

# BUILDS NEW TIME CONTROL

*Electric Clock System Designed by NBC Engineers Does Not Vary Third of Second in Day; Problem of Deviation Eliminated.*



O. B. HANSON AT THE PANEL BOARD OF NBC'S NEW TIME CONTROL SYSTEM.

A PRECISION electric clock control system that does not vary more than one-third second a day, is now in operation in National Broadcasting Company's Radio City headquarters. The system was developed by the NBC engineering staff under the direction of O. B. Hanson, vice president in charge

of engineering. Similar installations are being made at the network's division offices in Chicago, Hollywood, San Francisco, Washington, Cleveland and Denver.

Need for a highly accurate time clock control has been increasing since war time activities commenced to add heavy loads to commercial power lines. As a result of these huge power demands, many of NBC's operating divisions, particularly New York, have encountered deviations in the frequency of the alternating current supply lines. Ordinarily of small magnitude, these variations, nevertheless, were sufficient at times to become a serious problem in network operation where programs must be switched on a split second basis. The new system, with its accuracy of better than one part in 205,000, eliminates this trouble.

NBC's time control is based on the use of a special tuning fork vibrating at the rate of 60 cycles a second within a vacuum chamber. The fork's movement creates infinitesimal impulses which are amplified millions of times by a series of vacuum tubes, until sufficient power is generated to operate the required number of clocks. In Radio City alone, 200 clocks must be synchronized.

To check the absolute accuracy of the system, the master clock is compared daily with the extremely accurate time signals transmitted by radio from the U. S. Naval Observatory, Washington, D. C.

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## U. S. Leases Short Waves

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British audiences and some should be equally acceptable to any English-speaking listener.

NBC's English program schedule is patterned in such a way that the best War Department, OWI and NBC programs are included in the schedule. Letters from service men show a strong preference for news, dance music and sports, so naturally the schedule includes many such shows.

Currently, the English Section is transmitting 14 sports programs each week. Variety shows are highlighted by "Service Serenade," "Fashions in Jazz" and "Command Performance." World wide interest in news from America is fulfilled by four news broadcasts a day.

Before the leasing of private short-wave facilities by the Government, NBC's English Section carried more than 20 commercial programs originated by NBC's domestic network or by the English Section. At the present time, all commercials have been cancelled but it is hoped that these broadcasts may be resumed with the commercials deleted.

Mr. Royal pointed out that the OWI "is eager to continue the competitive programming policy which has been the foundation of the American system of broadcasting and which has made the short-wave programs from the United States the most eagerly listened to of any country in the world."