



Figure 5: The Data Recorder, DIM-1000M. The recorder is located at the bottom of the rack containing the tape changer.



Figure 4: The cassette changer, DMS-24. Several tapes are loaded in the cassette changer and the tape mover/bar code reader can be seen just above the tapes (with the SONY emblem).



Figure 3: The control PC. Shown running is the *CFS* program used to control the VSOPT recorder.

S2/VSOP VLBI Signal Converter VSC 7220

This module receives the input data stream from an S2 C2 cable and converts the data stream to a format suitable for the DIM-1000M data recorder. This module also is in direct control of the DIM-1000M and the DMS-24 module through an RS-422A cable. The time stamp reference for the DIM-1000M is also provided from this module. The VSC 7220 is capable of changing the wiring connections between the input and output data cables. The operation of the VSC 7220 is described in [3].



Figure 2: The S2/VSOP VLBI Signal Converter VSC 7220. The upper module is an IRIG clock used to check that the VSOPT recorder is set to the correct time.

Control PC

This is a Fujitsu FMV-BIBLO NUV 16x laptop computer running the Japanese version of Microsoft Windows 95. This computer is used to control the VSC 7220 and to receive log and monitor information from the DIR-1000M. This is done running a program called *CFS* provided by NAO (see [4]). The control pc is located in the GBES Jansky Operations Center room which is adjacent to the Jansky Operations Center tape room where the other modules comprising the VSOP recorder are located.

Cassette Changer DMS-24

This module can store up to 24 VSOP tapes (D1V-94LC Broadcast Video Tapes). It also includes a device for reading the bar-codes on the tapes that is also capable of moving tapes between the DIM-1000M recorder and the storage area. This module was built by SONY.

Data Recorder DIM-1000M

This module is the actual recorder. It was also built by SONY and is described in full detail in [5]. It consists of a commercially available recorder used mainly for television and video production. It is capable of recording at rates from 10.7 Mbps to 256 Mbps.

PRE-INSTALLATION MEETING AT MITAKA

On March 21 and 24, 1999, Glen Langston, Anthony Minter, S. Kamenno and N. Kawaguchi met at NAO, Mitaka, Japan. These meetings were held to clarify any questions regarding the

INSTALLATION OF THE VSOP TAPE RECORDER IN GREEN BANK

Anthony Minter

99 December 7

OVERVIEW

In this memo we describe the installation of the VSOP tape (VSOPT) recorder at the Green Bank Earth Station (GBES). The VSOPT is on loan to the GBES from the National Astronomy Observatory of Japan (NAO). The VSOPT recorder was shipped to Green Bank in April 1999 and the final hardware installation was achieved on May 26, 1999.

OMISSIONS

The VSOP recorder currently must be run with manual intervention. This includes the clock setting which allows for the possibility of $\pm n$ second errors, where n is an integer. We are currently studying the possibility of running the VSOP recorder under complete computer control using the GBES system computer. Such an implementation would eliminate $\pm n$ second errors.

THE VSOP RECORDER

The VSOP tape recorder (VSOPT) consists of five separate modules. These modules are:

C1/C2 Data Divider and Switcher

This module receives the input data stream from an S2 C1 cable. The input signal is then divided into two separate outputs, onto another C1 cable for input into the S2 recorder and onto an S2 C2 cable for input into the VSC 7220 module. This module needed slight revision to be compatible with the GBES. This revision is described in a later section of this document. (See [2] for information on the S2 C1 and S2 C2 cables.)

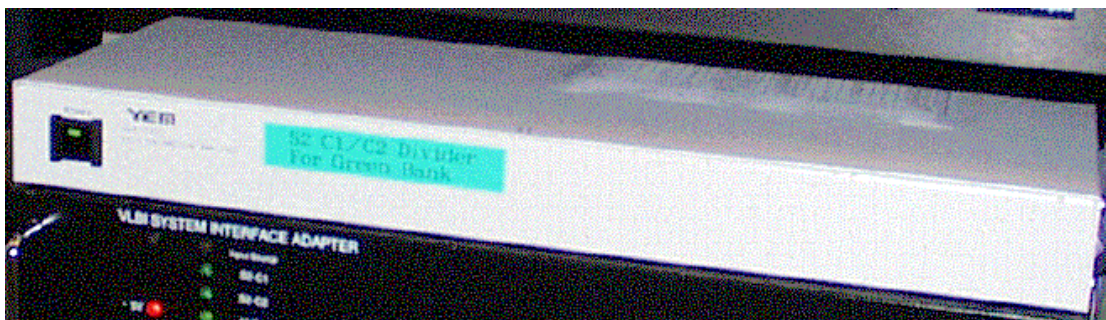


Figure 1: The C1/C2 Data Divider and Switcher (white module).