



Communications Equipment for Television Studios

THE whole success of a television production depends upon the rapid and accurate distribution of instructions to operational crew and communication between studio, telecine, master control, recording and other areas. The range of equipment described is flexible and capable of being adapted to any production procedure or organizational system. The basic camera communications (camera to camera control and camera control to camera) are incorporated in each camera channel in the Mk. IV series, using transistor amplifiers mounted in the power units.

Communication Unit Type B 3651 (BD 887)

This draw-out printed-wiring case, suitable for rack or mobile use, will house up to ten plug-in transistor amplifier units. It contains in addition, ten relays and power supplies for the amplifiers, relays and cue circuits. It is provided as standard with facilities for a four-camera studio or outside broadcasting unit as described below, but additional or alternative facilities are easily arranged by extra plug-in amplifiers and connections made to existing tagboards.

This unit also serves to distribute cues to cameras, etc., and can be wired for central standards switching.

STANDARD FACILITIES (with 4 amplifiers provided)

Programme sound (PS) to all cameras and operational control positions.

Production talk-back (TB) from the producer or technical director and others to cameras and control positions, etc.

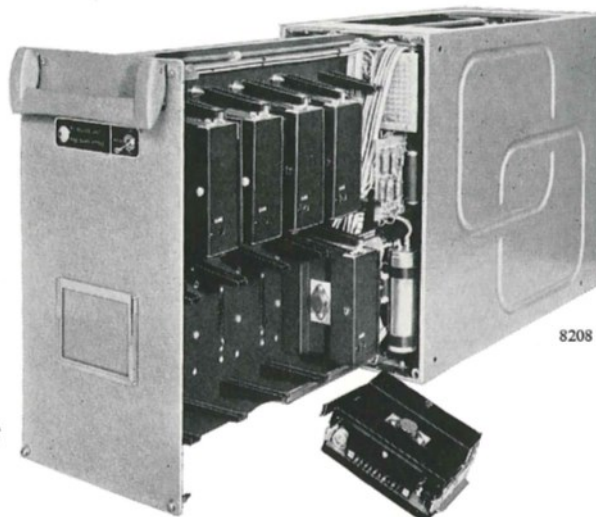
Mixed camera talk-back (MCTB) from all cameras to producer, technical director, etc. On 'omnibus' working MCTB is fed to all camera control positions.

Mixed control room talk-back (MCRTB) to all cameras on 'omnibus' working from all camera controls or a technical supervisory position.

Switching 'omnibus/normal' for four camera channels and calling facilities for three locations (e.g. telecine, master control, dressing rooms, etc.). Studio loudspeaker, switching to TB with muting of control room loudspeaker to prevent howl-round.

Routing of cues from vision mixer to four

Communication Unit
Type B 3651.



cameras and associated picture and wave-form monitors (from which production monitors can in turn be supplied with cues).

A communications distribution panel is available for mounting in the rack cabinet for terminating permanent wiring to other talk-back units.

Amongst the wide variety of additional facilities which have been provided by this unit, the following are typical:

- Microphone boom TB from sound mixer.
- Lighting TB from lighting director to switchboard, patching panel and grid.
- Communications for eight camera channels.
- Commentators TB circuits for two-way communication with producer.
- Engineering TB circuits isolated from production circuits.
- Talk-back to telecine operators, presentation control, etc.

DATA SUMMARY

Inputs: Mains 100-125 or 200-250 V, 50 or 60 c/s approx. 300 VA (5 V steps).

Communications connections from four camera channels, cues from vision mixer, PS - 600 Ω balanced input at zero level from sound console, TB - two inputs at microphone level, MCRTB - input from vision engineer etc., at microphone level. Switching connections to production and engineering TB panels.

Outputs: Communications to four camera channels, TB, PS, MCTB, and MCRTB to several connectors.

Dimensions:

Height	Width	Depth	Weight
15 $\frac{1}{2}$ in.	8 $\frac{1}{2}$ in.	22 in.	50 lb.
(40.5 cm)	(23 cm)	(56 cm)	(23 kg)

Communications amplifier

This transistor amplifier normally plugs into the Type B 3651 Communications Unit but it has been used in other assemblies for special applications. Four transistors are used in a circuit which, by means of alternative feedback connections determined by the wiring of the socket into which the unit is plugged, can be used with moving coil or carbon microphone inputs. Approx. $\frac{3}{4}$ W output is produced for feeding a loudspeaker or about 20 pairs of headphones or headsets. A pre-set gain control is provided.

DATA SUMMARY

Inputs: D.C 16 V at 0.3A.

Gain: Power gain, High - approx. 90 dB
Low - approx. 56 dB

Dimensions:

Height	Width	Length	Weight
5 $\frac{1}{4}$ in.	2 $\frac{1}{4}$ in.	4 in.	1 lb.
(13.3 cm)	(5.2 cm)	(10.2 cm)	(0.4 kg)

Communications Auxiliaries

BECAUSE of the way in which communication facilities must be closely integrated with the operating techniques of a television studio, it is inevitable that special control and outlet panels must be produced. However, a series of standard panels has been made which will satisfy a large proportion of operating positions.

Engineering Talkback Panel

The panel is designed for use at the camera control operator's position and enables the operator to hear and talk either separately or in omnibus to up to four cameras under his control. A talkback microphone kit is often provided with this panel when used with the control-room loudspeaker, but full communication is possible with a headset alone. In addition, volume controls are provided for Programme Sound, Talkback, Mixed Camera Talkback and a monitor loudspeaker.

Production talkback and communication panel.

Production Talkback Panel

This panel allows the director to talk to any of the positions in the studio or control rooms, and to receive MCTB, MCRTB and PS. These three inputs all have level controls associated with them and there is a loudspeaker volume control. Under normal operation, programme sound will be heard, but MCTB or MCRTB can be superimposed over it by operating a key. A talkback microphone is fitted to the panel and its output can be cut, if required, by operating the 'cut mic' key. Three keys are provided, these can be wired to call up various areas as required (e.g., dressing rooms, canteen, etc.). Full communication facilities are possible by plugging a headset into the panel.

Production Talkback and Communication Panel

This panel is designed specifically for outside broadcast use and provides identical facilities to the production talkback panel, thus permitting talkback to one or two

commentators and an order wire. The panel has a telephone and ringer unit which is wired to indicate an incoming call or ring out to a standard telephone line. Two keys route either 'off air' or 'line output' vision and P.S., 'off air', or talkback sound signals to each commentator's position.

Communication Systems Panel

This inexpensive 19 in. panel routes talkback between cameramen and camera control operators on up to four camera channels. By using additional amplifiers it also permits talkback between these and the producer/engineer in charge. On-air cues can be directed through the unit. Rack space requirement is 1 1/4 in. (3.2 cm).

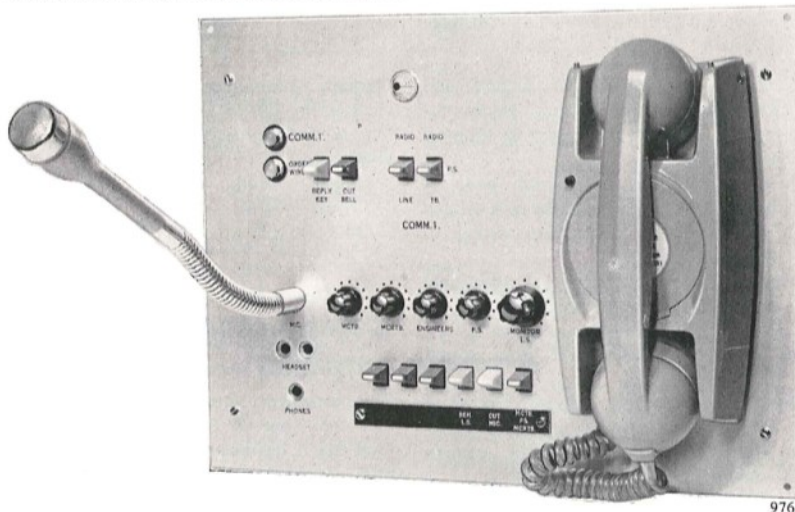
Lightweight headset

Designed for use by cameramen, these headsets are designed to fit a camera channel. They have separate high impedance earpiece circuits and a carbon microphone fitted on a small boom connected into circuit by a twin jack plug.

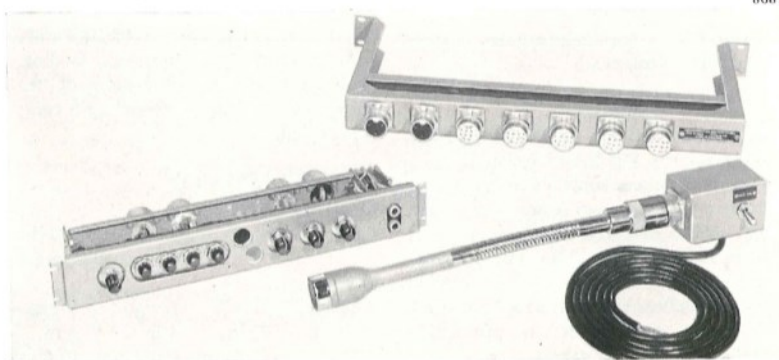
Clear plastic ear discs are the standard supply, but rubber ear pads are available as an alternative.

Lightweight headphones

These have the same earpieces as the above, supported on a single headband. Plastic ear discs are fitted. A separate circuit is connected to each earpiece and connection is by a single jack plug.



Communication panels and microphone



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