

extremely touch sensitive, so that the emotion and musical expression of the instrumentalist becomes very important. A composer can externalize his musical ideas through the keyboard, communicating changes in mood and feeling directly and continuously. As a monophonic instrument, the sackbut plays only a single note at a time. But unlike other instruments with a keyboard, it can slur and slide from note to note, produce continuously variable sounds in real time and constantly adjust tone, color and pitch. It has definite uses as a part of musical groups — rock bands, classical or jazz groups or an electronic group. It can adapt virtually to every kind of music. In addition, the Sackbut does not go out of tune from heat affecting voltage circuits. It is a great deal smaller, more compact, less temperamental and cheaper than many synthesizers (instruments consisting solely of electronic sound generators with tone modifiers and other controls). With the Sackbut, the player does not have to stop to rearrange electrical cords to control the sound.

Perhaps the Sackbut's best feature, according to musicians who have played it, is the way in which a player can make a note louder by pressing the key harder or make it waiver (vibrato) with a sideward movement of the finger. Twenty-four controls can break up and bend notes, creating repetitive patterns into which other notes fit, producing the effect of more than one note playing at the same time.

Says Peter Jermyn, Ottawa composer and arranger: "It's the sort of instrument I've always been looking for. It's not really a synthesizer, but it can do things a giant synthesizer is incapable of, at a fraction of the cost and in a portable framework."

Initially, a small number of machines will be produced by Dayrand, selling for about \$2,500 each (the cost of large synthesizers start at about \$8,000 each).

"This is a conservative approach," says Mr. Wilson, "but it's more of a sampler to determine whether changes will have to be made for marketability. Signs are promising for it's acceptance. To date a number of studios and individual musicians have shown a marked interest in it."

Engineers and scientists also have expressed interest. The NRC prototype was featured at Stereo '72 in Montreal, Que., at Toronto's International Electronic Exposition, at the Canadian Electronic Design Display and at Stereo '72 in Ottawa.

In addition, the Sackbut has been used for the musical scores of several films. The theme music for NBC's children's science program, Mr. Wizard, was written and played by Mr. Jermyn using the Sackbut and he has composed an electronic symphony on the Sackbut which was used to form part of an audio-visual show at Place Bell Canada in Ottawa. Mr. Jermyn is working on the sound track for a forthcoming National Film Board movie.

"The future of electronic music is unlimited," he says. □

Margaret Lloyd, Miss NRC and Miss RA 1970, lends charm to the Sackbut. ● Margaret Lloyd, Miss NRC et Miss RA 1970, ajoute son charme à la saqueboute.



Cover photography: Bruce Kane, NRC; cover art work, Al McAllister, Canada Department of Agriculture; Memorial University, pages 2, 3, 4, 5, 6, 7, 8, 9; diagram page 27, Miss C.W. Clyde, NRC. ● Notre couverture: Photographie de Bruce Kane et croquis de Al McAllister, du Ministère de l'Agriculture; pages 2 à 9, photographies de Memorial University; page 27, schéma de Mlle C.W. Clyde, du CNRC.

Editor/Rédacteur en chef — John E. Bird, Graphics-Production/Arts graphiques-Production — Robert Rickerd, Photo Editor/Direction de la photographie — Bruce Kane, Writing/Textes — Georges Desternes, Claude Devismes, Arthur Mantell, Earl Maser, Joan Powers Rickerd, Distribution/Distribution — Pierrette Gravelle. Printed by/Imprimé par DOLLCO.