

SUBJECT TO ALTERATION WITHOUT NOTICE ISSUE F 200/250V a.c. 200/250V d.c. SEPT. 1952

S1 is shown in the medium wave position. Valve pin numbers are shown in the small circles.
 S2 is shown in the "Battery" position.

All voltages were taken under "no signal" conditions on the "M" band using a 20,000 Ω/Volt meter.

BUI83, BUI83A, & BUI83M

SUPPLEMENTARY SERVICE INSTRUCTIONS



To be used in conjunction with the BUI83 Service Instructions Manual.

The Supplementary Service Instructions sheet issued previously and covering the BUI83 and BUI83A only should now be destroyed.

Introduction. The BUI83A and BUI83M receivers are modified versions of the original BUI83 receiver; the BUI83 was succeeded by the BUI83A, which has in turn been succeeded by the BUI83M. All of the differences between these receivers are given in the following notes, but it should be observed that the later versions of each particular model incorporated many of the modifi-

cations to be found in the succeeding models, e.g. the BUI83 receivers manufactured after the publication of the Service Instructions Manual, included many of the modifications to be found in the BUI83A. Additions to the Electrical and Mechanical Parts Lists covering these modifications are given in the table following the notes.

BUI83 Later Sets, BUI83A, and BUI83M

Bracket and pulley. The brackets supporting the cord drive pulleys were identical. They have now been changed in order to prevent the cord overlapping on the tuning spindle. The bracket near the tuning spindle is now longer than the one near the volume control.

Drum, tuning. This has been changed from plastic to metal and the nut, square (59156) is no longer required.

Plugs for batteries. The l.t. battery plug has been changed from a three-pin type to a two-pin type by omitting the unused third pin. In addition, the l.t. and h.t. plugs have been fitted with cord loops to facilitate their withdrawal from the batteries. Part numbers are unaltered.

Rectifier. The h.t. metal rectifier has been changed to reduce the temperature rise within the receiver.

To fit the later rectifier, the mounting holes must be enlarged to take the 2 BA studding, and the large ventilation hole in the Paxolin insulator must be

enlarged by $\frac{1}{8}$ in. along each of the long sides in order to accommodate the increased dimensions of the fins.

Trimmer (C22). A different type is now being used as quoted in the parts list following these notes.

Resistor (R11). This has been changed to $2.7M\Omega$ to prevent loss of gain in the receiver when using a resistor which has a value only just within the lower tolerance limit.

Resistor (R3). This has been changed to 270Ω to improve the operation of the receiver at low mains voltages. This resistor is changed again when the Filament Current control is fitted, see "BUI83M only" section.

Resistor (R31). This has been replaced by two 1870Ω resistors in series (R30 and R31) to provide a higher total power rating. In the circuit diagram (page 9) the extra resistor (R30) is connected between the end of R31 and tag M (t.p. 64) on the switch (S2a). In the chassis underside drawing

(page 11), R30 is connected between the right-hand end of R31 and the tag which was blank near the left-hand end of R31; test point 64 now applies to the new tag and not to the junction of the resistors. R31 is changed again when the Filament Current control is fitted, see "BU183M only" section.

Stiffener. To reduce breakages, metal stiffeners have been fitted to the ventilating grilles at the upper corners of the receiver.

L.t. battery. Space has been provided for a larger l.t. battery and the recommended types are as follows:

Ever Ready:	"All Dry" No. 43
Drydex:	H.1191
Siemens:	1540

This battery must be fixed under the retainers with its outlet sockets at the top.

BU183A Intermediate and Later Sets Only

Resistor (R34). To provide compensation for ageing of the metal rectifier (MR1), and to prevent possible overrunning of the valve filaments when the rectifier is new, an 82Ω series resistor has been connected between t.p. 72 on MR1 and t.p. 72 on R29. This resistor must be short circuited, or brought into circuit, as required, in order to keep

To accommodate the larger l.t. battery, L3 has been moved from below and mounted at one side of the ganged capacitor. C41/C42 has been changed to a type having a shorter can, and the battery retainers as well as the cabinet base have been changed (as the base is a part of the cabinet, this has caused the part number of the whole cabinet to be changed). Because of the change to C41/C42, the chassis connections of C23 and C38 are now taken to the tag beside C37. The label quoting replacement battery types has also been changed.

Label, name-plate (BU183A). The label on the underside of the cabinet base has been changed to one marked "BU183A" and is suitable for those BU183A sets with only two mains taps. (See "BU183A later sets and BU183M" section.)

the voltage across C38 within the limits of 6.2V to 6.9V when the receiver is operating from 240V a.c. mains; make sure that the mains tap has been correctly set to suit the supply. This resistor is deleted when the Filament Current control is fitted. (See "BU183M only" section.)

BU183A Later Sets and BU183M

Mains tapping points. To compensate more closely for changes in valve filament current when the receiver is connected to alternative mains supply voltages, the mains tapping points have been increased from two to five. Referring to the circuit diagram on page 9, the resistor R28 and the two position mains adjustor have been replaced by four new resistors and a five position mains adjustor. The new arrangement of the mains tapping panel is as shown at the top of Fig. 5 in this Supplementary Instruction sheet.

Also, a two pin mains tapping plug is now required and the cabinet base has been altered to accommodate it (as the base is a part of the cabinet, the part number of the whole cabinet has been

changed).

A kit of parts with full fitting instructions for this modification is available from Murphy Radio Ltd, Service Department, but the change should not be made by dealers unless experience suggests that it is desirable for a particular receiver.

Label, name-plate. The label on the underside of the cabinet base has been changed as follows:

BU183A. To suit the BU183A receivers with five mains taps.

BU183M. To a label marked "BU183M".

Tuning drive cord. The cord has been changed from Nylon to Braided Line (hemp) as small lumps tended to form on the Nylon cord after it had been in use for some time.

BU183M Only

Filament circuit current control. To provide improved control and balance of the valve filament current the following changes have been made:

A 750 Ω variable resistor (Filament Current control, R28) is connected in series with R31 (see Fig. 5), and R31 itself is reduced from 1870 Ω (BU183A) to 1310 Ω . The new control is mounted on a bracket fixed to the frame aerial board.

The mains resistor R29 is increased from 175 Ω to 310 Ω , and R34 (BU183A) is deleted.

V1 filament resistor (R3) is changed from 270 Ω (BU183A) to 150 Ω .

V2 filament resistor (R7) is changed from 180 Ω to 150 Ω .

V4 filament resistor (R21) is changed from 390 Ω to 270 Ω .

The Filament Current control (R28) is adjusted in the factory to give the correct filament current and its setting should not be altered unless there is good reason. In a series filament circuit of this type the current is largely independent of valve tolerances but it is affected by the tolerances of the mains rectifier (MR1). Therefore, if MR1 is replaced, R28 must be reset to give a filament line current of 58mA; use a good quality meter which is known to be accurate to within 1mA and connect it in series with the heater line between V1 and V3 at V1 pin 1. If the possible meter error is 2mA or more, then R28 is better left alone.

Capacitors C3, C8, C12, and the loud-speaker. These components are now of slightly

different types and have different part numbers. Their fitting is unaltered.

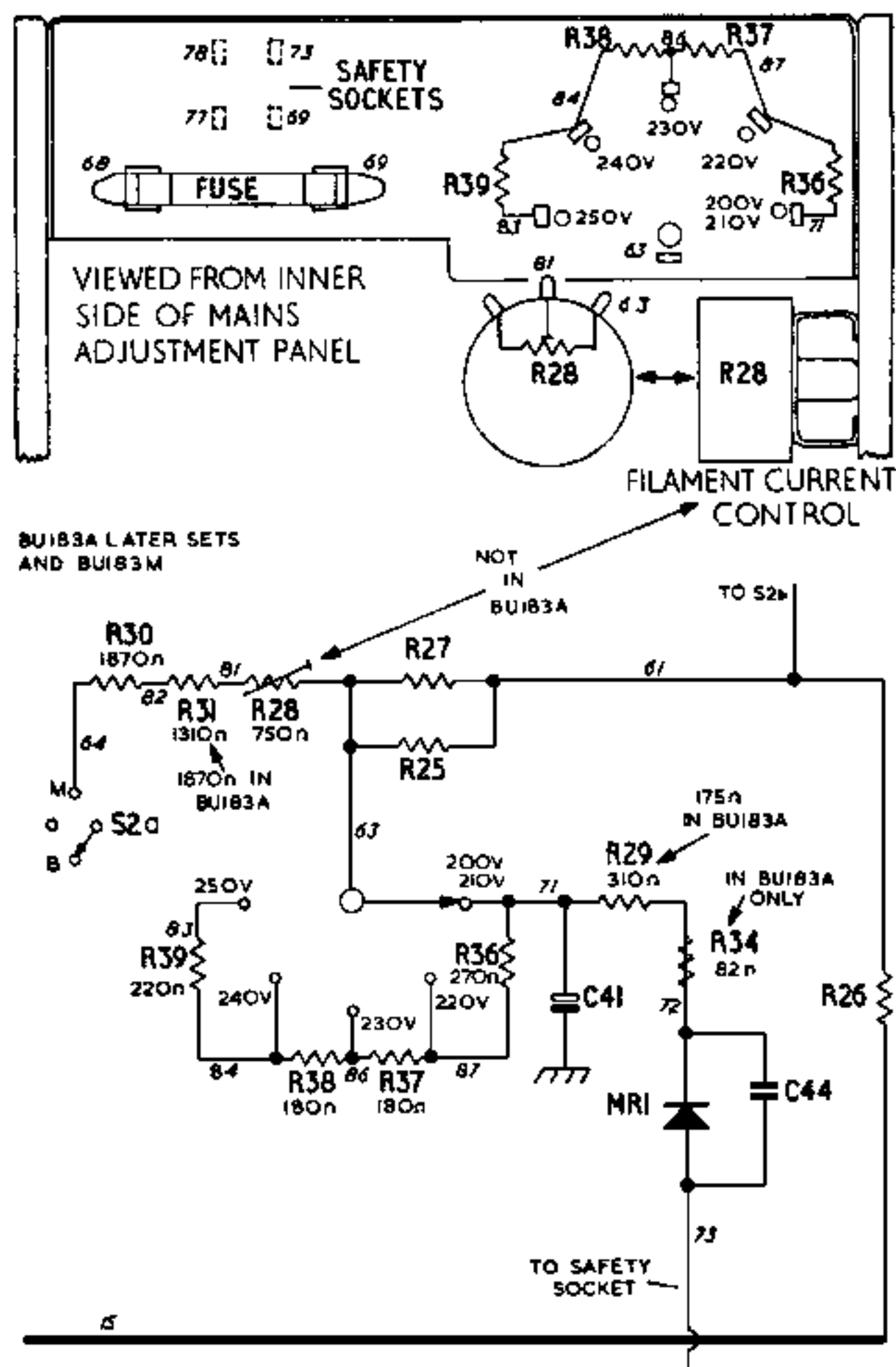


Fig. 5. This diagram applies to the later BU183A models, as well as to the BU183M.

Corrections and Additions to BU183 Service Instructions

Electrical Parts List

1. C29 should be rated at 600 v.w.
2. C36 should be rated at 750 v.w.

Mechanical Parts List

1. Both cabinets should be quoted as being "with base, but less handle and studs".
2. Frame aerial (Part No. 59556) should be deleted.
3. Opposite "Handle blue" and "Handle brown", the

number against the word cabinet should be deleted. The handles are suitable for use with the earlier and the later cabinets.

4. Opposite "Panel, mains tapping", the part number should be 59544 and the remarks should be "with safety socket".
5. Add "59545: Fuseholder: with cover for safety socket".
6. Add "59209: Label, name-plate: on cabinet base".
7. Add "59543: Panel, aerial: with sockets and tags".

PARTS LIST (Electrical Components)

PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS	PART NO.	CIRCUIT NO.	VALUE	TOLERANCE AND REMARKS
66173	C3	220 pF	20%, cer., 500V d.c. (BU183M)	24709	R21	270 Ω	10%, 0.6W (BU183M)
66169	C8	100 pF	20%, cer., 500V d.c. (BU183M)	63781	R28	750 Ω	2.5W, w.w., Filament Current control (BU183M)
66168	C12	82 pF	20%, cer., 500V d.c. (BU183M)	71680	R29	310 Ω	5%, w.w. (BU183M)
56324	C22	5-35 pF	L.W. osc. trimmer	51084	R30	1870 Ω	5%, 7W, w.w.
56160	{ C41 C42	{ 32 μF 32 μF }	{ +50% -20%, elec., 275V d.c.	51084	R31	1870 Ω	5%, 7W, w.w. (BU183 later sets, and BU183A)
24709	R3	270 Ω	10%, 0.6W (BU183 later sets and BU183A)	69004	R31	1310 Ω	5%, w.w. (BU183M)
24613	R3	150 Ω	10%, 0.6W (BU183M)	24543	R34	82 Ω	10%, 1.5W (BU183A intermediate sets)
24613	R7	150 Ω	10%, 0.6W (BU183M)	24717	R36	270 Ω	10%, 0.75W (BU183A later sets, and BU183M)
26245	R11	2.7 MΩ	10%, 0.6W	24645	R37	180 Ω	10%, 0.6W
				24645	R38	180 Ω	10%, 0.6W
				24677	R39	220 Ω	10%, 0.6W

PARTS LIST (Mechanical Components)

PART NO.	DESCRIPTION	REMARKS	PART NO.	DESCRIPTION	REMARKS
71612	Bracket, mounting	for Filament Current control (R28, BU183M)	63573	Label, name-plate	on cabinet base (early BU183A with two mains taps)
59333	Bracket and pulley	near volume control	69114	Label, name-plate	on cabinet base (later BU183A with five mains taps)
60036	Bracket and pulley	near tuning spindle	65408	Loudspeaker	(BU183M)
69116	Cabinet, blue	with base, but less handle and studs (BU183A with five mains taps, and BU183M)	69423	Panel, mains tapping	with safety socket and five mains taps (BU183A later sets, and BU183M)
69115	Cabinet, brown	with base, but less handle and studs (later BU183 with large l.t. battery, and early BU183A with two mains taps)	47351	Plug, 2 pin	for mains tapping (BU183A later sets, and BU183M)
63562	Cabinet, blue	for tuning drive, 30 in. (BU183A later sets, and BU183M)	55232	Rectifier (M.R.1)	Westinghouse 14B986
63561	Cabinet, brown		63569	Retainer (2)	rubber bands for l.t. battery
3962/1	Cord, braided line		63570	Retainer (2)	rubber bands for h.t. battery
48189	Drum, tuning	for cord drive	63572	Stiffener (2)	for grille
63571	Label	battery replacement			
71682	Label, name-plate	on cabinet base (BU183M)			