

## POWER UNIT SELECTION KEY TELEPHONE SYSTEMS AND KEY SERVICE UNITS

### 1. GENERAL

**1.01** This section provides the methods of selecting power units having an adequate output suitable to the type and size of a centralized key telephone system.

**1.02** This section is reissued to:

- Add 20C3, 79B2, and 90B1 power units (Table C)
- Add 400G, 400H, 407C, 424B, 424C, 454A, 456B, 460B, 468A, 469A, 471B, 473A, 474A, 476A, 478B, 479B, 481A, 494A, and 498A KTUs (Table A)
- Delete Table A (Quick Selection Guide for Power Units)
- Delete Table B (Equivalent Units for 1A and 1A1 KTUs)
- Delete Table C (Equivalent Units for 1A2 KTUs)
- Revise Part 2 and delete Part 3
- Change Table F to Table A
- Change Table E to Table B
- Change Table D to Table C.

Since this reissue is a general revision, no revision arrows have been used to denote changes.

**1.03** Centralized key telephone systems generally consist of mounting facilities, KTUs, power supplies, cabling, distribution terminals, adapters,

fasteners, and supplemental apparatus cabinets or relay racks.

**1.04** Although the output capacity of the recommended power supply may be less than that of the calculated connected load, the guide lines provided herein will ensure adequate power with very few exceptions. For those installations where all features provided would be in use at the same instant, consult your supervisor for power recommendations.

### 2. POWER UNITS FOR COMBINATIONS OF 1A, 1A1, 1A2, AND 6A KEY TELEPHONE SYSTEMS

**2.01** A power unit for a large installation of random-mounted key telephone system equipment is selected by the following method:

- (1) Determine the number and type of KTUs required.
- (2) Find the current drain for each KTU from Table A (1A2 KTUs) or Table B (1A and 1A1 KTUs).
- (3) Add the current drain for all KTUs used. (The total will be in milliamperes.)
- (4) Convert milliamperes to amperes (1000 milliamperes equal 1 ampere).
- (5) Refer to Table C to determine the type of power supply required for the installation.

**Note:** When choosing a power supply, consideration should be given to the lamp load. Exceeding the lamp power limitation of the power unit may result in reduced current available for other voltages.

### NOTICE

Not for use or disclosure outside the  
Bell System except under written agreement

TABLE A

## 1A2 KTU CURRENT DRAINS AT 20 VOLTS

KTU	DC DRAIN IN MA	KTU	DC DRAIN IN MA	KTU	DC DRAIN IN MA
400D	53	423A	120	456A/B	0
400G	58	424A/B/C	325	457A	600
400H	60	425B	160	460A/B	190
401A	107	426A	160	461A	122
402A	0	427B	160	467A	31
404A	0	427C	160	468A	85
407B/C	235	428A	40	469A	0
412A	54	429B	12	471B	40
413A	0	430A	44	473A	90
414A	122	440A	320	474A	7
415A	132	444A	97	476A	90
416A	141	448A	90	478B	110
417A	74	449A	90	479B	70
418A	113	451A/B	0	481A	130
419A	135	452A	93	494A	150
420A	120	453B	0	498A	105
421A	34	454A	150		
422B	155	455A	0		

**TABLE B**  
**1A AND 1A1 KTU CURRENT DRAINS AT 20 VOLTS**

KTU	DC DRAIN IN MA	KTU	DC DRAIN IN MA	KTU	DC DRAIN IN MA
1A	0	26B	71	222A	1447
1C	0	29B	40	223A	720
2A	117	30A	44	224B	69
3A	21	31A	110	225A	151
5A	0	33A	200	226B	44
6B	0	34A	0	227B	88
6C	0	56A	300	228A	0
7A	49	201C	0	229B	44
10A	32	202B	44	230B	470
11A	0	202C	124.5	232B	300
12B	0	202D	124.5	232C	300
13C	112	202E	1222	234A	960
14A	0	203A	160	235B	200
15D	0	204A	300	236B	135
16A	0	205A	164	237B	81
17C	32	207C	715	238A	1170
18D	94	208A	60	239A	1287
18E	94	210A	132	240B	140
19E	188	211A	100	247B	140
20A	0	213B	68	251A	0
22-Type	0	214B	227	252A	0
23A	0	215B	157	253B	175
24A	0	216A	44	259B	0
25B	94	217B	24		

TABLE C

POWER UNITS FOR CENTRALIZED KEY TELEPHONE SYSTEMS  
OUTPUT AND MOUNTING INFORMATION

UNIT	AMPERES					RING FREQ. (Hz)	MOUNTING
	20V DC TALK	20V DC SIG	MAX. TOTAL DC	10V AC LAMP	18V AC SIG		
101G J86731A, L1 (MD)	0.9	0.6	1.5	2.8	1.4	—	Wall
101G J86731A, L2 (MD)	0.9	0.6	1.5	2.8	1.4	20	Wall, Floor
101G J86731A, L4 (MD)	0.9	0.6	1.5	2.8	1.4	20	Wall, Floor
101G J86731A, L5	—	—	—	—	—	20	Wall
101G J86731A, L6 (MD)	0.9	0.6	1.5	2.8	1.4	—	Wall
101G J86731A (Modified with J86248, L3)	0.6	1.5	1.5	1.4	1.4	20	Wall, Floor
101G J86731B-2, L1 (MD)	—	—	—	17	—	—	Wall
101G J86731C-2, L1	—	—	—	—	—	20	Rack, Cabinet
101G J86731C-2, L2	—	—	—	—	—	20	Wall
101G J86731D-3, L1	0.9	0.6	1.5	2.8	1.4	—	Rack, Cabinet
101J J86471B, L1 (MD)	4.0	4.0	4.0	5.0	1.6	—	Wall or Rack
19A-2	0.6	1.9	1.9	5.5	—	—	Rack
19B-2	0.6	1.5	1.5	4.5	1.4	—	Wall
19C-2	0.6	1.5	1.5	4.5	1.4	—	Rack
19C-3*	0.6	1.9	1.9	5.5	—	—	Cabinet
20A-2	0.6	1.5	1.5	4.5	1.4	30	Wall
20B-2	0.6	1.5	1.5	4.5	1.4	30	Wall
20C-2	0.6	1.5	1.5	4.5	1.4	30	Rack
20C-3	0.6	1.9	1.9	4.5	1.4	30	Rack
29B-1‡	1.0	4.0	4.0	12.0	1.6	—	Wall
29C-1	1.0	4.0	4.0	12.0	1.6	—	Rack
30B-1	1.0	4.0	4.0	12.0	1.6	30	Wall
30C-1	1.0	4.0	4.0	12.0	1.6	30	Rack
34B-1	—	—	—	25†	—	—	Wall
34C-1	—	—	—	25†	—	—	Rack
67B-1§	—	—	—	12	—	—	Wall
67C-1§	—	—	—	12	—	—	Rack
79B-2	0.6	1.9	1.9	4.5	—	30	Wall
90B-1	1.0	4.0	4.0	12.0	—	30	Wall

\* 19C-3 is a 19A-2 assembled in a P-15G705 cabinet.

† 35 amperes if load is intermittent, ie, approximately 5% of any 6-hour period.

‡ Kit of parts D-180277 converts 29B1 to 30B1.

§ The 67B-1 and 67C-1 also provide 10V AC at 0.3 amperes for interrupter motor power.