

26/1 E/9

**POWER PLANT FOR SUBSCRIBERS' APPARATUS**

**Annual Charges**

**1. General.**—The costs of annual charges given in this Instruction are to be used only for economic comparisons in conjunction with form A 669 and must not be used for accounting purposes (e.g. for the calculation of special rentals).

**2. Power supply for installations requiring not more than 4 Ah per day.**

(a) *Direct power leads* (see S 1010)

(i) *Line plant costs.* See Table 1.

(ii) *Costs of energy per year supplied from main exchange over direct power leads.* The annual power consumption of the various switchboards is set out in S 1010. The annual cost can be calculated from the average cost of one shilling per kWh supplied from the main battery.

(b) *Battery float-charged from a power lead* (see S 1211 and S 3211)

(i) *Line plant costs.* See Table 1.

★(ii) *Apparatus costs*

	£
Battery-unit, N 634 .. ..	2.393
10 Cells, Secondary, No. 10 ..	4.087
Lamp, Alarm-indicating, No. 4	1.441
Total ..	7.921

(iii) *Costs of energy per year supplied from main exchange battery to float-charge Battery-unit, N 634.*—This should be calculated as for par. 2 (a) (ii) but the cost will be greater because additional power is required for battery losses (see S 1010).

★(c) *Primary cells (including appropriate battery boxes)*

*Apparatus costs*

	£
18 Cells, Dry, R40 .. ..	4.769
18 " " DS1 .. ..	8.733
36 " " DS1 .. ..	17.310

(d) *Power-units.* For details see par. 5.

★3. **Power supply for installations requiring more than 4 Ah per day at 24V** (see S 1010).

(a) *Direct power leads calculated as in par. 2 (a)*

(b) *Single battery float from a.c. mains supply*

*Apparatus costs*

(i) *Using Rectifier No. 93A* (see S 1212)

	£
Rectifier No. 93A .. ..	2.003
Battery-unit No. 1A .. ..	1.759
12 Cells, Secondary, No. 10 ..	4.907
Lamp, Alarm-indicating, No. 4	1.441
Total ..	10.110

(ii) *Using Rectifier No. 38A* (see S 3320)

	£
Rectifier No. 38A .. ..	2.541
Lamp, Alarm-indicating, No. 4	1.441
12 Cells, Secondary, Enclosed, No. 1	10.752
12 Cells, Secondary, Enclosed, No. 2	11.457
12 Cells, Secondary, No. 21/15 ..	11.277

★TABLE 1

Conductors	Annual charges (cost per mile per pair underground and per single wire overhead) (£)
U/G cable—4 lb.	3.04
6½ lb.	4.25
10 lb.	6.11
20 lb.	9.01
40 lb.	12.02
O/H Wire, Cadmium-copper, P.V.C.	15.88
	(per single wire mile)

For larger installations requiring Rectifiers No. 38B-E, there is no alternative supply, hence economic comparisons will not arise, and costs are therefore not given.

	£
24 Cells, Secondary, No. 21/30 ..	20-508
Lamp, Alarm-indicating, No. 7	1-167
Total ..	28-021

(c) *Power-units.* For details see par. 5.

★4. Power supply for installations requiring up to 30 Ah per day at 50V.

(a) *Single battery float from a.c. mains supply*

*Apparatus costs*

(i) *Using Rectifier No. 94A* (see S 1212 and S 3351)

	£
Rectifier No. 94A .. ..	2-812
Battery-unit No. 2A .. ..	2-101
24 Cells, Secondary, No. 10 ..	9-823
Lamp, Alarm-indicating, No. 7	1-167
Total ..	15-903

(ii) *Using Rectifier No. 98A* (see S 3351)

	£
Rectifier No. 98A .. ..	2-481
Unit, Auxiliary Apparatus, No. 101A	0-575
24 Cells, Secondary, No. 21/30 ..	20-508
Lamp, Alarm-indicating, No. 7	1-167
Total ..	24-731

(iii) *Using Rectifier No. 61B* (see S 3351)

	£
Rectifier No. 61B .. ..	5-771
Unit, Auxiliary Apparatus, No. 101A	0-575

(b) *Power-units.* For details see par. 5.

★5. Power-units from a.c. mains supplies (see S 1051).

*Apparatus costs*

	£
Power-unit No. 50A (50V, $\frac{1}{2}$ amp)	1-449
„ No. 51A (50V, 1 amp)	1-522
„ No. 52A (50V, 2 amp)	1-918
„ No. 53A (10V, $\frac{1}{2}$ amp)	1-055
„ No. 55A (24V, $\frac{1}{3}$ amp)	1-500
„ No. 56A (24V, 1 amp)	1-459
„ No. 57A (24V, 2 amp)	1-702
„ No. 62A (50V, 4 amp)	2-461

6. Continuous ringing supply (see S 3801).

(a) *Ringing lead.* The line plant costs stated in Table 1 apply. The annual charges on overhead Wire, Cadmium-copper, P.V.C. for a ringing lead pair are £28-12 per mile.

★(b) *Supply generated at subscribers' premises*

*Apparatus costs*

	£
Converter, Ringing, No. 4	1-612
„ „ „ 5	1-987
„ „ „ 6	2-113
„ „ „ 7	1-291
„ „ „ 10A	1-422
Power-unit, SA 1013	1-534
Vibrator, Ringing, No. 2B	8-709
„ „ „ 3B	5-525

References:—S 1010, S 1051, S 1211, S 1212, S 3211, S 3320, (S3) S 3351, S 3801

END