

Washington Correlator

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Abstract

This report summarizes the activities of the Washington Correlator for the year 2007. The Washington Correlator provides up to 80 hours of processing per week, primarily supporting Earth Orientation and astrometric observations. An additional 40 hours per week of unattended processing is also provided routinely. In 2007 the major programs supported include the IVS-R4, IVS-INT, IVS-R1, APSG, and CRF (CRF,CRMS,CRDS,CRFS) observing sessions.

1. Introduction

The Washington Correlator (WACO) is located at and staffed by the U. S. Naval Observatory (USNO) in Washington, DC, USA. The correlator is sponsored and funded by the National Earth Orientation Service (NEOS) which is a joint effort of the USNO and NASA. Dedicated to processing geodetic and astrometric VLBI observations, the facility spent 100 percent of its time on these experiments. All of the weekly IVS-R4 sessions, all of the daily Intensives, and several IVS-R1 sessions were processed at WACO. The remaining time was spent on terrestrial reference frame and astrometry sessions. The facility houses a Mark IV Correlator.



Figure 1. The right half of WACO showing 4 Mark 5A units (far right), legacy tape drives, the operator's console, Mark 5B (left of console) and the central processor (left).

2. Correlator Operations

The Washington Correlator continues to operate 80 hours per week with an operator on duty. The correlator has continued to function well unattended, allowing another 40 hours per week, on

average, of extra processing. This has also decreased the time it takes to process an R4 or R1 by one day.

The correlator staff continues the testing and repair of Mark 5 modules. Not only were failed disks replaced, but some modules were upgraded by the replacement of small disks with larger ones.

The Intensive observations from Wettzell continue to be electronically transferred to the Washington area and transported to the correlator. This operation saves 1 to 2 days of shipping time.

A Mark 5B playback unit was added to the correlator complement of Mark 5's, which now allows the correlator to process 9 stations (8 Mark 5A and 1 Mark 5B) simultaneously. Six sessions requiring at least one tape drive were processed in 2007.

Table 1 lists the experiments processed during 2007.

Table 1. Experiments processed during 2007

52	IVS-R4 experiments
19	CRF (Celestial Reference Frame)
2	IVS-R1
2	APSG (Asia Pacific)
232	Intensives
16	Kk-Sv-Wz Intensives

3. Staff

The Washington Correlator is under the management and scientific direction of the Earth Orientation Department of the U.S. Naval Observatory. USNO personnel continue to be responsible for overseeing scheduling and processing. During the period covered by this report, a private contractor, NVI, Inc., supplied a contract manager and correlator operators.

Table 2 lists staff and their duties.

Table 2. Staff

Staff	Duties
Dr. Kerry Kingham (USNO)	VLBI Correlator Project Scientist
David Hall (USNO)	VLBI Correlator Project Manager
Bruce Thornton (NVI)	Operations Manager
Harvis Macon (NVI)	Lead Correlator Operator
Roxanne Inniss (NVI)	Media Librarian
Kenneth Potts (NVI)	Correlator Operator



Figure 2. Roxanne Inniss, Bruce Thornton and Dave Hall keep an eye on processing.

4. Outlook

The Washington Correlator plans to upgrade the Mark 5A playbacks to Mark 5B, in coordination with the installation of Mark 5Bs at the Network Stations, and to upgrade to a new correlator control computer. It is expected that the number of playbacks available will increase to 11 with the addition of 2 Mark 5B units before the existing Mark 5A units are converted to Mark 5B.

Plans include bringing a broadband connection to the Correlator in 2008.