



# Service manual for KP 800 record player

ITT Consumer Products Services Ltd.  
FOOTS CRAY, SIDCUP, KENT  
01-300 7733  
82 Milton Road, East Kilbride, Glasgow  
0355-2-25101

**ITT**

# Service manual for KP 800 record player

## SERVICE MANUAL FOR RECORD PLAYER KP800

Dimensions :	— Height 230 mm (9") Width 350 mm (13 $\frac{3}{4}$ " ) Depth 170 mm (6 $\frac{5}{8}$ " )
Weight :	— 3.7 kg (8 lb 3 $\frac{1}{2}$ oz)
Power Supply :	— 220V–240V a.c. 50 Hz.
Power Consumption :	— 14 watts 28 V.A.
Power Output :	— 3 watts at 10% distortion (music power) 2.6 watts at 10% distortion (mean power)
Frequency Response :	— –3 dB at 70 Hz and 12 kHz
Loudspeaker :	— 178 mm x 102 mm (7" x 4") 0.77T (7,700 Gauss). 15 $\Omega$
Record Playing Unit :	— BSR C136 (moulded arm)
Cartridge :	— BSR X5M with ST12 stylus assembly.
Semi-conductor Complement :	— BC131 — Preamplifier BC107 — Driver AC186 } — Matched output pair AC131 }
	Westinghouse LT120 — Bridge rectifier.
Controls :	— Volume, Treble and Bass.

*Issued October 1971*

## CIRCUIT DESCRIPTION OF THE PC20 CHASSIS USED IN THE KP800

Connected across the input of the amplifier is the bass control R2 in series with the resistor R1. When the bass control is set to the position of minimum resistance the cartridge has as its load only about 150K. A consequent loss of output voltage at lower frequencies therefore occurs. When, however, the bass control is at maximum resistance the input impedance of the amplifier is increased to an extent that the cartridge is operating into its optimum load and no loss of the bass frequencies occurs.

The treble control, when set to give a normal response, connects the capacitor C1 directly across the cartridge. As the cartridge represents a capacitive voltage generator of approximately 800pF, connecting the 330pF of C1 in parallel only serves to increase the effective capacitance of the cartridge and has no effect on the frequency response.

In the position for treble cut the slider of R3 is towards R4 and the impedance of R3 in association with C1 causes a reduction in the amplitude of the higher frequencies reaching the first amplifying stage. R4 is included to increase the input impedance of the amplifier.

Negative feedback of all frequencies is applied through R11 and an adjustment of the frequency response of the amplifier is made by means of the frequency selective combination of R10 and C4. The feedback voltage is developed across R6 which also ensures that the base of TX1 is not completely grounded at minimum volume, thereby maintaining good conditions in respect of noise in the first stage.

The amplifier is directly coupled throughout, a d.c. voltage is taken from the earth side of the speaker (C6 returns the speaker to earth for the signal voltages) and used to supply the emitter follower pre-amplifier transistor TX1, which in turn biasses the driver transistor TX2. The current flowing through TX2 flows through R14 and it is the voltage thus produced across R14 which biasses the output transistors. The load for TX2 is R13, the impedance of which is effectively increased by the bootstrap capacitor C5.

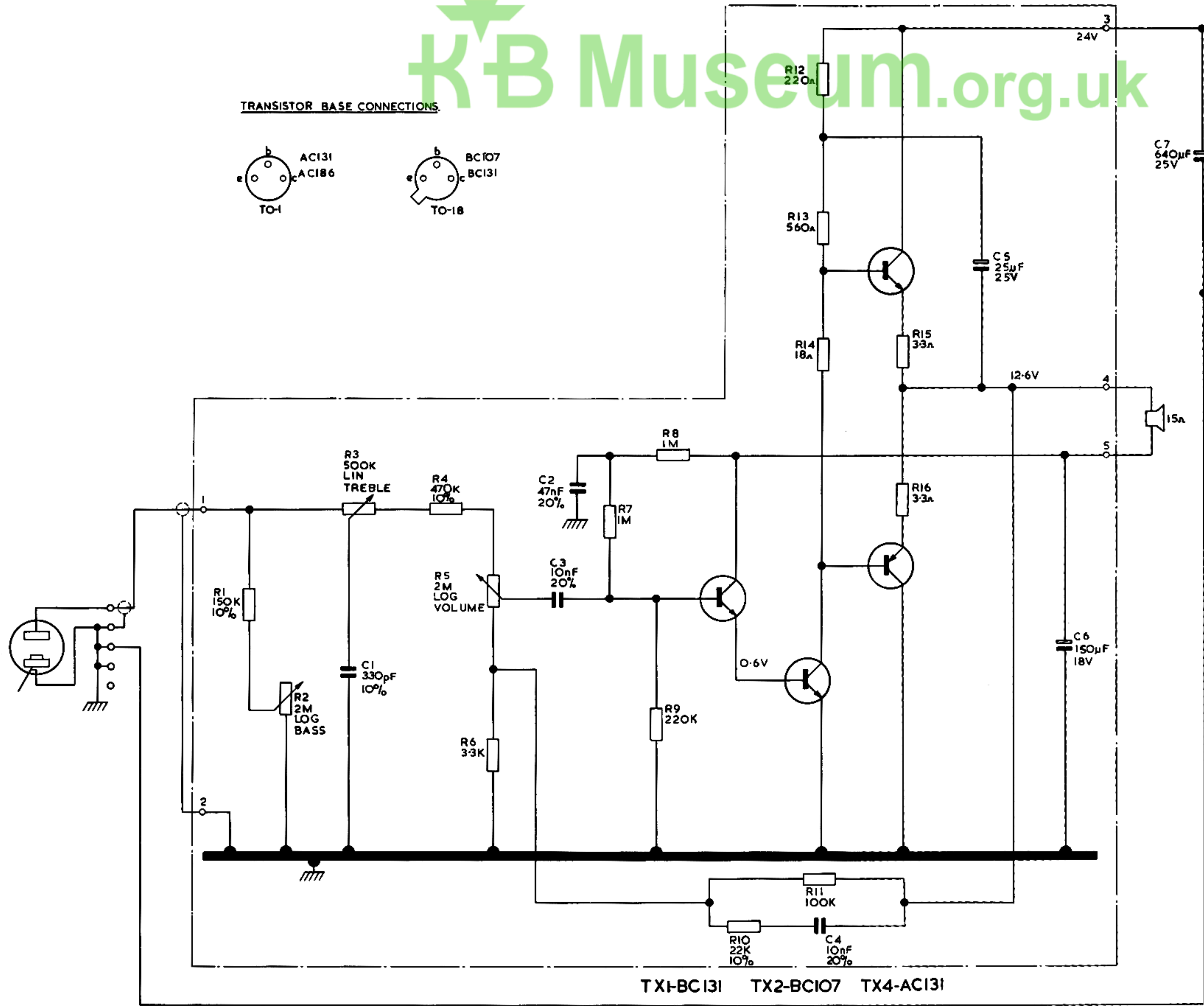
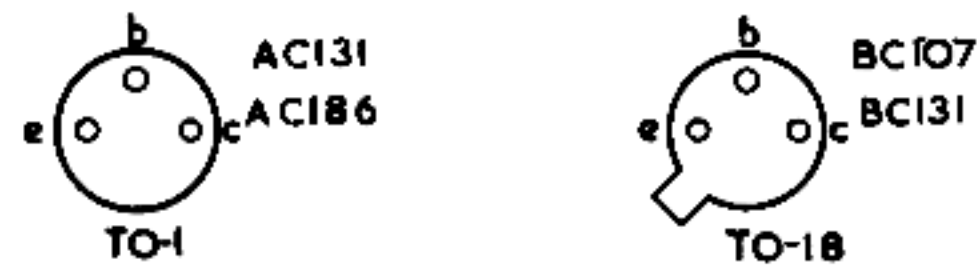
## KP800 DISMANTLING INSTRUCTIONS

The fuses, bridge rectifier and smoothing capacitor are affixed to the underside of the record playing unit. Removal of the three screws which pass through the rubber mounts of the record player unit will allow the unit to be lifted away from the moulded base tray, thus providing access to the aforementioned components as well as the autochanger mechanism.

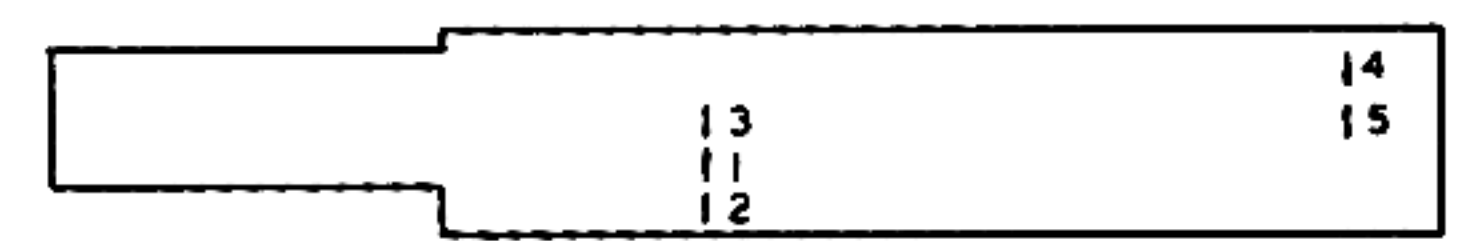
The following instructions are for gaining access to the PC20, the printed circuit amplifier.

1. Remove the moulded lid, which contains the speaker and amplifier, of the KP800 and lay it with the speaker grille facing downwards.
2. Remove the two "L" shaped handle stops, which are secured by two small screws, and withdraw the handle from the cabinet lid.
3. Remove the three deeply recessed screws securing the cover moulding, thereby releasing the amplifier.
4. Lift the amplifier cover moulding upwards and off, thus exposing the component side of the amplifier.
5. Removal of the three control knobs, and the two cable clips, which retain the lead going to the amplifier, will then allow complete withdrawal of the amplifier.

TRANSISTOR BASE CONNECTIONS.



KEY TO THE TAG CONNECTIONS OF THE PC20 WHEN THE CHASSIS IS VIEWED FROM THE COMPONENT SIDE.

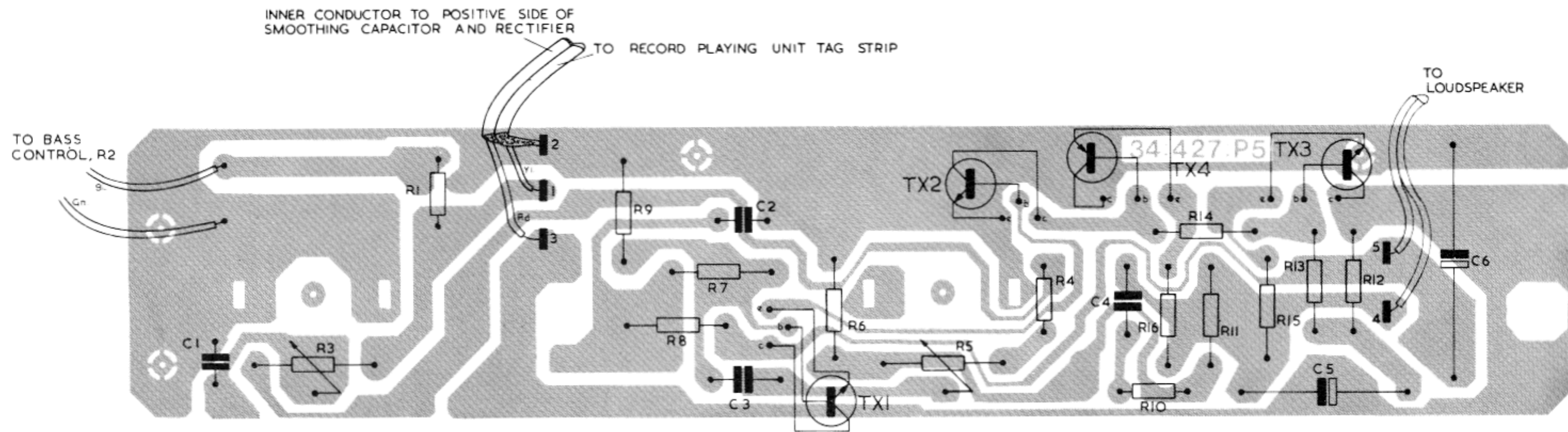


ALL VOLTAGES ARE POSITIVE AND ARE MEASURED WITH AN AVO 8 WITH RESPECT TO THE NEGATIVE RAIL

UNLESS OTHERWISE STATED ALL RESISTORS ARE 5% 1/4W.

**KP 800 Circuit Diagram**

# KB Museum.org.uk



Component Layout

KP800 SPARE PARTS LIST

Moulded speaker enclosure (lid)	35/632—20791
Moulded amplifier cover	35/633—20790
Fascia control panel	28/456—13222
Control knob (3 off)	1863/60—01080
Record changer, BSR C136 (moulded arm) with X5M cartridge	37/74—19041
Cartridge, BSR X5M with ST12 stylus assembly	X5M—19069
ST12 Stylus (Sapphire)	37/82/1/19173
Rectifier, Westinghouse LT120	14/30—12036
Loudspeaker	11/216—03023
Amplifier, complete assembly PC20	1865/1—16002
including—	
Pot. 2M $\Omega$ log. R5	9/424—02270
Pot. 500K $\Omega$ lin. R3	9/424/1—02271
Pot. spindles for above (2 off)	35/638—20867
Pot. 2M $\Omega$ log. R2	9/425—02272
AC131/AC186, matched pair, TX3/4	7/112/P—12409
Heat clip for above	4/339—20029
AC128/AC176 alt. to AC131/AC186	7/64/P—12391
Heat clip for above alternative pair	4/250—20008
Fuse 160MA delay	12/57/15/23068
Fuse 500MA Q.A.	13/57/7/23016