

Rugged low-noise water-cooled two-resonator klystron power amplifier for continuous-wave X-band service, typically producing approximately 175-200 W.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	— / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Klystron	
MAXIMUM PLATE VOLTAGE	10000 V
MAXIMUM CATHODE CURRENT	260 mA
Klystron beam/resonator anode voltage is promoted to MaxPlateVoltage where applicable; original published labels and conditions are retained in parameter rows.	

Ferranti SY30 is a rugged, low-noise, water-cooled two-resonator klystron power amplifier for CW X-band service. Typical operation is around 8 kV and 150 mA with approximately 175-200 W RF output and 10 dB high-level gain.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1963 Ferranti

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1963 FERRANTI

Section 1 · Klystron

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	5–7 V	Published operating range
Heater power	19–21 W	Published range
Maximum beam voltage	10 kV	—
Maximum beam current	260 mA	—
Maximum focus voltage	50 V	—
Typical beam voltage	8 kV	—
Typical beam current	150 mA	—
Typical focus voltage	-25 V	—
Typical efficiency	17 %	—
Typical input power	15–25 W	—
Typical output power	175–200 W	—
Maximum output VSWR	2	Recommended limit

FREQUENCY		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating frequency	9500 Mc/s	Nominal
Tuning range	20 Mc/s	±20 Mc/s

COOLING		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Minimum water flow	1 L/min	At 20 C

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical high-level RF gain	10 dB	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical low-level RF gain	14 dB	—