

FROM TOKYO

## Japanese Shrink TV Camera

Successful development of the world's first single-tube color TV camera for live telecasting has been reported by Nippon Columbia Co., Ltd. This is a portable, easy-to-operate unit as light as the conventional black-and-white TV camera, especially suited to out-of-studio colorcasting.

Already in use for news programs by the government-owned NHK, the Japan Broadcasting Corporation, is the Columbia Monocolor System, which telecasts color pictures by using monochrome film for original photographing. This is a system that relies for color separation on a special striped filter attached to the emulsion surface of black-and-white film at the time of filming.

This system is regarded by the Japanese TV industry as the first practical success step in simplified colorcasting.

The Japanese enterprise now, however, goes one step further. It has developed the Monocolor System into a single-tube TV camera applicable for live colorcasting.

Produced in conjunction with the Tokyo Broadcasting System, the new single-tube TV camera seeks to eliminate the bulky inconvenience of the conventional TV color camera that requires three photoconductive tubes to accommodate each of the three colors—red, blue and green. By simplification performed in the camera mechanism, the cost for one unit has been pared to around \$55,560—almost one-third the price of ordinary color TV cameras.

Either the image orthicon or the vidicon may be used as the tube of the camera, but the latter is slightly lower in price than the former. The invention of this new camera is expected to lift the irksome burden of "registration," that is to say, the exact placing of the three primary colors over each other.

Light entering into the Columbia-perfected camera, itself about the size of an ordinary black-and-white TV camera, goes through a striped color filter, set in the optical system of the tube. The light, after passing through this filter, is separated into distinctive stripes of various degrees of brightness. The red part of a flower, for example, turns into the stripe representing the red color and the blue part into that which represents the blue color. The difference of these stripes is converted into the differences of electric frequencies, and then they are separated

into signals corresponding to the three colors through a special electronic circuit, and are changed into actual colors as seen on the picture tube.

One possible disadvantage is the technical difficulty inherent in the obtaining of colors electrically, but Columbia engineers are now at work on a program to improve this color quality of the Monocolor System, with hopes of early success.

FROM GENEVA

## Pills and Olympians

Illegal use of pep pills will be a bigger danger to athletes than ever before at the 1968 Olympic Games in Mexico City, the International Olympics Committee has been warned by a leading sports physician.

Dr. Albert Drix of Belgium issued the warning via the IOC BULLETIN, published in Lausanne, Switzerland.

Meanwhile the IOC and the International Federation for Sports Medicine have announced that they will collaborate to test athletes at the 1968 Games for evidence of pep pill abuse.

"Doping with amphetamines is much more dangerous in warm weather—this was the case during the Rome Games—and also at a high altitude," Dr. Drix said. Mexico City is 7,347 feet above sea level.

"If an accident were to occur, obviously the altitude alone would be blamed. It is therefore imperative to be able to diagnose immediately the causes of a collapse."

Dr. Gilberto Bolanos Cachos, president of a Mexican sports doctors' society, has also asked for a test of Olympians. Dr. Drix, a member of the Federation board, said Mexican colleagues would do their best, "holding it a point of honor that their medical society should be beyond reproach."

Several Federation medical officials including Dr. Drix have visited Mexico's Central Chemical Laboratories. Their reports have been submitted for evaluation to the Heymans Institute of Pharmacology in Ghent, Belgium, known for previous research on doping in sports.

Doctors from Vienna and Moscow are also collaborating in the search for a test that can offer "strictly scientific guarantees" of accurately spotting pep pill users.

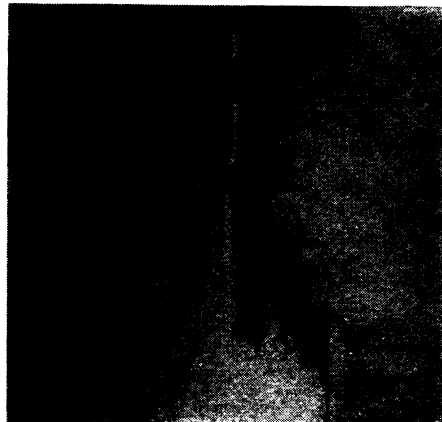
Laboratories can be accredited for the search only after their chemical expertise is recognized. Tests must be made uniform. In cases of doubt, several labs will conduct tests on athletes.

Dr. Drix and his colleagues hope to conduct preliminary experiments in Mexico in October. They think the

Olympic tests might be done by drawing lots for each sports event. Then urine of a random sample of athletes would be examined for signs of amphetamines.

FROM SYDNEY

## Shelters Downrange



Hawker Siddeley Dynamics

Europa launched: head for shelter.

Steel, earth and sandbag shelters are being erected at remote central Australian cattle stations (ranches) to protect residents from rocket debris. Shelters have already been erected at Marqua, Tarlton Downs, Plenty Down, Jervois, Lucy Creek and Argadargada stations on the northern fringe of the Simpson Desert.

Others will be erected at Austral Downs, Burrumurra, Georgina Downs, Annitowa and Ooratippra stations by June. The shelters consist of a prefabricated steel room completely covered with two feet of earth. The entrance is protected by sandbags.

Government officials in Canberra said that such shelters for homestead were standard and had been provided along the full 1,000 mile length of the Woomera-Talgarno rocket range. The new shelters are necessary because of more powerful firings northward from Woomera of the 89-ton Europa rocket (based on the British Blue Streak) with which Britain, France, Holland, West Germany, Italy and Australia hope jointly to launch a satellite next year.

The officials said last November's firing of the rocket had been a fueled first stage with dummy second and third stages. The next firing, scheduled for June, would have fueled first and second stages, and a dummy third. The control will be such that debris will not land near the homesteads unless the rocket behaves abnormally. The probability of impact near homesteads is very low. Even so, the Government decided to install the shelters and communications to warn residents of firings.