



ELECTRONIC TUBE REFERENCE

SY11

Specialized - Klystron electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
KLYSTRON

Water-cooled high-power amplifier klystron for continuous-wave X-band service around 8.7-10 GHz, producing kilowatt-class microwave output.

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	14000 V
MAXIMUM CATHODE CURRENT	850 mA
<i>Klystron beam/resonator anode voltage is promoted to MaxPlateVoltage where applicable; original published labels and conditions are retained in parameter rows.</i>	

Ferranti SY11 is a high-power water-cooled amplifier klystron for continuous-wave 3 cm microwave service. It operates across approximately 8.7-10 GHz and is rated to 14 kV beam voltage and 850 mA beam current with output in the kilowatt range.

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	4.5–6 V	Published operating range
Heater current	10 A–10.5 A	Published operating range
Minimum heating delay time	5 min	Before full power
Maximum beam voltage	14 kV	Beam supply
Maximum beam current	850 mA	Beam current
Minimum power output	1800 W	At 14 kV beam voltage, published minimum
Typical beam voltage, 1 kW	9.4–10.6 kV	Approx. 1 kW output
Typical beam current, 1 kW	450–550 mA	Approx. 1 kW output
Typical output power, 1 kW condition	1000 W	—
Typical beam voltage, 2 kW	12.8–13.6 kV	Approx. 2 kW output
Typical beam current, 2 kW	720–790 mA	Approx. 2 kW output
Typical output power, 2 kW condition	2000 W	—
Maximum cavity block current	200 mA	Operational safeguard
Maximum output VSWR	2	Recommended limit

FREQUENCY		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Operating frequency	8700–10000 Mc/s	3 cm band
Tuning range	45 Mc/s	±10 Mc/s tolerance stated

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Efficiency	19–22 %	Typical

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
High-level RF gain, 1 kW	10.5–12.5 dB	—
High-level RF gain, 2 kW	12–14 dB	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes,
and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker