



Electronic Standards Converters Type B 3562

EXCHANGE of television programmes between countries using different line standards has always been a problem. Film has been the best way of providing this service and the demand for the Marconi 16 mm fast pull-down film recorder continues. However, when instantaneous reproduction is needed such as in covering sporting and national events, electronic standards converters are required. The remaking of video tapes from one standard to another is also a further application for these standards converters.

Until 1964, standards changing was carried out by optical conversion, i.e. a television camera on one standard looked at a high-grade picture monitor working on the standard to be converted. The electronic standards converters, which are briefly described below, solve the problem most elegantly with only minor reduction of picture quality.

EQUIPMENT

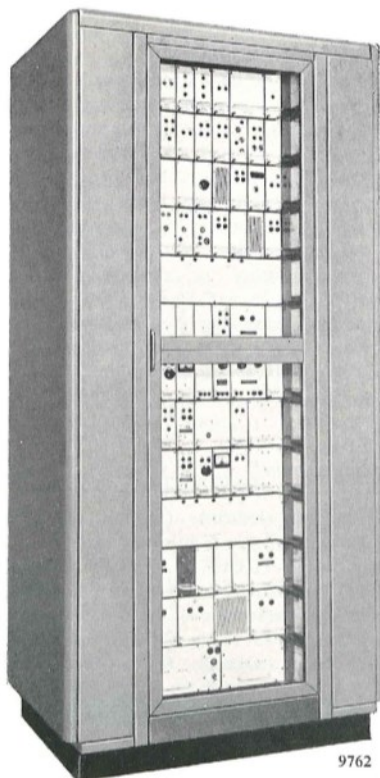
Any line of a television picture may be divided into picture elements. If 600 picture elements per line are sampled, small detail in a picture can be represented by the amplitude of the samples. Electronic converters divide every television line horizontally into 600 elements and store each element in a capacitor. In effect, the picture can be converted first from 625 horizontal lines to 600 vertical lines and then by conversion again from 600 vertical lines to 405 horizontal lines.

Two types of converter exist; one with two-stage switching and the other with a single high-speed 600-way switch which rotates once per line. In the two-stage switching model, the first stage deals with 36 digits while the second deals with 16 and the switches are interconnected to provide contact with the storage capacitors, 576 of which are used in both types of converter.

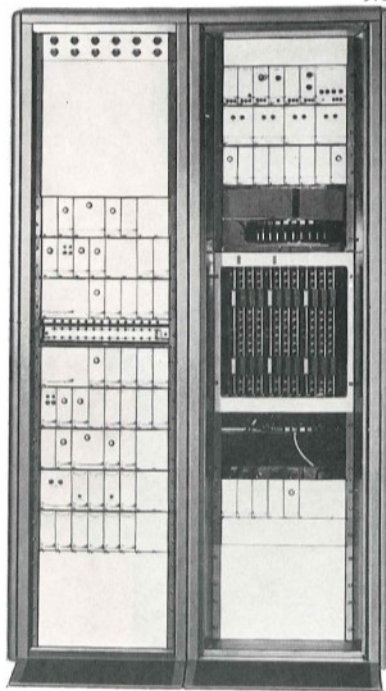
In both models, the 50 c/s field synchronization signals on the input and output are brought into synchronism with each other and maintained in phase throughout the conversion.

The electronic standards converters described are not suitable for converting between systems using different field frequencies (i.e. 50–60 c/s). In either model, the changeover between 625 and 405 or 405 to 625 can be carried out by the operation of a switch.

The Marconi Company manufactures both of these converters which have been designed by the British Broadcasting Corporation. The converters are marketed under an agreement with the B.B.C and are covered by patent specification No. 928,730.



Single-stage switching model of the B 3562.



Two-stage switching model of the B 3562. The left-hand bay contains the power supplies and the pulse generators, while the right-hand bay contains all the video circuitry.

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