

## LOCAL OSCILLATOR KLYSTRON

Mechanically-tuned klystron of all-metal construction designed for use as a local oscillator over the frequency range 8500 to 9660 Mc/s.

# KS9-20A

(2K25)

### PRELIMINARY DATA

#### HEATER

Indirectly Heated

$V_h$	6.3	V
$I_h$	0.6	A

#### MOUNTING POSITION

Any

#### CHARACTERISTICS

Minimum electronic tuning range at 9370 $\pm$ 0.3% Mc/s between half power tuning points	35	Mc/s
Minimum electronic tuning range between half power tuning points at all other frequencies	28	Mc/s
Minimum power output at all frequencies	20	mW
Maximum change of frequency with temperature	0.2 Mc/s per °C	

#### TYPICAL OPERATION AT 9370 Mc/s—Mode A

With waveguide size W16.

D.C. resonator voltage	300	V
D.C. reflector voltage range	-130 to -190	V
D.C. resonator current	22	mA
D.C. reflector current	3.0	$\mu$ A
Electronic tuning range between half power tuning points	40	Mc/s
Power output	35	mW

#### LIMITING VALUES

Maximum resonator voltage (absolute)	330	V
Maximum resonator current (absolute)	37	mA
*Maximum reflector voltage (absolute)	-400	V
Mechanical tuning range limits	8500 to 9660	Mc/s
Maximum heater to cathode voltage	$\pm$ 50	V
Maximum ambient temperature of shell	110	°C
Maximum temperature of coaxial line	90	°C

\*Reflector voltage for maximum power output in principle mode -85 to -200V.

#### OPERATING NOTES

1. The above performance depends upon the use of the specified mount (See pages 3 and 4.)
2. When the valve is enclosed in a protective shield, adequate ventilation must be provided. For the best frequency stability the KS9-20A should be operated at nearly constant ambient temperature and with a well-regulated power supply.
3. The resonator and reflector leads should be screened to shield the valve from induced modulation. To avoid damage to the valve the reflector potential must never become positive with respect to the cathode. For this reason it is essential that the reflector connection be made at all times during operation.
4. The prescribed tuning range is covered by three turns of the mechanical-tuning screw. Adjustment beyond the stated frequency limits must not be attempted.

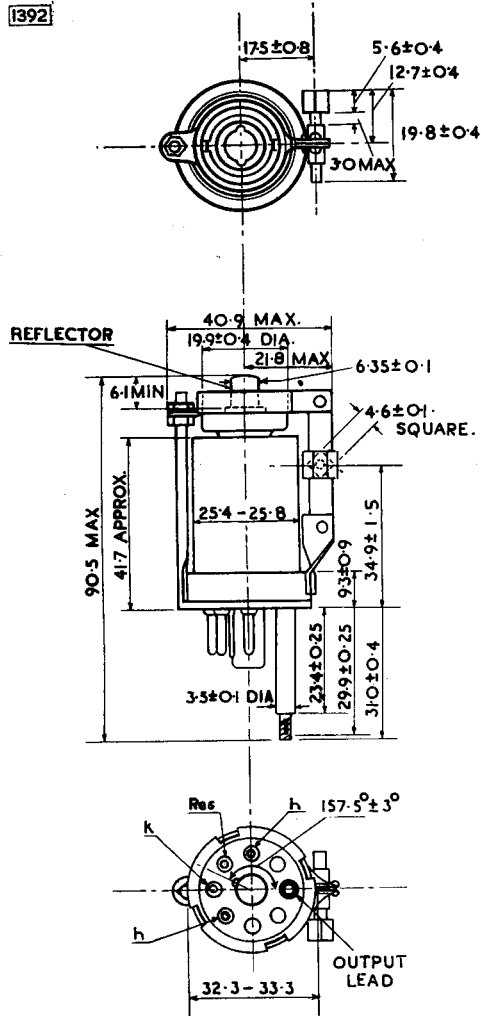


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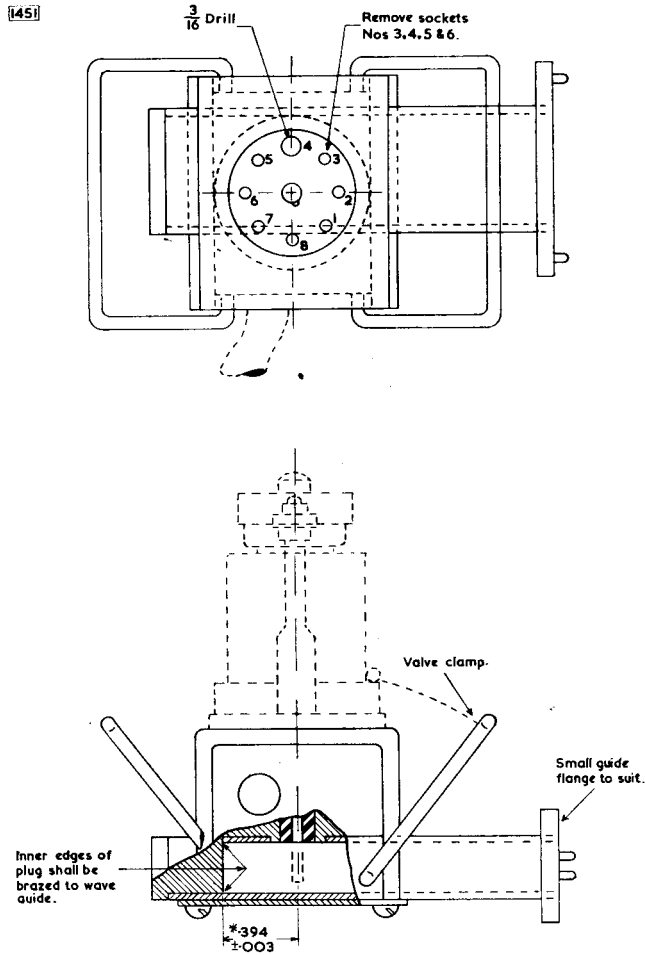
All dimensions in mm.

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Dimensions indicated by \* determine the broad band characteristics of the coupler and should be held to tolerances shown.

All high frequency surfaces to be silver or gold plated.

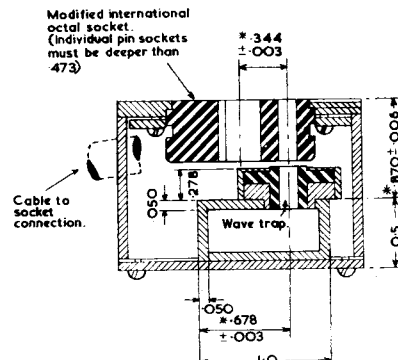
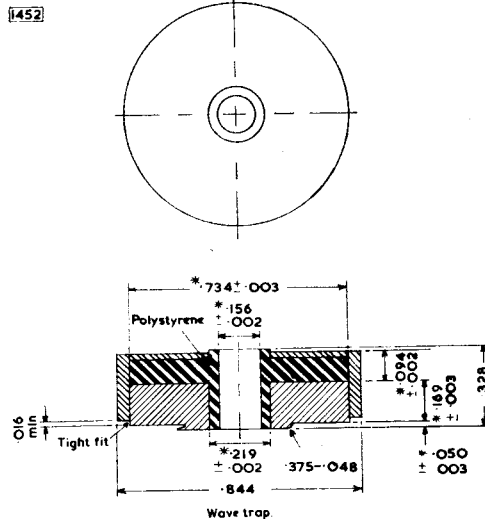
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