

NEXUS drums it up in Japan

The Canadian percussion ensemble, NEXUS, is touring Japan from June 22 to July 11, under the Department of External Affairs' program of cultural relations with foreign countries.

NEXUS was invited to open the "Music Today" series in Tokyo, a festival of contemporary music organized by the popular Japanese composer and concert-presenter, Toru Takemitsu. Their performances in Tokyo include a ragtime concert, a program of improvised music in a marathon session with Japanese musicians; and a concert of new music to include works by Canadian composers, R. Murray Schafer and John Wyre. The ragtime performance will include Canadian pieces by John Arpin: *The Maple Leaf Rag*, and a new work commissioned for the tour by the Canada Council.

Recordings

Following the performances in Tokyo, NEXUS will appear in Osaka, Kyoto and Sapporo. They will also be making a recording for the Japanese National Network (NHK TV) and a recording with Deutsche Grammophon in Japan.

The six musicians: Robin Engelman, Robert Becker, Russel Hartenberger,



Michael Graden, William Cahn and John Wyre, represent a collective background that encompasses symphonic and contemporary music, and affiliations with the University of Toronto Faculty of Music, York University Faculty of Music and the Toronto Symphony.

NEXUS has made numerous radio and television recordings for the CBC. With flutist Robert Aitken, they produced the sound track for the Oscar-winning film, *The Man Who Skied Down Everest* by Crawley Films, Canada, and

have recently released an album in collaboration with flutist Paul Horn. NEXUS performed recently with poet Earle Birney in the "Canadian Sound" series in Toronto.

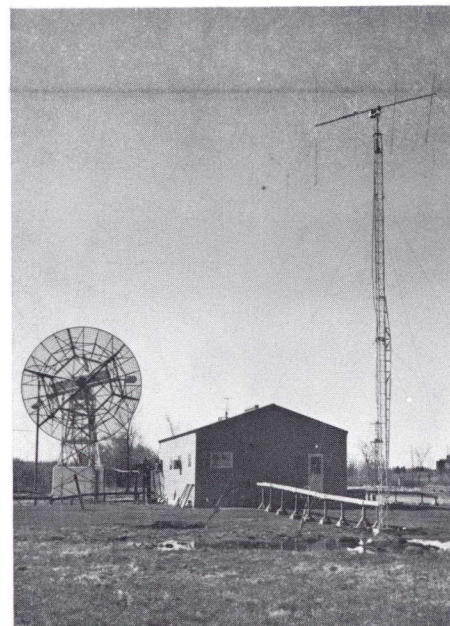
Instruments used by NEXUS have been collected in Japan, the Philippines, Hong Kong, Indonesia, India, Africa, the U.S.S.R., Mexico and the Caribbean. Many have also been home made — including drums, xylophones, metallophones, a pedal musical saw and bell cages.

Search and rescue by satellite

The Communications Research Centre (CRC) of the federal Communications Department in Ottawa has successfully demonstrated the feasibility of a new search-and-rescue system aided by satellite that could reduce the time, fuel dollar and other costs associated with conventional methods of finding downed aircraft.

Recent experiments using the Radio Amateur Satellite Corporation (AMSAT) OSCAR-6 satellite and simulated distress signals have shown that a relatively economical, low-altitude polar orbiting satellite could pinpoint crash sites in Canada and elsewhere in the world to accuracies as good as one mile, and generally within five miles, in as little as 15 to 20 minutes after the spacecraft first "hears" the signal.

It would operate with conventional emergency locator transmitters (ELTs) mandatory for aircraft in Canada and



In the centre of this photo is the Sarsat ground station and at left, the tracking station.

the United States. Operating on an international distress frequency of 121.5 MHz, the ELT is designed to go off by itself on crash impact and provide a signal for at least 100 hours for search-and-rescue aircraft to "home in" on. At present, the "home in" range is within about 30 miles of the crash site, usually achieved by flying criss-cross patterns involving many planes and often dozens of costly and sometimes risky flying hours.

The CRC system now proved depends on two vital things: exact knowledge of just where the spacecraft is at any given instant and sophisticated computer processing of distress signals relayed to a central ground station. It works by measuring the Doppler shift in the frequency of the ELT signal as the satellite passes over the crash. (Doppler effect may be observed by anyone standing at a railway crossing as a high-speed train approaches, its whistle bellowing. While the sound