NATIONAL RADIO ASTRONOMY OBSERVATORY

Charlottesville, Virginia

May 16, 1974

VLA COMPUTER MEMORANDUM #107

Jim Torson

SYNCHRONOUS SYSTEM FILE MAINTENANCE CONVENTIONS

1. INTRODUCTION

This document is a definition of conventions to be used for keeping track of the software development for the synchronous system. This proposal is based on two assumptions: use of the Modcomp system for storing and manipulating files, and use of the new version of the Modcomp Source Update program.

2. BASICS

The moving head disc will be used for storing the software of the synchronous system.

A set of disc partitions will be defined for storing the information pertaining to the "Current System". The current system is defined to include the current versions of the operating system, the system software (e.g., assemblers, compilers, utility programs), and the programs which are being developed to implement the functions which are specifically required for operation of the VLA. The "current versions" are not necessarily the most recent versions. Instead, the current version is defined to be the most recent version which has been adequately tested and documented (see "Updating of Current System" below).

The disc partitions which are used for storing the current system will include partitions for the following types of information:

1. Object load modules of the various VLA Programs. (Disc Cataloger format.)

2. Library object modules for the various VLA Programs. (Library Update format.)

3. Sources for the various VLA Programs. There will be a separate partition for each person who is responsible for a set of programs. (Source Update format.)

4. Object modules and sources for the operating system and system software. These will be stored on a number of different disc partitions which will be in a number of different formats. (See "Standard Disc Partitions and Sizes", Appendix A, MAX II/III SYSGEN Manual.)

Each person will also have a set of Work Area disc partitions. These will be appropriately defined according to need and personal working habits.

3. UPDATING OF CURRENT SYSTEM

In general, updating of the disc partitions which contain the Current System will occur only at a well defined time once per week. Updating of all the Current System disc partitions will be done by a single person.

In addition to the Current System and Work Area disc partitions there will be a set of partitions which are defined to be used for storing information which is waiting to become part of the current system. These "Waiting" partitions will parallel the Current System partitions except that each person will have a separate Waiting load module partition and library module partition.

When a person has something that is ready to become part of the Current System he will put the files into the appropriate Waiting disc partitions. He will also fill out a System Change Form which will give appropriate identifying information. (See "Use of System Change Form" below.)

4. BACK-UPS

When the Current System has been updated, it will be necessary to make a tape back-up of the "new" Current System. Once per month the contents of the Current System disc partitions will be dumped to tape. After the other updates to the Current System, only the contents of the Waiting disc partitions will be dumped to tape. These intermediate dumps will thus include only the information which is new in this particular update of the Current System.

5. RECORD OF UPDATES

A System Change Notebook will be maintained as a record of the changes that are made to the Current System. This notebook will consist of four sections:

1. A copy of each System Change Form filed chronologically, i.e., according to Current System date. This section will show which changes produce each Current System.

2. Copies of the System Change Forms which pertain to each program. These will be filed according to program name.

   This section of the system change notebook will show the history of changes in each program.

3. Copies of the System Change Forms filed according to program component name. (A program component is either a main program or a subroutine.) This section will show the history of changes in each main program and subroutine.

4. Lists of which main programs and/or subroutines call each subroutine. These lists will be filed according to subroutine name. This section will be useful for determining which programs would be affected by a change in a given subroutine.

In addition to the System Change Notebook, a set of listing binders which contain source files and documentation files will be maintained.

6. USE OF SYSTEM CHANGE FORM

The System Change Form contains blanks for the following information:

SUBMITTED BY - Name of person making the submission.
DATE - Date of submission.
CHANGE NUMBER - A unique number which identifies this particular System Change Form. (This is filled in by the person who actually updates the Current System disc partitions.)
DESCRIPTION OF CHANGE - Explanation of the change, perhaps including references to documents which fully describe the program or the change.
TEST DATE - Date of the tests which verified that the change is an improvement and should thus become part of the Current System.
TEST PROCEDURE - Explanation of the test of the change.

SUBR. CALLS ADDED - A list of new subroutine calls which have been added in the main program or within subroutines. If this list is not empty, then it indicates that an addition should be made to the fourth section of the System Change Notebook.

DELETED - A list of subroutine calls which have been eliminated. If this list is not empty then it indicates that a deletion should be made in the fourth section of the System Change Notebook.

N/R - "N" indicates that the file is a new addition to the Current System. "R" indicates that the file replaces a previous version of the file.

PART. - The name of the Waiting disc partition on which the file is being stored. (Recall that there is a well defined mapping from the set of Waiting disc partitions into the set of Current System disc partitions.)

FILENAME - Name of file being submitted.

VER. - Version of the program or subroutine.

DATE - Date of last update to the information in the file.

SIZE - Size of the program, subroutine, or file. Given in disc sectors, except for load modules, where it is given in words of core required.

E - Indication of whether or not the change is a correction of an error. ("Y" for Yes, "N" for No.)

T - Indication of whether or not the change is transparent to existing users of the routine (i.e., if the change is only addition or extension of functions). Indicate "Y" or "N".

C - Indication of whether or not the change involves a change in the calling sequence of the subroutine, ("Y" or "N".)

TYPE - The type of the file, e.g., documentation file, source file, library module, or load module.

NAME AND DATE OF CURRENT SYSTEM - Indicates in which Current System the change was incorporated. (This blank is filled in by the person who actually updates the Current System disc partition.)

APPENDIX A: Sample System Change Form

SYSTEM CHANGE FORM

SUBMITTED BY: John Doe	DATE: May 16, 1974	CHANGE NUMBER: 28

DESCRIPTION OF CHANGE: The code which converts degrees to radians was removed from the program BLAP and made into a seperate subroutine called CVDR.

The first parameter to CVDR is the input value in degrees. The second parameter is the returned value in radians. Both parameters are in the standard scaled fixed point binary format.

TEST DATE: May 15, 1974 | TEST PROCEDURE: Wrote a small main program which tests CVDR by calling it with a wide range of arguments.

SUBR. CALLS ADDED: CVDR | DELETED:

N/R	PART.	FILENAME	VER.	DATE	SIZE	E	T	C	TYPE
R	WDM	BLAP	5	May 16, 1974	1532	N	Y	–	LM.
R	WDS	BLAP	5	May 16, 1974	10				SRC.
N	WDB	CVDR	1	May 16, 1974	1				LIB.
N	WDS	CVDR	1	May 16, 1974	2				SRC.

NAME AND DATE OF CURRENT SYSTEM: CS7 – May 20, 1974