



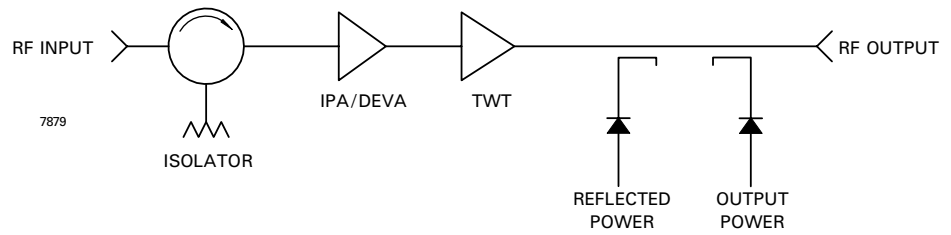
- **Fully Weatherproof** Allows exposed mounting in mobile applications.
- **Ruggedised** Designed specifically for use in antenna mount applications.
- **Lightweight** Weighs less than 12 kg.
- **EMC** Complies with current worldwide specifications.
- **Power Factor Correction** Broad input voltage range allows connection to portable or mains supplies worldwide.
- **Reliable** Designed and built to provide a high level of reliability in all applications, from fixed ground base to flyaway systems.
- **Digital Operation** Designed for digital and analogue satellite communications, meeting the requirements of Intelsat and Eutelsat uplink specifications.
- **Redundant Control** Contains all the necessary control and drive requirements to implement a basic waveguide switch based redundant system.
- **Stand Alone Setting** A selectable facility that automatically sequences the unit to the transmit mode, upon application of the mains power. This reduces the complexity of control requirements for 'blackbox' applications.

The amplifiers can be simply deployed anywhere in the world, are user friendly, and incorporate a comprehensive remote control facility as standard, including RS485.

TYPICAL DATA

Frequency:		
C-band	5.85 to 6.425 GHz	
X-band	7.9 to 8.4 GHz	
Ku-band	14.0 to 14.5 GHz	
Output power (at output flange):		
C-band	110	W
X-band	140	W
Ku-band	100	W
Small-signal gain:		
C-band	57	dB
X-band	63	dB
Ku-band	57	dB
Prime power	99 to 265	V nom
	47 to 63	Hz
	900	VA
Power factor	0.99	nom
Dimensions	436 mm (17.2 inches) long	
	213 mm (8.4 inches) wide	
	203 mm (8.0 inches) high	
Weight	11.5	kg

INTERNAL SCHEMATIC



TEST PERFORMANCE

	C-Band 5.85 to 6.425	X-Band 7.9 to 8.4	Ku-Band 14.0 to 14.5	GHz
Rated power (at output flange)	90	125	85	W min
Small-signal gain	50	57	50	dB min
Gain at rated power	45	52	45	dB min
Gain adjustment:				
typical	30	30	30	dB
minimum	25	25	25	dB
Gain control resolution	0.125	0.125	0.125	dB nom
Gain variation, small signal:				
each full band	3.0	3.0	3.0	dB p-p max
any 40 MHz	1.0	1.0	1.0	dB p-p max
Gain slope	0.05	0.05	0.05	dB/MHz max
Gain stability over temperature range	±1.5	±1.5	±1.5	dB max
Gain stability over 24 hours at constant drive, temperature and load	±0.25	±0.25	±0.25	dB max
Harmonic output (at rated power)	-3	-7	-12	dBc max
Intermodulation (2 equal carriers):				
at 4.0 dB total output back-off	-17	-17	-17	dBc max
at 7.0 dB total output back-off	-23	-23	-23	dBc max
Group delay:				
linear	0.01	0.01	0.01	ns/MHz max
parabolic	0.05	0.05	0.05	ns/MHz ² max
ripple	1.0	1.0	1.0	ns p-p max
AM/PM conversion (at 6 dB below rated power)	2.5	2.5	2.5	°/dB max
Residual AM/FM:				
< 10 kHz	-50	-50	-50	dBc max
10 kHz to 500 kHz	-20(1.5 + log f)	-20(1.5 + log f)	-20(1.5 + log f)	dBc (f in kHz) max
> 500 kHz	-85	-85	-85	dBc max
Phase noise	meets IESS phase noise profile			
Input VSWR	1.35:1	1.35:1	1.35:1	max
Output VSWR	2.5:1	2.1:1	2.0:1	nominal
Load VSWR:				
spec compliance	1.5:1	1.5:1	1.5:1	max
no damage	2.0:1	2.0:1	2.0:1	max
Noise power density:				
transmit band	-70	-70	-70	dBW/4 kHz
receive band	-70	-70	-70	dBW/4 kHz

ELECTRICAL

Prime power	single phase, line-neutral or line-line
Voltage	99 to 265 V
Frequency	47 to 63 Hz
Power requirement	1050 VA max
Power factor	0.95 min

MECHANICAL

Weight	12.0 kg (26 lb) max
Dimensions	see outline
Cooling	integral forced-air

CONNECTORS

RF input	type N female
RF output	WRD580

Note: Mating connectors for the mains supply and control interface are supplied.

ENVIRONMENTAL

For operation outside these parameters, refer to e2v technologies for guidance.

Operating temperature -40 to +45 °C
Derating 2 °C/300 m above sea level
(3.6 °F/1000 ft)

Storage temperature -40 to +80 °C
Relative humidity (condensing) 100 %

Altitude:

operating 4.5 km (15,000 ft) max
non-operating 12 km (40,000 ft) max

Vibration MIL-STD-810E;
common carrier and field transportation

Shock IEC Publication 68-2-27 Part 2 Test Ea
25 g

Electromagnetic compatibility EMC Directive 89/336/EEC
Safety Low Voltage Directive 73/23/EEC
BS EN 60950

CONTROLS

All controls are achieved through the control interface connector, the functions are listed below:

Control inputs;

OFF
STANDBY
TRANSMIT
RF INHIBIT NO/NC
INTERLOCK

Indicator outputs;

OFF
WARMUP
STANDBY
TRANSMIT
FAULT SUMMARY
FOUR MULTIPLEXED FAULT LINES

Helix Current monitor

Output power monitor

RS-485 Serial Communications Port
(including address selection)

Auxiliary voltage output

Redundant system control and waveguide switch drive
'Stand alone' setting for automatic power-up.

STELLAR ACCESSORIES

This product is supplied with an Operation Manual, a mains connector mating half, a control connector mating half and an air cowl.

Additional accessories available from e2v technologies include:

- **N6143 ODU 1:1 Control Unit** housed in a standard 19-inch rack mountable, 1U high enclosure. The N6143 provides the user with full remote control of two amplifiers and a redundant switch. It can be used to control a single amplifier, allowing for future expansion, including redundancy.
- **DPP563119BA Circular Duct Adaptor** can be fitted to either the cooling air inlet or outlet and provides a method of connecting to a solid wall or flexible duct.
- **DPP563119AA Additional air cowls**
- **DAS563750AA Additional mains connector mating parts**
- **DAS563751AA Additional control connector mating parts**

HEALTH AND SAFETY HAZARDS

e2v technologies electronic devices are safe to handle and operate provided that the relevant precautions are observed. e2v technologies does not accept responsibility for damage or injury resulting from the use of electronic devices it produces.



High Voltage

Dangerous voltages are present within the TWT amplifier when operating normally. However, the equipment is designed so that personnel cannot come into contact with high voltage circuits unless covers are removed.



RF Radiation

All RF connectors must be correctly fitted before operation.

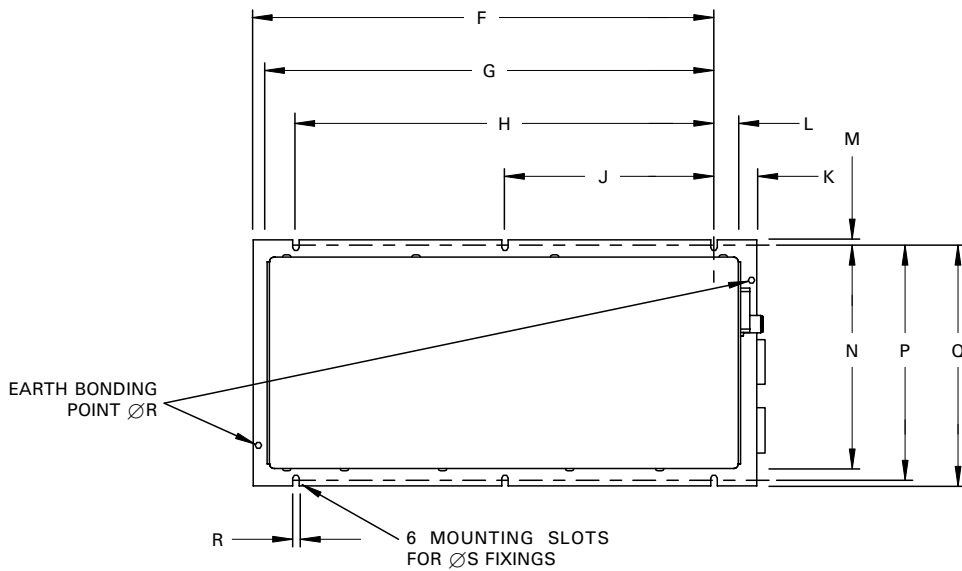
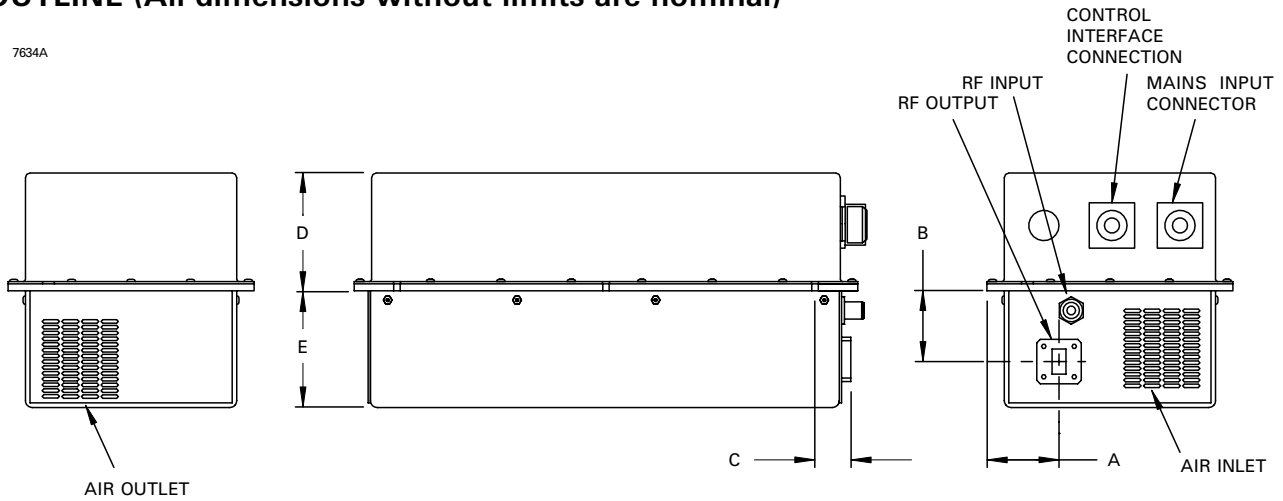


Beryllia

The TWT in the amplifier contains beryllium oxide ceramic parts. These are not accessible unless the TWT casing is damaged. Consult e2v technologies regarding the disposal of damaged or life-expired tubes.

OUTLINE (All dimensions without limits are nominal)

7634A



Ref	Millimetres	Inches
A	61 ± 1	2.40 ± 0.04
B	59 ± 1	2.34 ± 0.04
C	31 ± 1	1.22 ± 0.04
D	102	4.02
E	101	3.98
F	399	15.71
G	387	15.24
H	362	14.25
J	181	7.13
K	37	1.46
L	23	0.91
M	7	0.28
N	192	7.56
P	200	7.87
Q	207	8.15
R	6	0.22
S	5	0.20

Inch dimensions have been derived from millimetres.

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