from JETEC release
#1932, May 27, 1957

VERTICAL DEFLECTION AMPLIFIER

The 6EF6 is a beam power pentode designed primarily for application as a vertical deflection amplifier in wide angle television receivers. Types 9EF6 and 12EF6 are identical to the 6EF6 except that they are designed for series heater operation and therefore, both the 9EF6 and the 12EF6 incorporate heater warm-up control characteristics to minimize surges during the warm-up cycle.

MECHANICAL DATA

Coated unipotential cathode	Bulb T-9
Base: Intermediate-shell octal	JETEC B7-7 or B6-81 or B7-59 or 36-84
Outline drawing	JETEC 9-13 or 9-42
Maximum diameter	1-9/32"
Maximum overall length	3-3/8"
Maximum seated height	2-13/16"
Base pin connections	Basing, JETEC 7S
Pin 1 - No connection	Pin 5 - Grid #1
Pin 2 - Heater	Pin 7 - Heater
Pin 3 - Plate	Pin 8 - Cathode, grid #3
Pin 4 - Grid #2	

ELECTRICAL DATA

Heater Characteristics

	6EF6	9EF6	12EF6	
Heater voltage	6.3	9.4	12.6	volts
Heater current	0.9	0.6	0.45	amps
Warm-up time (approx.)		11	11	secs.

Interelectrode capacitances (no external shield)

Grid #1 to plate	0.8 uuf
Grid #1 to cathode grid #3, grid #2, heater	11.5 uuf
Plate to cathode grid #3, grid #2, heater	9.0 uuf

RATINGS - DESIGN CENTER SYSTEM

Vertical deflection amplifier - pentode connected

Maximum heater - cathode voltage	
Heater positive with respect to cathode	
Total DC and peak	200 volts
DC	100 volts
Heater negative with respect to cathode	
Total DC and peak	200 volts
Maximum plate voltage	250 volts
Maximum grid #2 voltage	250 volts
** Maximum peak positive pulse plate voltage (abs. max.)	2000 volts
Maximum plate dissipation	10 watts
Maximum peak negative pulse grid #1 voltage	250 volts
Maximum grid #2 dissipation	2.0 watts
Maximum average cathode current	60 ma.
Maximum peak cathode current	180 ma.
* Maximum grid #1 circuit resistance (Rk=100 ohm minimum)	2.2 megohms

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

	6EF6	9EF6	12EF6	
Heater voltage	6.3	9.4	12.6	volts
Heater warm-up time (approx.)	---	11	11	secs.
Plate voltage			250	volts
Grid #2 voltage			250	volts
Grid #1 voltage			-18	volts
Plate current			50	ma.
Grid #2 current			2	ma.
Transconductance			5000	umhos
Grid #1 voltage (approx.) for Ib = 1 milliampere			-40	volts
*** Plate current for Eb=75 V, Ec2=250 V, Ec1=0			170	ma.
*** Screen current - Eb=75 V, Ec2=250 V, Ec1=0			17	ma.

* In the case of grid resistor bias some protection is necessary for the tube in the no drive conditions.

** The duration of the voltage pulse must not exceed 15% of one scanning system which is 2.5 milliseconds in a 525 line, 30 frame system.

*** Instantaneous values.