



### APPROXIMATE DATA

$V_f$	18-20	V	
$I_f$	100	A	
$V_{a(max)}$	15	kV	
$P_{a(max)}$	15	kW	
$P_{gl(max)}$	500	W	
$I_{gl(pk)} (RF) (max)$	30	A	
$\mu$	} taken at $V_a$ 15 kV $V_{gl}$ 0	45	
$r_a$		4,500	$\Omega$
$g_m$		10	mA/V
$f_{(max)}$		40	Mc/s
$C_{a-gl}$	20.2	pF	
$C_{a-k}$	1.7	pF	
$C_{gl-k}$	27.2	pF	

Each valve is marked with the filament voltage to give 12 A emission at 90% saturation.

### Typical Operation

#### (1) HF POWER AMPLIFIER AND OSCILLATOR. CLASS C TELEGRAPHY

(Unmodulated, one valve, key down conditions)

$V_a$	15.0	12.0	10.0	kV
$I_a$	2.65	2.6	2.4	A
$V_{gl}$	-450	-375	-440	V
$I_{gl}$ (a)	250	280	300	mA
$V_{gl(pk)}$	1,450	1,375	1,440	V
$P_{dr}$ (a)	350	400	420	W
$Z_a$	2,900	2,400	2,000	$\Omega$
$P_a$	12.5	10	7.7	kW
$P_{out}$	27.3	21.2	16.3	kW

#### (2) HF POWER AMPLIFIER. CLASS C

(Anode modulated, one valve, carrier conditions, permissible modulation 100%)

$V_a$	12.0	10.0	kV
$I_a$	1.05	1.1	A
$V_{gl}$	-740	-650	V
$I_{gl}$ (a)	70	72	mA
$V_{gl(pk)}$	1,230	1,140	V
$P_{dr}$ (a)	90	85	W
$Z_a$	5,200	4,150	$\Omega$
$P_a$	3.0	3.2	kW
$P_{out}$	9.6	7.8	kW

#### (3) HF POWER AMPLIFIER. CLASS B TELEPHONY

(One valve, carrier conditions, permissible modulation 100%)

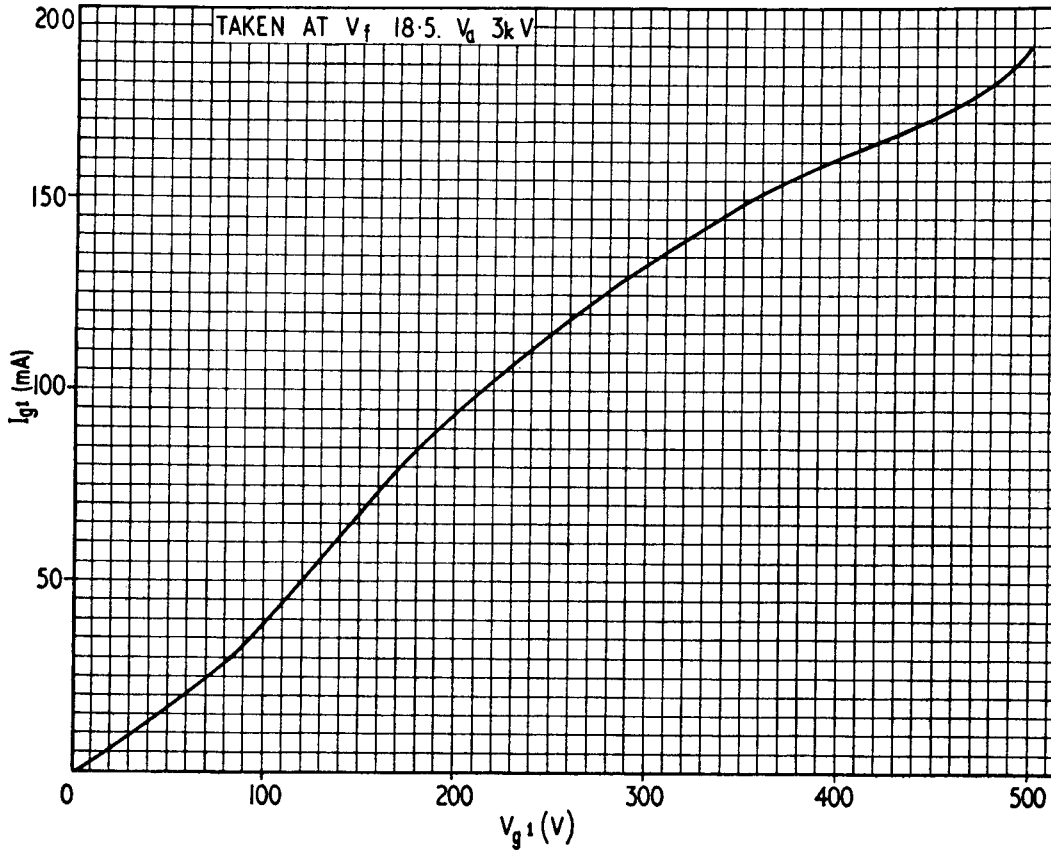
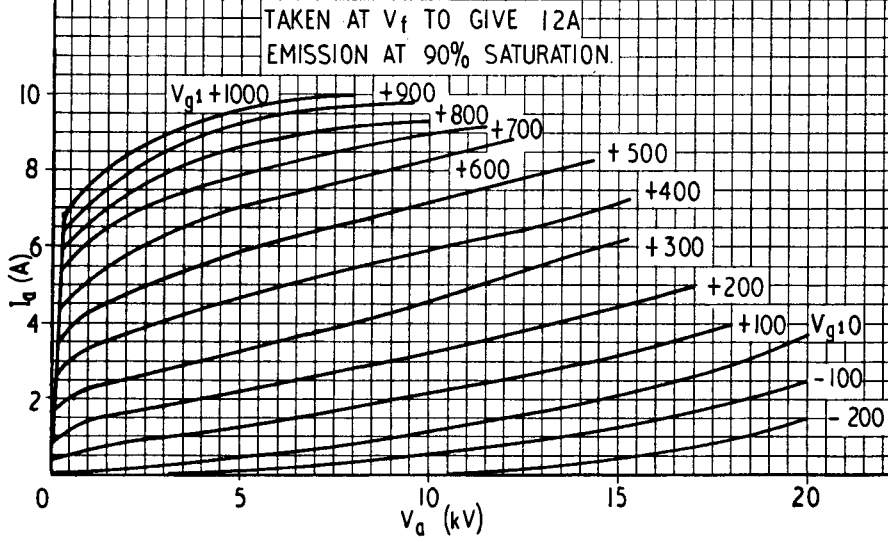
$V_a$	15.0	10.0	kV
$I_a$	1.2	1.2	A
$V_{gl}$	-330	-220	V
$V_{gl(pk)}$	570	510	V
$P_{dr}$ (a) (b)	85	80	W
$Z_a$	3,240	1,900	$\Omega$
$P_a$	12.4	8.75	kW
$P_{out}$	5.6	3.25	kW

The figures quoted above are only applicable when operating at frequencies up to 20 Mc/s. At higher frequencies the anode voltage must be reduced to the following percentages of the maximum:

f (Mc/s)	20	25	30	40
% $V_{a(max)}$	100	75	50	35

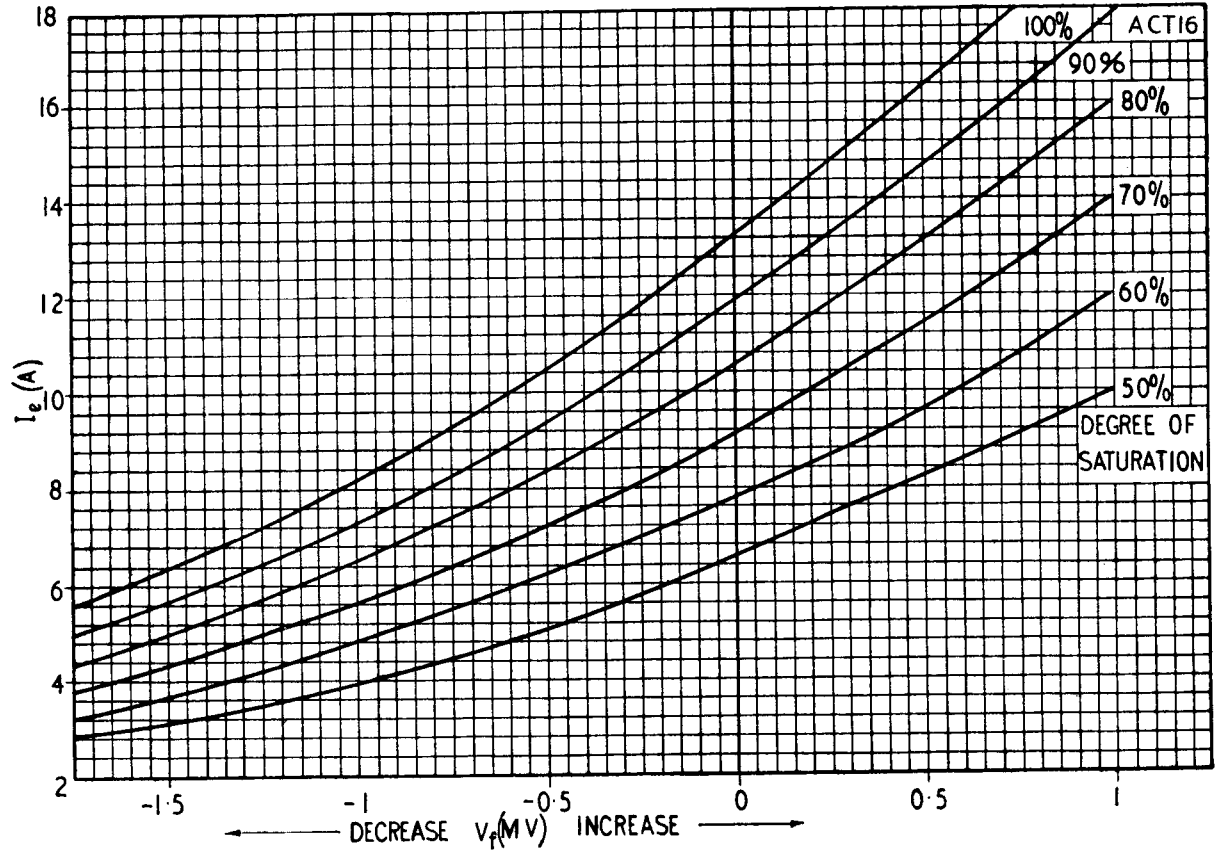
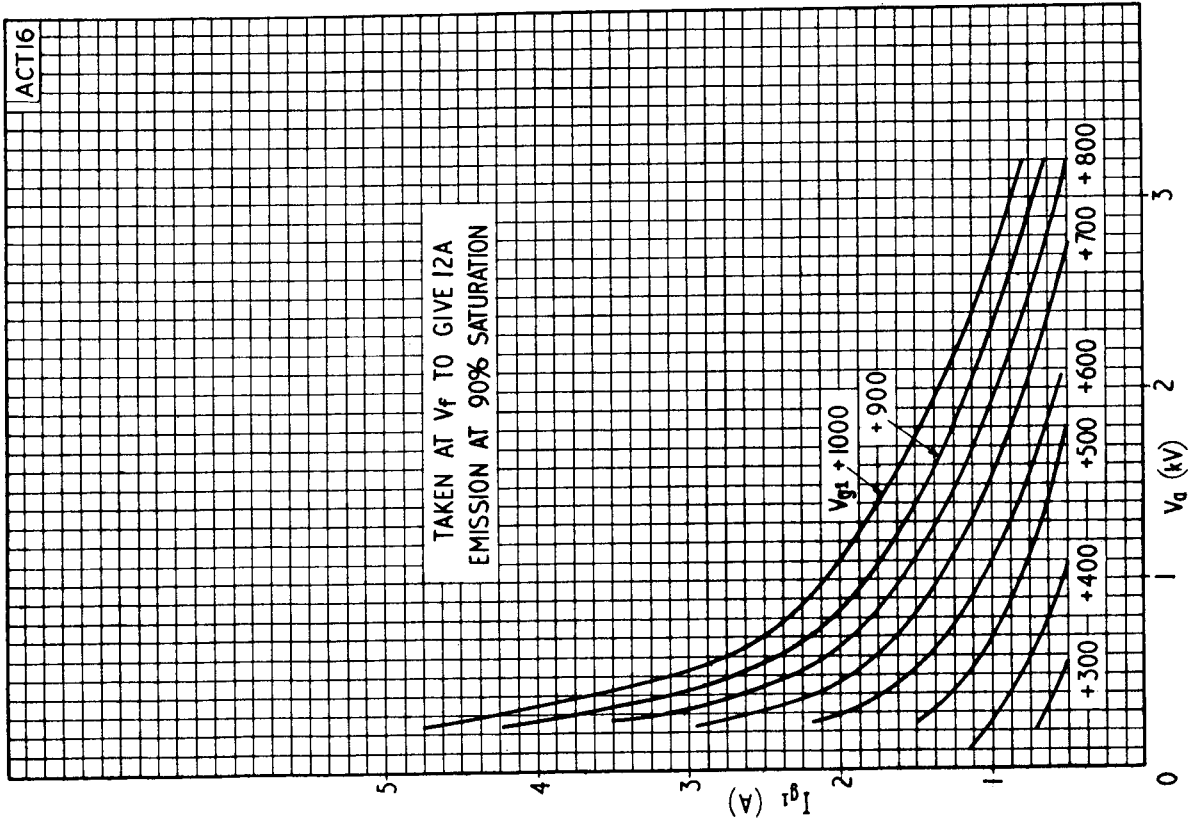
### NOTES

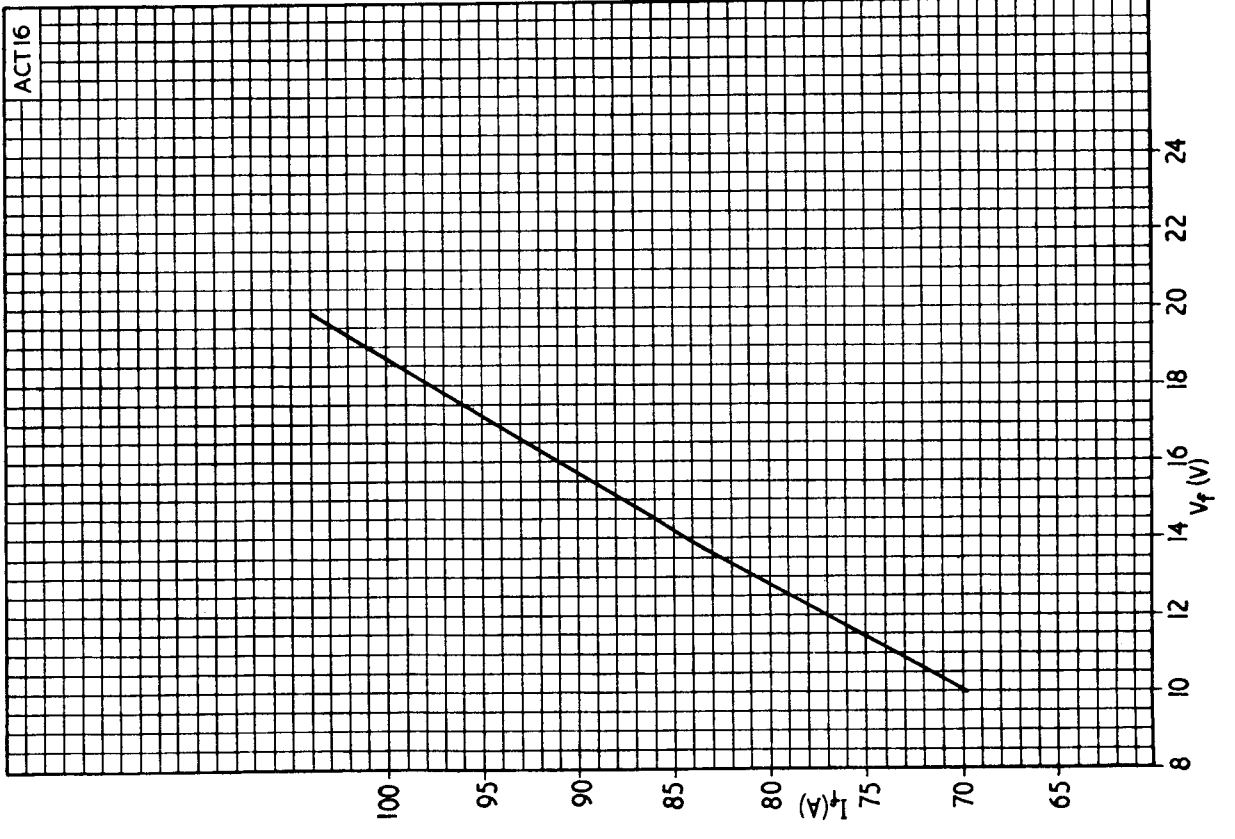
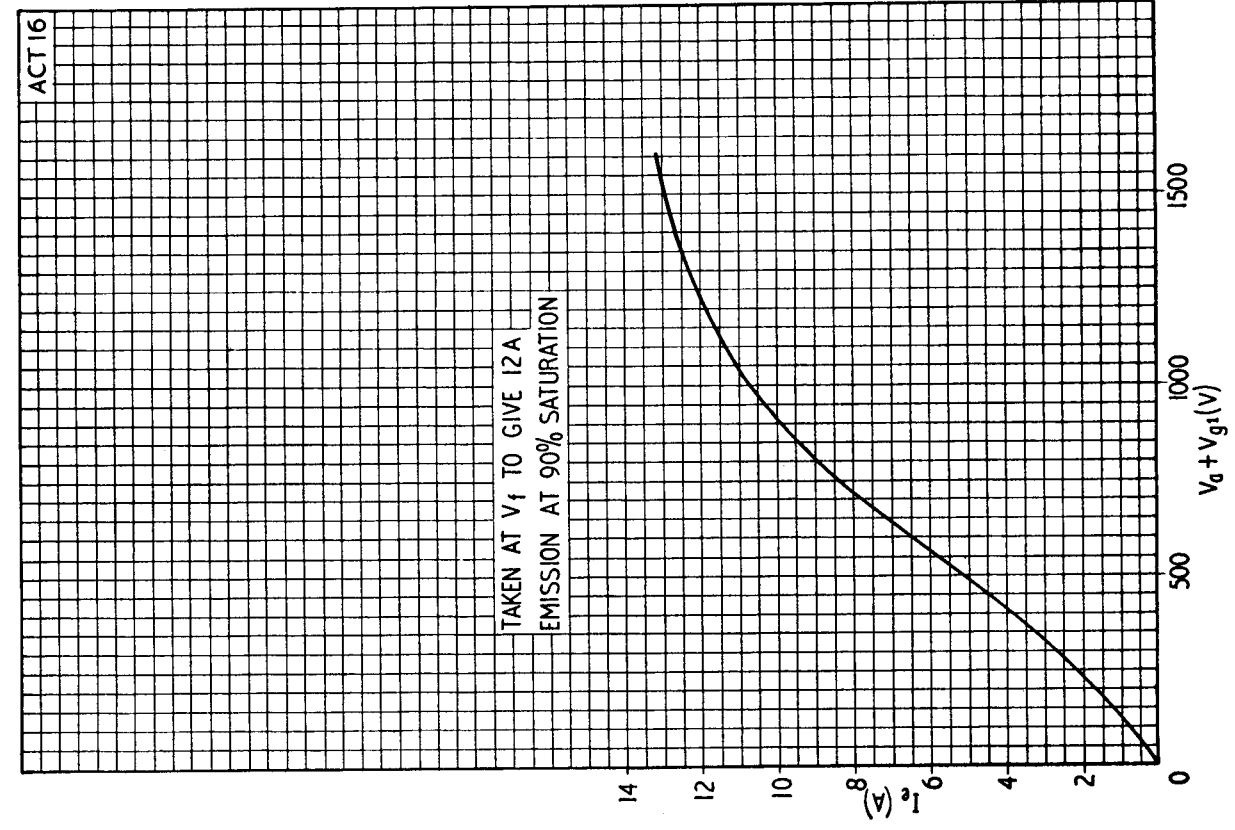
- (a) Subject to wide variation. The figures are approximate only.
- (b) At crest of audio cycle with 100% modulation.



ACT16

TAKEN AT  $V_f$  TO GIVE 12A  
EMISSION AT 90% SATURATION











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