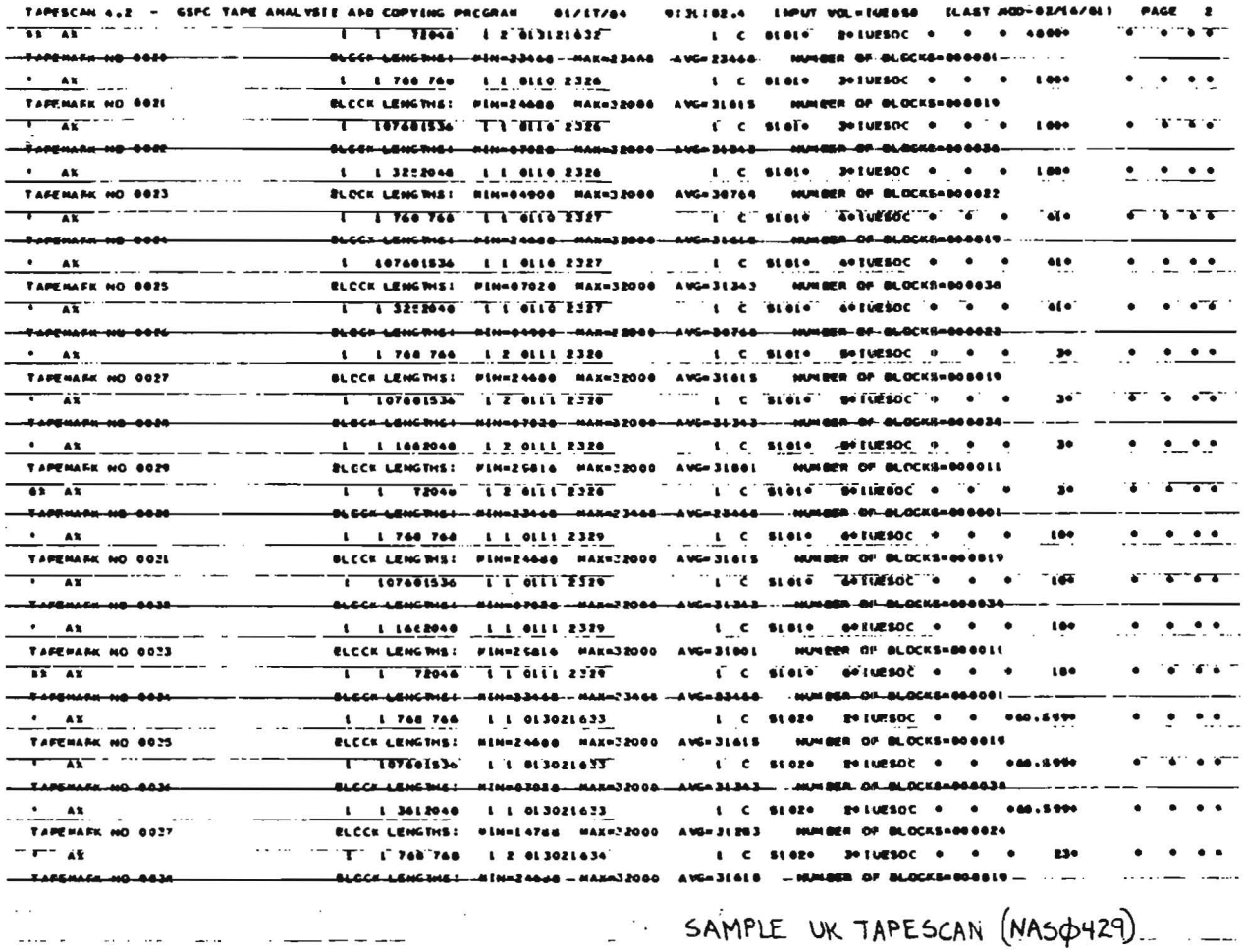
ORDERED BY MONTHLY DELIVERY DATE AND CAMERA AND IMAGE SEQUENCE NUMBER

03/02/84 IUE - NASA OBSERVATORY PHOTOWRITE DELIVERY RECORD

IMAGE SEQ NUM		OBJECT ID	PROG ID	ST ID	SPECTRA COMP YR/DAY	SORT CODE		DEL TO NSSDC YR/DAY	PHOTOWRITE TAPE	FILE
LWP	1773	NULL	PHCAL	G	84/047	1	1	84/090	WF9009K/	2- 3
LWP	1774	TFLOOD	PHCAL	G	84/047	1	1	84/090	WF9009K/	4- 5
LWP	1775	TFLOOD	PHCAL	G	84/047	1	1	84/090	WF9009K/	6- 7
LWP	1777	NULL	PHCAL	G	84/047	1	1	84/090	WF9009K/	8- 9
LWP	1778	NULL	PHCAL	G	84/047	1	1	84/090	WF9009K/	10-11
LWP	1779	TFLOOD	PHCAL	G	84/047	1	1	84/090	WF9009K/	12-13
LWP	1780	TFLOOD	PHCAL	G	84/047	1	1	84/090	WF9917E/	2- 3
LWP	1796 HD	149438	PHCAL	G	84/047	1	1	84/090	WF2723E/	2- 4
LWP	2721	TFLOOD	PHCAL	G	84/044	1W		84/090	NA	/ -
LWP	2721	NAVCAL	PHCAL	G	84/044	2W		84/090	WF9971D/	2- 4
LWP	2722	TFLOOD	PHCAL	G	84/044	1W		84/090	NA	/ -
LWP	2722	NAVCAL	PHCAL	G	84/044	2W		84/090	WF9971D/	5- 7
LWP	2723	TFLOOD	PHCAL	G	84/047	1		84/090	WF9953H/	2- 3
LWP	2730 NGC	604	NDFBD	G	84/046	1		84/090	WF2761D/	5- 7
LWP	2744	NULL	PHCAL	G	84/047	1		84/090	WF2730G/	12-14
LWP	2746 HD	149418	IGFJR	G	84/047	1		84/090	WF9096C/	5- 7
LWP	2747 HD	7672	RSFTS	G	84/047	1		84/090	WF9097A/	5- 7
LWP	2748 HD	39587	STFTS	G	84/047	1		84/090	WQ4172C/	5- 7
LWP	2749 HD	39587	STFTS	G	84/047	1		84/090	WQ4172C/	8-10
LWP	2750 HD	39587	STFTS	G	84/047	1		84/090	WQ4172C/	11-13
LWP	2753 HD	15089	OD29K	G	84/052	1		84/090	WF9907I/	5- 7
LWP	2754 HD	19832	OD29K	G	84/052	1		84/090	WF9907I/	11-13
LWP	2756 HD	19832	OD29K	G	84/052	1D		84/090	WF9033K/	8-10
LWP	2756 HD	19832	OD29K	G	84/052	2D		84/090	WF9033K/	8-10
LWP	2757 HD	15089	OD29K	G	84/052	2D		84/090	WF2784A/	5- 7
LWP	2757 HD	15089	OD29K	G	84/052	1D		84/090	WF2784A/	5- 7
LWP	2760 HD	39587	STFTS	G	84/052	1		84/090	WF2739K/	2- 4
LWP	2761 HD	39587	STFTS	G	84/052	1		84/090	WF2739K/	5- 7
LWP	2762 HD	39587	STFTS	G	84/052	1		84/090	WF2739K/	8-10
LWP	2773 HD	10581	IGFJR	G	84/052	1		84/090	WQ4199C/	5- 7
LWR	14974 HD	93521	PHCAL	G	84/047	1	1	84/090	WF9917E/	4- 6
LWR	17060	NULL	PHCAL	G	84/041	1		84/090	NA	/ -
LWR	17061	NULL	PHCAL	G	/	1		84/090	NA	/ -
LWR	17093	NULL	PHCAL	G	84/030	1		84/090	NA	/ -

APPENDIX F

SAMPLE TAPE SCAN OUTPUT



SAMPLE UK TAPESCAN (NASϕ429)

APPENDIX G

GSFC OBSERVATORY LOG AND MERGED LOG TAPE FORMAT

Fields marked * are "critical" fields.

BEGIN BYTE	END BYTE	FIELD LENGTH	FIELD NAME	VILSPA DEFAULT	GSFC DEFAULT
1	9	9	*DATE/TIME OF OBSERVATION		
1	2	2	LAST TWO DIGITS OF YEAR	-	-
3	5	3	DAY OF YEAR	-	-
6	7	2	HOUR OF DAY	-	-
8	9	2	MINUTE OF HOUR	-	-
10	12	3	*CAMERA	-	-
13	18	6	*IMAGE SEQUENCE NUMBER	-	-
19	19	1	*APERATURE	-	BLANK
20	20	1	*DISPERSION	BLANK	BLANK
21	26	6	SORT CODE		
21	21	1	SORT CODE (FIRST BYTE)	n/a	1
22	22	1	SORT CODE (SECOND BYTE)	n/a	BLANK
23	23	1	SORT CODE (THIRD BYTE)	n/a	BLANK
24	24	1	SORT CODE (FOURTH BYTE)	n/a	BLANK
25	25	1	SORT CODE (FIFTH BYTE)	n/a	BLANK
26	26	1	SORT CODE (SIXTH BYTE)	n/a	BLANK
27	31	5	*PROGRAM ID	BLANK	-
32	39	8	OBJECT ID	BLANK	BLANK
40	46	7	*RIGHT ASCENSION		
40	41	2	HOURS	ZERO	BLANK
42	43	2	MINUTES	ZERO	BLANK
44	45	2	SECONDS	ZERO	BLANK
46	46	1	TENTHS	ZERO	BLANK
47	53	7	*DECLINATION		
47	47	1	SIGN	BLANK	BLANK
48	49	2	DEGREES	ZERO	BLANK
50	51	2	MINUTES	ZERO	BLANK
52	53	2	SECONDS	ZERO	BLANK
54	58	5	MAGNITUDE	999.9	BLANK
59	62	4	SPECTRAL TYPE	n/a	BLANK
63	64	2	LUMINOSITY CLASS	n/a	BLANK
65	66	2	*OBJECT CLASS	TBD	-
67	71	5	B-V E(B-V)	n/a	BLANK
72	72	1	*LARGE APERTURE STATUS	O(Open)	BLANK
73	77	5	*LENGTH OF EXPOSURE		
73	75	3	MINUTE	ZERO	ZERO
76	77	2	SECOND	ZERO	ZERO
78	78	1	*ACQUIRING STATION	-	-
79	98	20	COMMENTS	BLANK	BLANK
99	106	8	G.O. NAME	BLANK	BLANK
107	111	5	*PROCESSING DATE	ZERO	BLANK
112	116	5	*FES COUNTS	ZERO	BLANK
117	123	7	SOC TAPE/FILE	n/a	BLANK
124	128	5	SOC TAPE COMPLETE YR/DAY	n/a	BLANK
129	129	1	BYTE 1 OF VILSPA 10 BYTE OBJID	BLANK	n/a
130	130	1	REPROCESSING REASON	n/a	BLANK
131	134	4	REPROCESSING REQUEST NUMBER	n/a	BLANK
135	145	11	PHOTOWRITE TAPE/FILE	n/a	BLANK
146	150	5	PHOTOWRITE COMPLETE - YR/DAY	n/a	BLANK
151	151	1	BYTE 2 OF VILSPA 10 BYTE OBJID	BLANK	n/a
152	162	11	CALCOMP TAPE/FILE	n/a	BLANK
163	167	5	CALCOMP COMPLETE - YR/DAY	n/a	BLANK
168	168	1	STATUS OF CALCOMP TAPE	n/a	BLANK
169	179	11	GO TAPE/FILE	n/a	BLANK
180	184	5	GO TAPE COMPLETE - YR/DAY	n/a	BLANK
185	185	1	*PROCESSING STATION	-	BLANK
186	190	5	SPECTRAL PACKAGE COMPLETE DATE	n/a	BLANK
191	195	5	*RELEASE DATE	ZERO	BLANK
196	200	5	NSSDC SHIPPING DATE	n/a	BLANK
201	205	5	PHOTOWRITE TO NSSDC	n/a	BLANK
206	216	11	GO ARCHIVAL TAPE/FILE	n/a	BLANK
217	221	5	NSSDC REBLOCKING DATE	n/a	BLANK
222	226	5	DELIVERY DATE TO NSSDC	n/a	BLANK
227	234	8	*NSSDC REBLOCKED TAPE/FILE	n/a	BLANK
235	246	12	NSSDC OBJECT ID	n/a	BLANK
247	248	2	*FES MODE	BLANK	BLANK
249	251	3	SEQUENTIAL NUMBER (NOT USED)	n/a	BLANK
252	252	1	CATALOGUE SOURCE	n/a	BLANK

APPENDIX H

GSFC OBSERVATORY LOG PRINTOUT FORMAT AND MERGED LOG PRINTOUT AND MICROFICHE FORMAT

OBJECT ID	PROG ID	TARGET RA HR MN SEC	TARGET DEC DEG MN SC	VIS MAG	B-V OR E(B-V)	SPEC TYPE	OB CL	FES MODE & COUNTS	IMAGE SEQUENCE NUMBER	D A L	EXPOSE TIME MN SC	OBSERVATION DATE YRDAY HR MN	S T A	PROC DATE YRDAY	OBSERVER'S COMMENTS
HD 218393	CBMJP	23 04 51.	49 55	6.85			21	FO 5275	SWP 3319	LSC	000 10	78316 10 21	G	78330	
HD 218383	CBMJP	23 04 51.	49 55	6.85	E 0.3		26	FO 5316	LWR 2930	LLO	000 50	78318 01 24	G	78330	
HD 218393	CBMJP	23 04 51.	49 55	6.85	E 0.3		26	FO	LWR 2930	LSC	000 40	78318 01 29	G	78330	
HD 218383	CBMJP	23 04 51.	49 55	6.85	E 0.3		26	FO 5366	SWP 3336	LLO	000 45	78318 01 34	G	78319	
HD 218393	CBMJP	23 04 51.	48 55	6.85	E 0.3		26	FO	SWP 3336	LSC	000 35	78318 01 39	G	78318	
HD218393	AH102	23 04 51.0	+48 55 00	+06.8			20		SWP 6834	HLO	060 00	78283 20 20	V	00000	551
HD218393	AH102	23 04 51.0	+49 55 00	+06.8			20		LWR 5892	LLC	002 00	79293 21 24	V	00000	703 603
HD218383	AH102	23 04 51.0	+48 55 00	+06.8			20		LWR 5892	LSC	001 30	79293 21 28	V	00000	703 603
HD 218393	CBCGP	23 04 51.0	+49 55 17	6.80	E0.30	B3 V	26	FO 5551	SWP 8635	HLO	060 00	80093 19 59	G	80096	E=160,C=205,B=43
HD 218383	CBCGP	23 04 51.0	+49 55 17	6.80	E0.3	B3 V	26	FO 5488	LWR 7382	HLO	020 00	80093 21 06	G	80096	E=194,C=170,B=33
HD 218393	CBCMP	23 04 51.0	+49 55	6.8	E0.25	B3 V	60	FO 5875	LWR 7829	LLO	000 39	80144 11 52	G	80146	C=1.5X,B=25
HD 218393	CBCMP	23 04 51.0	+49 55	6.8	E0.25	B3 V	60	FO 5600	SWP 9082	LLO	000 44	80144 11 58	G	80146	E=120,C=120,B=20
HD 218393	CBDMP	23 04 51.0	+48 55	6.8	E0.15	B3 V	60	FO 4668	LWR 11212	HLO	015 00	81214 05 28	G	81214	E=115,C=105,B=32
HD 218383	CBDMP	23 04 51.0	+48 55	6.8	E0.15	B3 V	60	FO 4576	SWP 14623	HLO	045 00	81214 05 56	G	81214	E=134,C=85,B=38
HD 218393	CBFMP	23 04 51.0	+49 55 00	6.8	E0.15	B3 V	66	FO 4836	SWP 21431	HLO	060 00	83306 06 44	G	83306	E=1822,C=150,B=34
HD 218383	CBFMP	23 04 51.0	+49 55 00	6.8	E0.15	B3 V	66	FO 4703	LWP 2196	HLO	030 00	83306 07 50	G	83307	E=231,C=140,B=47
HD218393	EA166	23 04 51.0	+48 55 00	+06.8			26		SWP 17841	HLO	080 00	82245 19 46	V	00000	511
HD218393	EA166	23 04 51.0	+49 55 00	+06.8			26		LWR 14077	HLO	070 00	82245 21 09	V	00000	613 4-MIN-HTR
HD218393	EI113	23 04 51.0	+49 55 18	+06.8			26		SWP 18754	HLO	080 00	82342 11 39	V	82342	
HD218393	EI113	23 04 51.0	+49 55 18	+06.8			26		LWR 14809	HLO	070 00	82342 13 02	V	82342	779 PREP ABORT.NOT
HD218393	EI113	23 04 51.0	+49 55 18	+07.2			26		LWR 15370	HLO	060 00	83056 10 28	V	83056	453
HD 218393	BEBGP	23 04 51.1	+49 55 18	6.9	E0.3	B3 III	60	FO 5551	SWP 8602	HLO	015 00	80090 14 05	G	80091	C=80,B=30
HD 218383	BEBGP	23 04 51.1	+49 55 18	6.8	E0.3	B3 III	60	FO 5555	LWR 7344	HLO	008 29	80090 14 39	G	80091	E=123,C=115,B=30
HD 218383	BEBGP	23 04 51.1	+49 55 18	6.8	E0.3	B3 III	60	FO 4585	SWP 8603	HLO	045 00	80090 15 06	G	80091	E=183,C=160,B=35
HD 218393	CBCGP	23 04 51.1	+49 55 18	6.8	E0.30	B3 V	60	FO 5455	SWP 9979	HLO	060 00	80245 09 53	G	80249	E=180,C=160,B=65
HD 218393	CBCGP	23 04 51.1	+49 55 18	6.8	E0.30	B3 V	60	FO 5373	LWR 8681	HLO	027 00	80245 10 58	G	80249	E=191,C=160,B=40
HD 218393	CBCGP	23 04 51.1	+49 55 18	6.8	E0.20	B3 V	60	5103	SWP 13357	HLO	060 00	81056 14 32	G	81057	E=154,C=165,B=35
HD 218393	MLERH	23 04 51.1	+49 55 18	6.8		B3 V	60	FO 4577	LWR 14260	HLO	020 00	82268 14 22	G	82270	C=170,B=64
HD 218393	MLERH	23 04 51.1	+49 55 18	6.8		B3 V	60	FO 4593	SWP 18107	HLO	030 00	82268 14 53	G	82270	C=140,B=65
HD 218393	MLERH	23 04 51.1	+49 55 18	6.8		B3 V	60	FO 4487	LWR 14261	HLO	017 00	82268 15 28	G	82270	E=150,C=140,B=34
HD 218393	MLERH	23 04 51.1	+48 55 18	6.8		B3 V	60	FO 4398	SWP 18150	HLO	030 00	82272 08 23	G	82273	E=106,C=120,B=45
HD 218393	MLERH	23 04 51.1	+49 55 18	6.8		B3 V	80	FO 4568	LWR 14291	HLO	035 00	82272 10 06	G	82273	C=190,B=63
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 146	LWP 4551	LLO	025 00	84285 22 29	G*84286		E=88,C=68,B=38
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 148	LWP 4552	LLO	060 00	84285 23 29	G*84286		E=215,C=75,B=43
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 151	SWP 24160	LLO	150 00	84286 00 36	G*84286		B=42
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 157	LWP 4553	LLO	060 00	84286 03 12	G*84286		E=202,C=125,B=85
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 153	LWP 4554	LLO	050 00	84286 04 48	G*84286		E=214,C=142,B=105
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 171	LWP 4555	LLO	060 00	84286 06 12	G*84286		E=229,C=118,B=90
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 152	LWP 4556	LLO	040 00	84286 07 46	G*84286		E=168,C=115,B=90
GLS890	CCGAS	23 05 41.0	-15 40 48	10.6		M0 V	48	FO 165	LWP 4557	LLO	025 00	84286 09 03	G*84286		B=1.2X

APPENDIX I

VILSPA OBSERVATORY LOG TAPE FORMAT

VILSPA DATA BASE TAPE FORMAT

Ref: IUE Data Bank - Interchange Rules 2.1.B

The tape contains 1 file composed of 256 byte records. The code is EBCDIC. 16 records per tape block. Blocksize 4096 bytes. Each record is subdivided as follows:

Bytes	Description	Default
1-8	Date of Observation (YYMMDDHH).	Zeroes
9-9	Camera Nr.	"
10-14	Image Nr.	"
15-16	Apertures (S or/and L).	Blanks
17	Dispersion (H or L).	"
18	Large Aperture Status (O & C).	Open
19	Exposure Mode (T & M).	Blank
20	Reprocessing Nr.	Zeroes
21-26	Processing Date.	"
27-32	Release Date.	"
33-38	Exposure Start of Small Aperture.	"
39-44	Exposure Duration of Small Aperture.	"
45-50	Exposure Start of Large Aperture.	"
51-56	Exposure Duration of Large Apeture.	"
57-59	Exposure Classification Code.	Blanks
60-60	Observing Station (G or V).	"
61-61	Release Flag (* if released).	Blank
62-64	Free.	Blanks
65-69	Program ID.	"
70	Processing Station.	"
71-80	Object ID.	"
81-90	Homogeneous Object ID.	"
91-92	Object Type	None
93-99	Right Ascension (HHMMSSS).	Zeroes
100-105	Declination (HHMMSS).	"
106-106	Sign of Declination.	Blank
107-111	THDA.	Blank
112-116	FES Counts.	Zeroes
117-118	FES Tracking Mode.	Blank
119	Camera.	Zero
120-123	Internal D.B. Control Characters.	Blank
124-127	Magnitude in Hundredths.	9999
128	Sign of Magnitude.	Blank
129-187	Comments (3 1st. bytes = ECC of Small)	Blanks
188-192	Free. in case of both	"
193-206	Observer's Name.	Blanks
207-212	Tape ID.	"
213-215	File Start.	Zeroes
216-218	File End.	"
219-224	Sending Date to VILSPA.	"
225-240	Archive Comments.	Blanks
241-243	Internal Code to D.B.	"
244-255	Free.	"
256	Internal Code to D.B.	Blank

APPENDIX J

VILSPA OBSERVATORY LOG PRINTOUT FORMAT

VILSPA OBSERVATORY LOG TAPE FORMAT

The tape contains 1 file composed fo 132 byte records. The code is ASCII. 16 rec. per tape block. Block size 2112. Each record is subdivided as follows:

Bytes	Description
1 - 4	Blanks
5 - 9	Program ID
10 - 10	Blank
11 - 20	Object ID
21 - 21	Blank
22 - 23	Object Class
24 - 24	Blank
25 - 29	Magnitude
30 - 30	Blank
31 - 34	Right Ascension (HH.MM)
35 - 35	"." (Point)
36 - 38	Right Ascension (SSS)
39 - 39	Blank
40 - 40	Sign of Declination
41 - 44	Declination (DD.MM)
45 - 45	"." (Point)
46 - 47	Declination (SS)
48 - 48	Blank
49 - 49	Dispersion (H or L)
50 - 50	Blank
51 - 56	Camera and Image Number (CNNNNN)
57 - 57	Blank
58 - 59	Aperture (S or L)
60 - 60	Blank
61 - 61	Large Aperture Status (O = Open; C = Closed)
62 - 62	Blank
63 - 70	Date of Observation (YYMMDDHH)
71 - 71	Blank
72 - 77	Exposure Start of Small Aperture (HHMMSS)
78 - 78	Blank
79 - 84	Exposure Duration of Small Aperture (MMMMSS)
85 - 85	Blank
86 - 91	Exposure Start of Large Aperture (HHMMSS)
92 - 92	Blank
93 - 98	Exposure Duration of Large Aperture (MMMMSS)
99 - 99	Blank
100 -102	Exposure Classification Code
103 -103	Blank
104 -104	Station Code
105 -105	Blank
106 -132	Comments

APPENDIX K

DISCREPANCY LIST PRINTED FORMAT

DISCREPANCY LIST

ITEM	IMAGE NR	DISCREPANCY DESCRIPTION	PROPOSED SOLUTION	TYP	MOD DATE	CMPST	COMP
G0984003	LWR 10716	IS DIS=HIGH ?	CORRECTED	S	09/84	?	
G0984004	LWR 1031	VILSPA IMAGE DELETE GSFC RECORD TO BE ADDED ON 2ND FILE (G REPRO)	CORRECT AS ENTERED	S	09/84	?	
G0984005	SWP 16458	IS DIS=LOW?	CORRECTED	S	09/84	?	
G1184001	LWP 2355	DISPERSION DISAGREES WITH NUMBER OF FILES SHOULD BE LOW ?		S			
G1184002	LWR 13336	DISPERSION DISAGREES WITH NUMBER OF FILES SHOULD BE LOW ?		S			
G1184003	SWP 13831	MAGNITUDE IS WRONG ON D.B. IS 0.9 SHOULD BE 09.00 ?		S			
G1184004	LWR 10462	MAGNITUDE IS WRONG ON D.B. IS 0.9 SHOULD BE 09.00 ?		S			
G1184005	LWP 1284	MISSING TAPE ID.		N			
G1184006	LWR 1060	MISSING TAPE ID.		N			

APPENDIX K

DISCREPANCY LIST DATA BASE FORMAT

Discrepancy List Data Base Format

	Starting Column	Ending Column	Length
Blank	1	1	1
Item Number	2	9	8
Station ID (where image was taken)	2	2	1
Month & Year Discrepancy initially was sent	3	6	4
Sequential Number	7	9	3
Blank	10	10	1
Camera (e.g. LWP)	11	13	3
Image Sequence Number	14	18	5
1st. Line of Disc. Description	19	38	20
2nd " " " "	39	58	20
3rd " " " "	59	78	20
4th " " " "	79	98	20
1st. Line of Proposed Solution	99	118	20
2nd. " " " "	119	138	20
3rd. " " " "	139	158	20
4th. " " " "	159	178	20
Discrepancy Type	179	179	1
Completion Date	180	184	5
Question about Solution	185	185	1
Completion Flag	186	186	1
Blanks	187	252	66

The tape contains 1 file composed of 252 byte records. 28 records per block. Block-size 7056 bytes. The code is EBCDIC.

APPENDIX K

DISCREPANCY LIST EXCHANGE RULES

IUE DATA BANK - INTERCHANGE RULES

1. Integrity and Correctness of Data Bank Records. Discrepancy List

1.1 Each Center is responsible for the integrity of their own records (i.e. Goddard for G records, VILSPA for V records).

Previous errors at each Center will be corrected by the originator (i.e. errors in G records will be corrected at GSFC, errors in V records at VILSPA). Freedom exists at each Center to perform corrections to their own records. These corrections do not need to be always reported. It is advised to do so for important cases, or when a great number of records are involved.

A dual flow of discrepancy reports/solutions will be established between both Centers:

1.2 Discrepancies, doubts, clarifications, errors, questions, etc., to VILSPA records originated at Goddard will be reported to VILSPA through the V-items of the Discrepancy List.

To each item VILSPA will propose a solution which, after an agreement is reached, will be implemented (VILSPA Data Bank Modification). Goddard will then receive the next copy of VILSPA Data Bank with the adopted solution already included.

1.3 Discrepancies, doubts, clarifications, errors, questions, etc., to Goddard records originated at VILSPA will be reported to Goddard through the G-items of the Discrepancy List.

To each item Goddard will propose a solution which after an agreement is reached, will be implemented (Goddard Data Bank Modification). VILSPA will then receive the next copy of Goddard Data Bank with the adopted solution already included.

APPENDIX K

DISCREPANCY LIST EXCHANGE RULES

2. Exchange of Information

2.1 Data Bank Interchange: Before the end of each month, each Center will dispatch to the other Center a magnetic tape containing:

a) From GSFC to VILSPA: two files:

1st. file: all Goddard Data Bank records (G records), ordered by Observation Date;

2nd. file: all (cummulative) records of VILSPA images reprocessed at Goddard, ordered by Observation Date.

b) From VILSPA to GSFC: one file containing all V records of VILSPA Data Bank.

2.2 Discrepancy List Interchange: Alternatively, and within a period determined by the needs, both Centers (GSFC and VILSPA) will interchange:

a) One magnetic tape containing all items (G-items and V-items) of the Discrepancy List, ordered by Item Number.

b) Two listings of Non-completed Discrepancy List items: one for G-times and one for V-items, ordered by Item Number.

3. Structure of the Discrepancy List

Applies to both the V-Items and the G-Items.

3.1 Each item will represent one image, with a unique identifiable item number.

3.2 Items will be numbered SMMYYNNN, where:

S = the station of acquisition of the image;

MM = the month that the first list containing the discrepancy was sent;

YY = the year that the first list containing the discrepancy was sent;

NNN = a sequential number for each new item added to the list within the month MM.

3.3 New items will be numbered ordered by reason for discrepancy.

Example: If there are 3 GSFC images for which object class is incorrect, 2 for which right ascension is incorrect, and 2 missing images added in November 83 to a list with 2 images still unresolved from the September 83 list (numbered items 24 and 25 on that September 83 list) which had right ascension incorrect, the items would be numbered:

G0983024	right ascension incorrect
G0983025	right ascension incorrect
G1183001	object class incorrect
G1183002	object class incorrect
G1183003	object class incorrect
G1183004	right ascension incorrect
G1183005	right ascension incorrect
G1183006	missing image
G1183007	missing image

APPENDIX K

DISCREPANCY LIST EXCHANGE RULES

3.4 The discrepancy list will be computerized. The format of the Discrepancy items is as follows:

Discrepancy List Data Base Format

	Starting Column	Ending Column	Length
Blank	1	1	1
Item Number	2	9	8
Station ID (where image was taken)	2	2	1
Month & Year Discrepancy initially was sent	3	6	4
Sequential Number	7	9	3
Blank	10	10	1
Camera (e.g. LWP)	11	13	3
Image Sequence Number	14	18	5
1st. Line of Disc. Description	19	38	20
2nd " " " "	39	58	20
3rd " " " "	59	78	20
4th " " " "	79	98	20
1st. Line of Proposed Solution	99	118	20
2nd. " " " "	119	138	20
3rd. " " " "	139	158	20
4th. " " " "	159	178	20
Discrepancy Type	179	179	1
Completion Date	180	184	5
Question about Solution	185	185	1
Completion Flag	186	186	1

The fields contain:

. Discrepancy Type - 1 byte code to indicate type of discrepancy.
  - A = Acquisition Station uncertain.
  - C = Collaborative image
  - D = Double entries
  - M = Missing image number
  - N = Missing image at NSSDC
  - Q = Anomalous case
  - S = Science discrepancy
  - U = Unresolvable discrepancy

. Completion Flag - 1 byte flag to indicate completion status of the discrepancy. When a discrepancy is solved, this flag is set equal to "C" so that future listings of non-completed discrepancies will not includ this entry.

Also a "Question About Solution" byte has been included so that a question mark is printed when one station is uncertain about the proposed solution given by the other station.

APPENDIX K

DISCREPANCY LIST EXCHANGE RULES

4. Handling of the Discrepancy List

The handling of the Discrepancy List is performed in an alternate way (i.e. a sort of taken system whereby the updater of the DL is the Center which receives it).

The mechanization of this handling will be done as explained in the following chart (for a new G-Item):

VILSPA enters new G-item into DL, filling the fields:

a) Item Number
b) Camera
c) Image Sequence Number
d) Discrepancy Description (4 lines)
e) Discrepancy Type.

VILSPA sends DL tape to GSFC

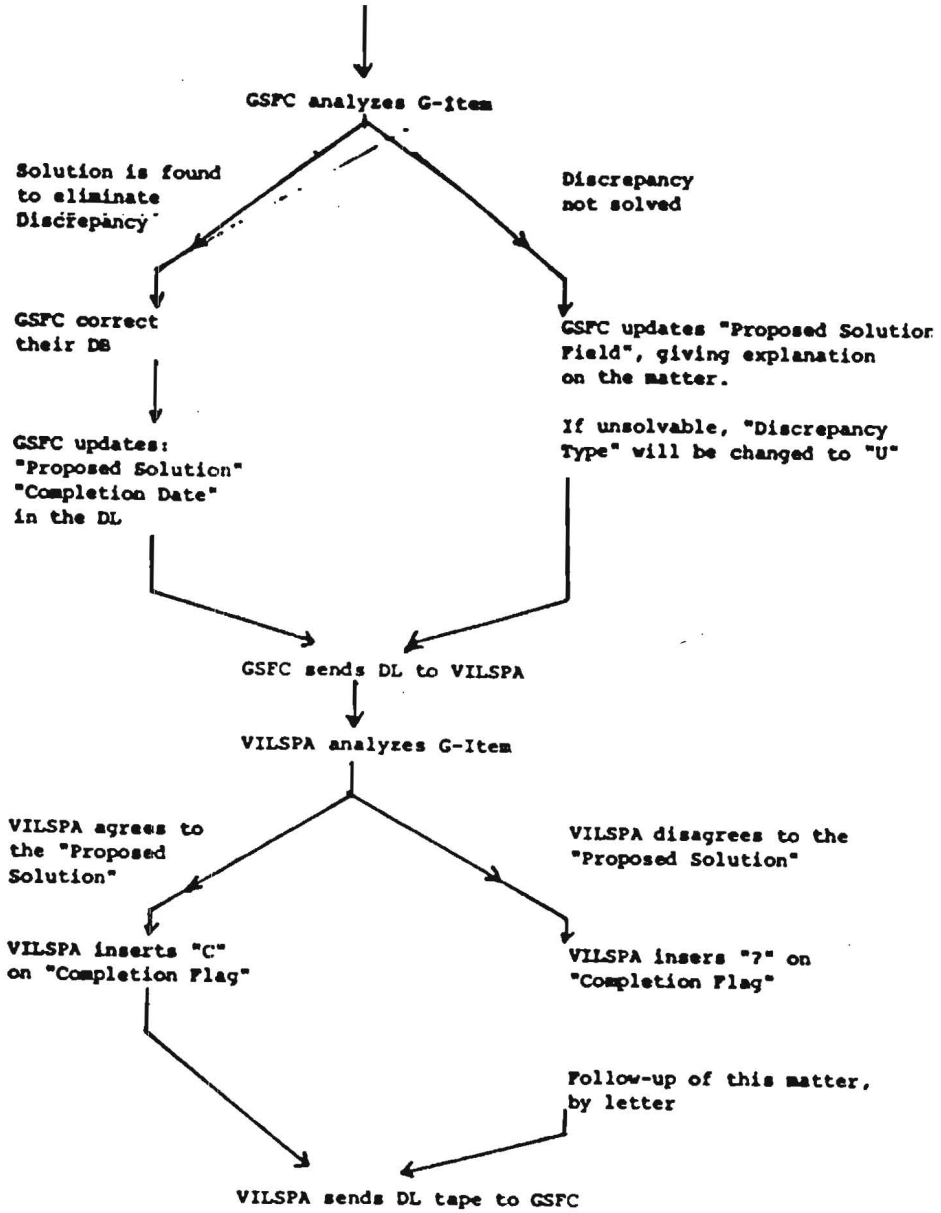
↓

GSFC analyzes G-item:

↓

APPENDIX K

DISCREPANCY LIST EXCHANGE RULES



The case if V-Items would be similar to the previous one, interchanging V by G.

APPENDIX L

PPMR FORMAT

IUESIPS PRODUCTION PROCESSING MODIFICATION REPORT (PPMR)

IUESIPS Production Processing Modification Report (PPMR)

Report Number	Originator	Assignee	Date

Type of Modification

Application Program _____ Calibration data or procedure _____

Scheme or scheme generation _____ Photowrite production _____

Other _____ (specify):

Description of Modification or Anomaly

Authorized by:

IPS Task Leader | IPP Technical Supervisor | IUE Operations Scientist

Action taken

Completed by: _____ Date: _____

Approved by: IPS Task Leader	Approved by: IPP Technical Supervisor

Implemented by: _____ GMT Time: _____ Date: _____

Documentation (if applicable)

Approved by: IPS Task Leader	Approved by: IPP Technical Supervisor

APPENDIX M

VILSPA IMAGE PROCESSING SOFTWARE MODIFICATION REPORT

VILSPA IMAGE PROCESSING SOFTWARE MODIFICATION REPORT 2/2

ORIGINATOR:	REPORT NO:
PROGRAM NAME:	
DESCRIPTION OF MODIFICATION:	
REASON FOR MODIFICATION:	

APPROVAL		
OBSERVATORY CONTROLLER	OBSERVATORY ASSISTANT	IMAGE PROCESSING ANALYST

IMPLEMENTED BY:	DATE: TIME:

APPENDIX N

GSFC DISCREPANCY REPORT FORM

ORIGINATOR

GSFC DISCREPANCY REPORT DATE_____

REPORTING CENTER_____ DISCREPANCY REPORT NO. _____ MISSION _____

TEST TITLE-SITE-TIME_____

Problem Area: Software ( ) Hardware ( ) Other ( ) Documentation ( )

System ID_____

Type of hardware_____

Description of discrepancy_____

Supporting data attached: Yes_____ No_____

If yes, Line Printer_____ Other_____

Originator_____ Position_____ Company_____

GSFC

TO/TM/CCOM/CCSM review - Priority: Routine ( ), Urgent ( ), Critical ( )

Signatures:

_____ _____ _____ _____

TO Date TM-CCOM-CCSM Date

Action assigned to: _____ Date Assigned: _____

Company/Section

Vendor Representative_____

VENDOR

Resolution:_____

_____ Date:_____

GSFC

Additional action required: Yes_____ No_____

Remarks_____

Corrected on System ID_____

Discrepancy signed off by _____ Date_____

GSFC TO-TM-CCOM-CCSM

WS-374 (4/82)

MOD CONFIGURATION CHANGE REQUEST FORM (PAGE 1 OF 2)

MOD CONFIGURATION CHANGE REQUEST

PROGRAM _____

CCR NO _____

DATE INITIATED _____

TITLE

ORIGINATOR _____ CODE _____

APPLICABILITY

_____ ☐ _____ ☐
_____ ☐ _____ ☐
_____ ☐ _____ ☐
_____ ☐ _____ ☐
_____ ☐ _____ ☐
_____ ☐ _____ ☐
_____ ☐ _____ ☐
_____ ☐ _____ ☐

CHANGE CLASS

I ☐ II ☐

TYPE OF CHANGE

CONTROLLED MILESTONE ☐ INTERFACE ☐ OTHER ☐
CONTROLLED DOCUMENTS ☐ POWER ☐
COST ☐ WEIGHT ☐ _____

DOCUMENTS AFFECTED

PROBLEM

PROPOSED SOLUTION

BOARD ACTION

APPROVE ☐
DISAPPROVE ☐
WITHDRAW ☐

DIRECTION/ACTION REQUIRED

ECP ☐
WAIVER ☐
DEVIATION ☐

TECH DIRECTION ☐
C.O. LETTER ☐
CONTRACT MOD. ☐
OTHER (DEFINE) ☐
_____

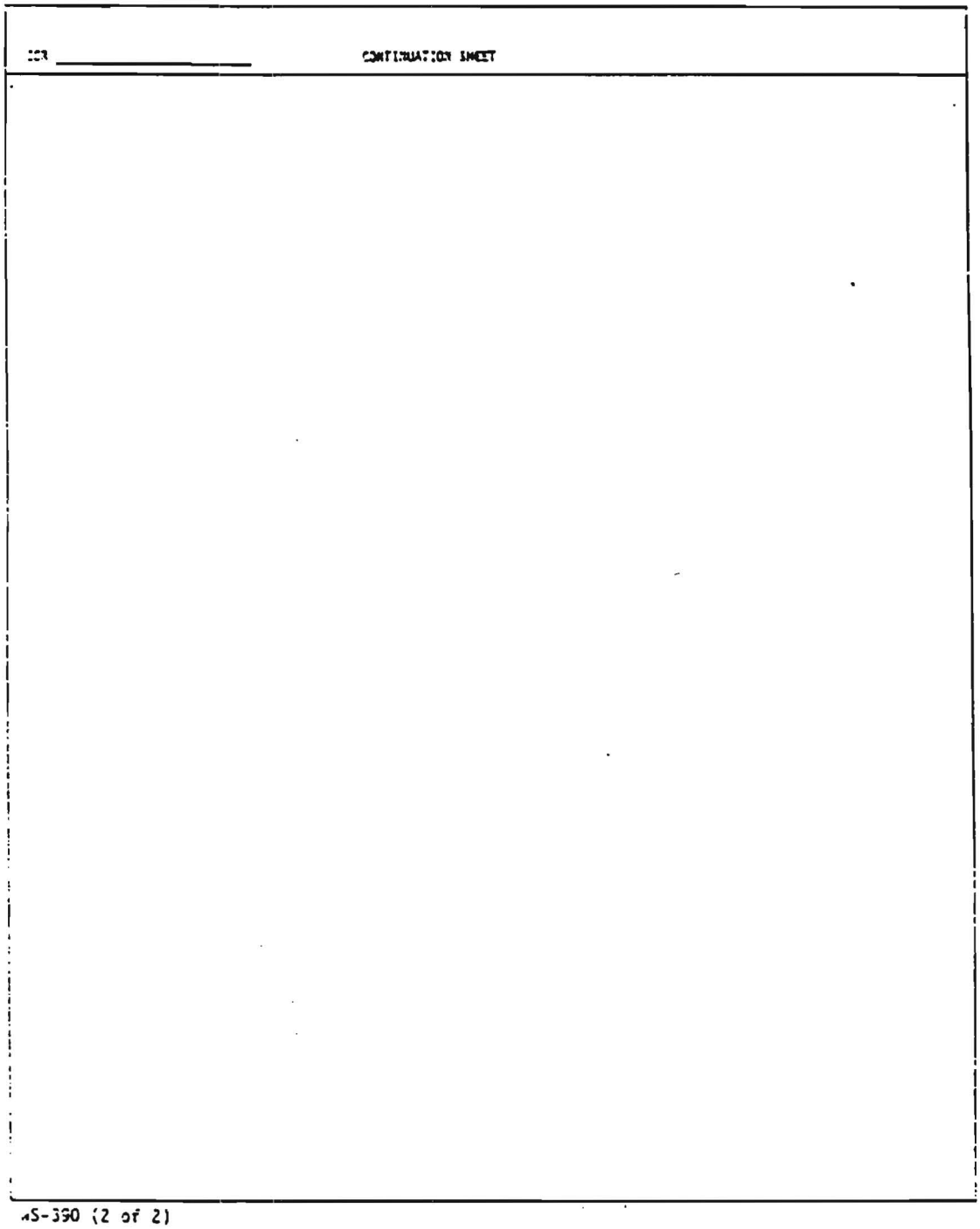
COMMENTS

CCB CHAIRMAN _____ DATE _____

MS-390 (1 of 2)

APPENDIX O CONTINUED

MOD CONFIGURATION CHANGE REQUEST FORM (PAGE 2 OF 2)



MS-390 (2 of 2)

APPENDIX P

IUE FLIGHT OPERATIONS DIRECTIVE FORM

IUE FLIGHT OPERATIONS DIRECTIVE	DATE	NUMBER
1. APPLICATION: IMPLEMENTATION RESPONSIBILITY: SUPERCEDES PRIOR FODs: RESPONDS TO SCARs:		
2. DIRECTIVE		
3. APPROVAL	DATE	

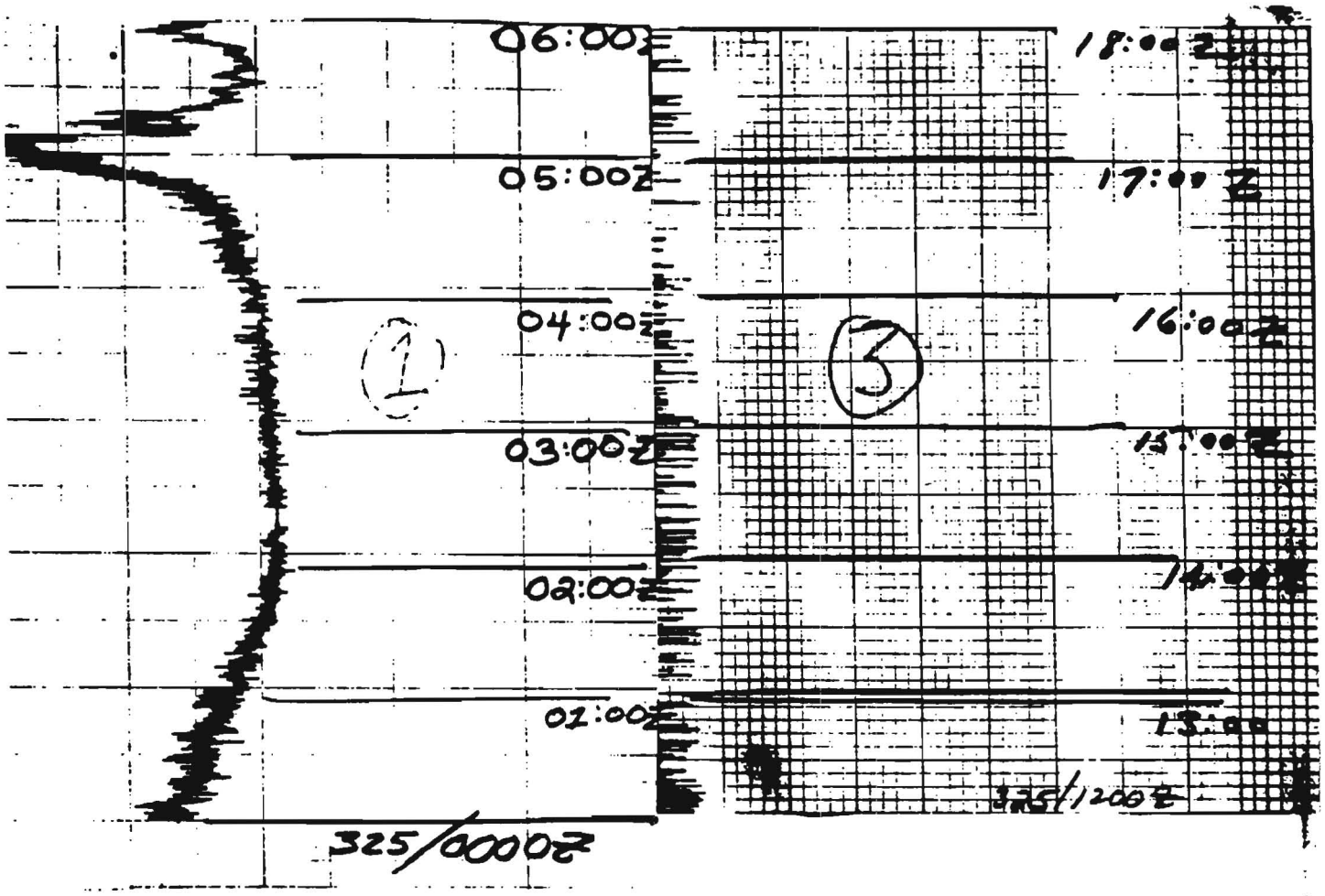
APPENDIX Q

SPACECRAFT ANOMALY REPORT FORM

IUE SPACECRAFT ANOMALY REPORT (IUESCAR)		
ANOMALY (1)		
ANOMALY NUMBER (2)	(3) ORIGINATOR	PHONE NUMBER (4)
DATE (5)	(6) SPACECRAFT MODE OR CONFIGURATION	GMT (7) DAY HR. MIN
(8) SPACECRAFT OPERATIONS DURING WHICH ANOMALY OCCURRED		
DESCRIPTION OF ANOMALY (9)		
(10) IMMEDIATE CORRECTIVE ACTION TAKEN		
RESOLUTION OR DISPOSITION (11)		
REMARKS (12)		
RESPONSIBLE ENGINEER (13)	APPROVED BY (14) DATE	CLOSED BY DATE

APPENDIX R

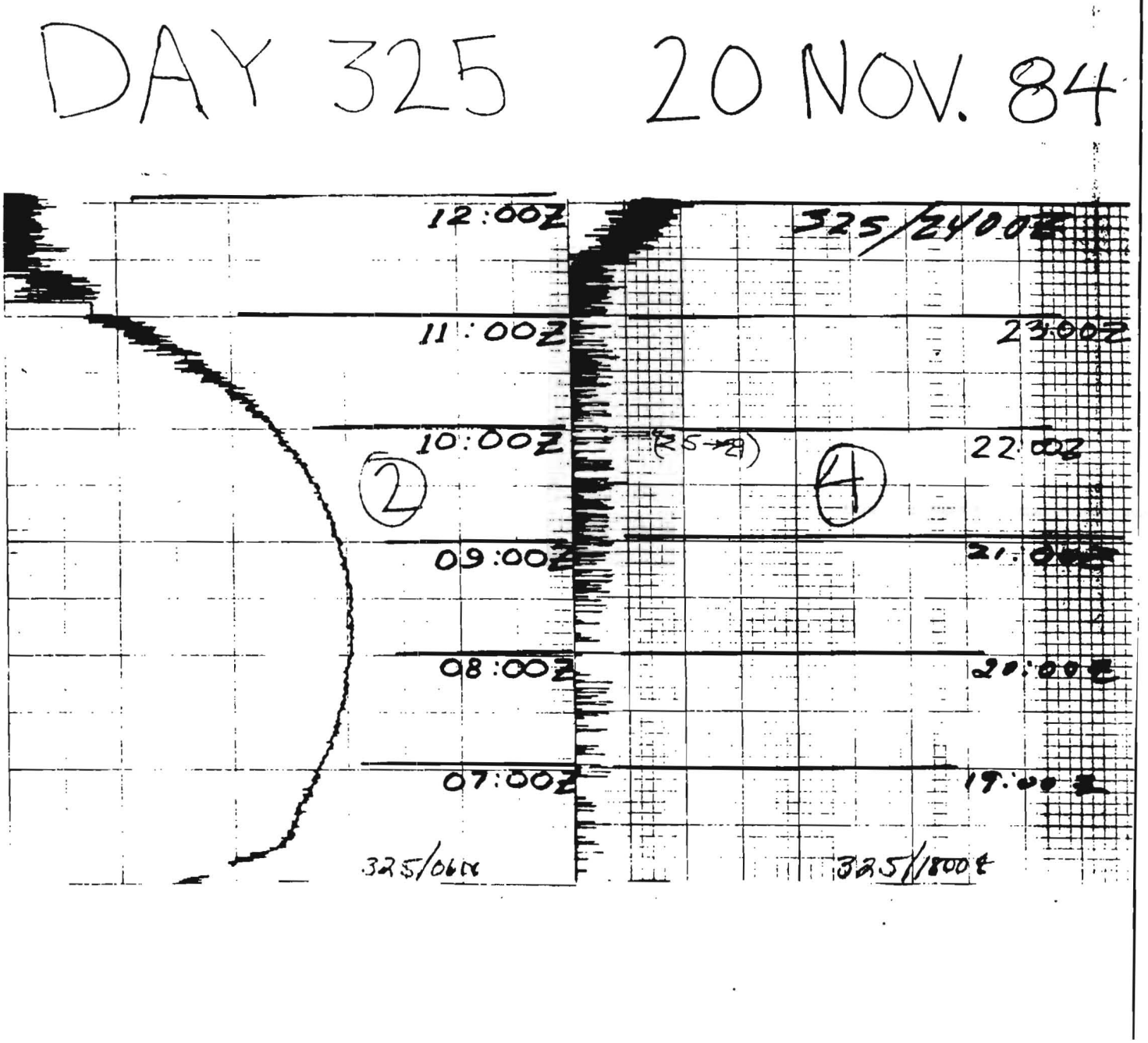
RADIATION STRIP CHARTS



DAY 325 20 NOV. 84

APPENDIX R

RADIATION STRIP CHARTS



APPENDIX S

LIST OF ACRONYMS, ABBREVIATIONS & DEFINITIONS

bpi	Bytes per inch
CCOM	Control Center Operations Manager
DMC	Data Management Center (part of IUESOC)
DR	Discrepancy Report
ESA	European Space Agency
GO	Guest Observer
GSFC	Goddard Space Flight Center
ID	Identification, may be a number, letter, or combination.
IGCS	IUE Ground Computer Systems (at VILSPA)
IPC	Image Processing Center (part of IUESOC)
ITF	Intensity Transfer Function
IUE	International Ultraviolet Explorer
IUEOCC	IUE Operations Control Center (at GSFC)
IUESOC	IUE Science Operations Center (at GSFC)
Log	List of observational data including object, G.O., position, comments, exposure time, etc.
Microfiche	A photographic process for reproducing documents at reduced size.
NASA	The National Aeronautics and Space Administration
NSSDC	National Space Science Data Center (at GSFC)
OCC	Operations Control Center (at GSFC)
Photowrite	A data processing system which generates photographic images, either negative or positive, from a data tape.
POD	Project Operations Director
R.A.	Right Ascension
RCC	Requirements Change Control
SCAR	Spacecraft Anomaly Report
SERC	Science and Engineering Research Council of the United Kingdom

SIPS	Spectral Image Processing System
SOC	Science Operations Center (at GSFC)
TOC	Telescope Operations Center (part of IUESOC)
VBS	Variable blocked with spanned logical records (Tape format)
VILSPA	Communications designator for the ESA tracking station at Villafranca del Castillo, near Madrid, in Spain. Also, more specifically, the satellite control center at that site.