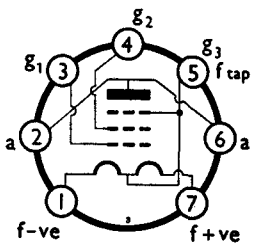
MINIATURE OUTPUT PENTODES

1·4/2·8V DIRECTLY HEATED

N18
N19

OCTOBER, 1951

BASE CONNECTIONS AND VALVE DIMENSIONS



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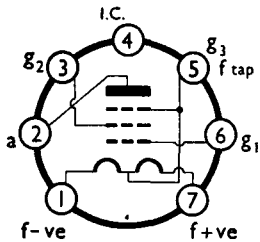

N19

View from underside of bases.

Base :	B7G	Overall length :	49—55	mm.
Bulb :	Tubular.	Seated length :	43—49	mm.
		Max. diameter :	19	mm.

RATING

	Series		Parallel		
V_f	2·8		1·4		V
I_f	0·05	approx.	0·1	approx.	A
V_a	90	max.	90	max.	V
V_{g2}	90	max.	90	max.	V
*I_k	6	max.	6	max.	mA

*For each 1·4 volt filament section.

CAPACITANCES (of cold unscreened valve)

$c_{a—all}$	5·3	pF	$c_{g1—all}$	5·6	pF	$c_{a—g1}$	0·35	pF

TYPICAL OPERATION

Pentode connection :

	Series		Parallel	
V_a	90	85	90	V
V_{g2}	90	85	90	V
V_{g1}	−4·5	−5	−4·5	V
v_{in} (pk)	4·5	5	4·5	V
I_a (o)	7·7	6·9	9·5	mA
I_{g2} (o)	1·7	1·5	2·1	mA
r_a	0·12	0·12	0·1	MΩ
g_m	2	1·9	2·1	mA/V
R_a	10	10	10	kΩ
D	7	10	7	%
P_{out} (max. sig.)	240	250	270	mW

FILAMENT OPERATION

For parallel operation, pins 1 and 7 should be positive and pin 5 negative.

When operating the filament from a mains supply, the voltage should be adjusted to 1·3 per filament section or the current to 47·5 mA mean. Under certain conditions, particularly when series operated, a suitable shunt resistor will be required.

SCREENING

No internal or external screening is fitted to the valve.

MOUNTING

Any position.

RETAINING

A retaining device should be used.

VENTILATION

No special precautions.

MICROPHONY

Although this is of a very low order, equipment should be designed to minimise microphony.

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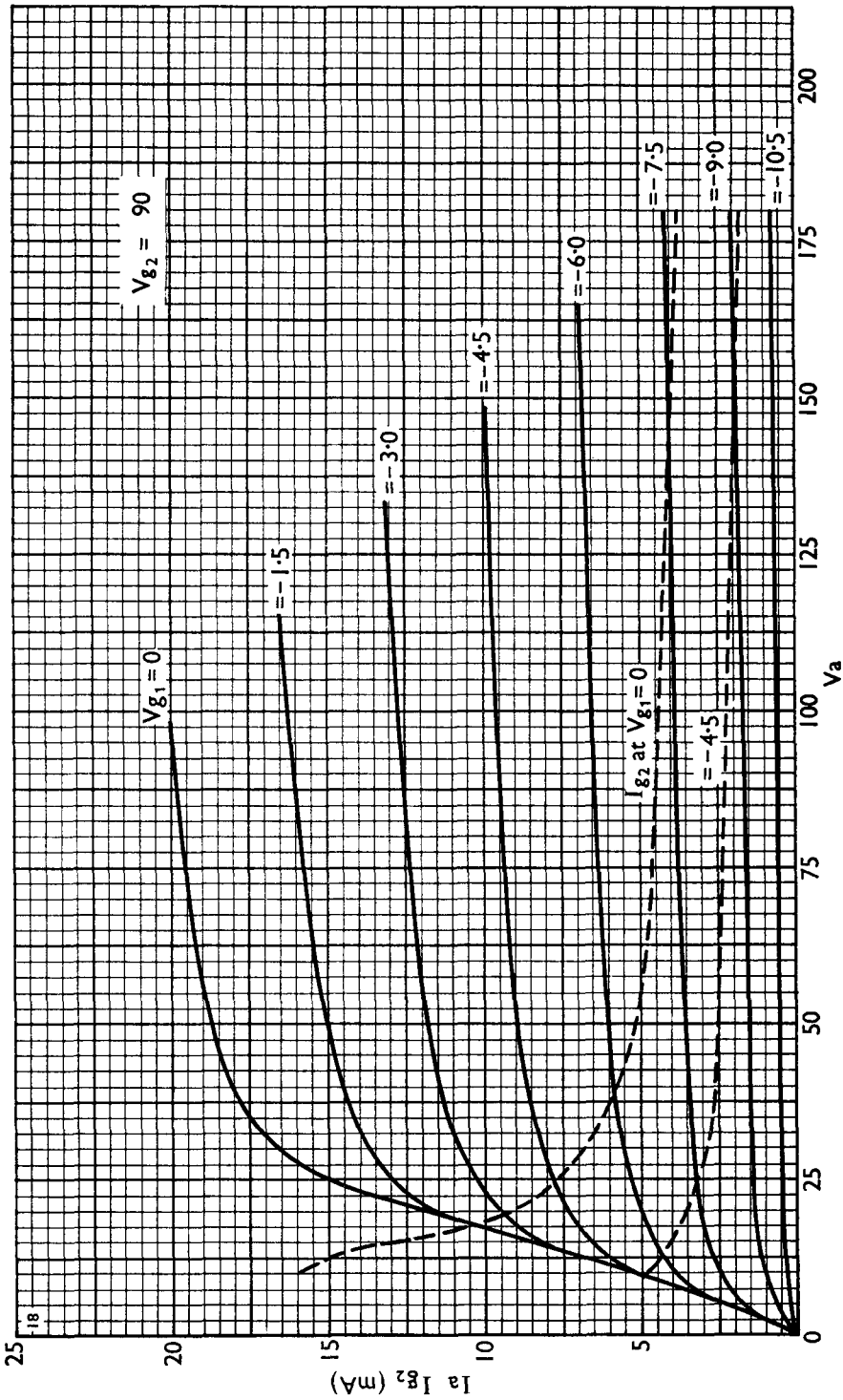
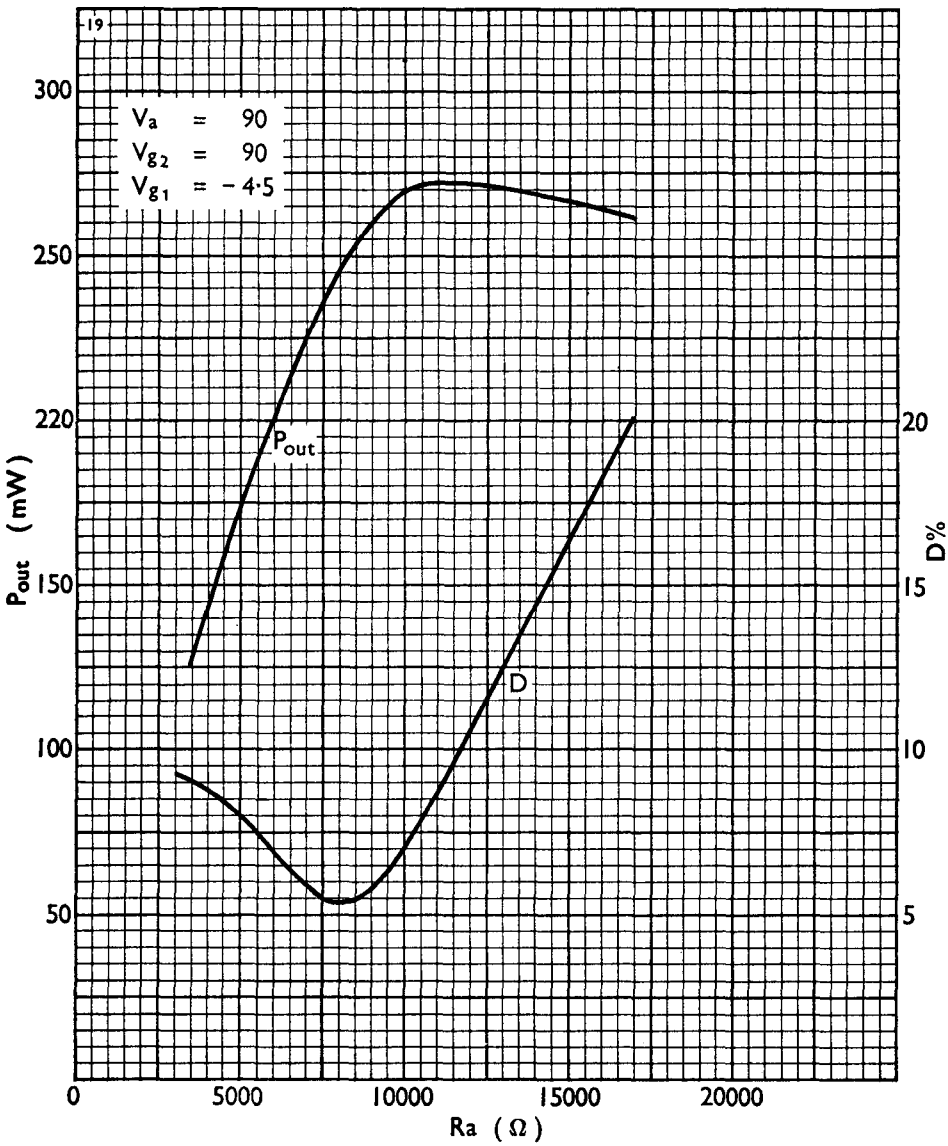
N19



$V_{g_2} = 90$
$V_{g_1} = 0$
$= -1{\cdot}5$
$= -3{\cdot}0$
$= -4{\cdot}5$
$= -6{\cdot}0$
$= -7{\cdot}5$
$= -9{\cdot}0$
$= -10{\cdot}5$
I_{g_2} at $V_{g_1} = 0$
$= -4{\cdot}5$
Va
0
25
50
75
100
125
150
175
200
Ia I_{g_2} (mA)
5
10
15
20
25
18

N18
N19


19
V_a = 90
V_{g2} = 90
V_{g1} = −4·5
P_{out}
D
300
250
220
150
100
50
P_{out} (mW)
20
15
10
5
D%
0
5000
10000
15000
20000
Ra (Ω)