

DESCRIPTION

The N6143 controller is a compact and user friendly unit providing full remote control of up to two Stellar amplifiers and a redundant switch.

The N6143 is also available with a range of 1 for 1 redundant switch waveguide networks, designed specifically to interface with the Stellar range of amplifier products. Customer specific system requirements can be provided.

FEATURES

- **Remote Serial interface** Provided as standard to allow remote control and monitoring of the system.
- **User Friendly** Easy to use controls with clear, high visibility displays. A dedicated display and separate controls are provided for each amplifier, avoiding operator confusion.
- **Mimic Display** An intuitive mimic display with indicators is provided on the front panel to clearly show the condition of each amplifier and the position of the waveguide switch

SPECIFICATION

Electrical

Voltage	99 to 264 V
Frequency	47 to 65 Hz
Power requirement	15 W nom
Power factor	0.96 min
Input surge current (% of normal line)	100 % max

Mechanical

Weight	2 kg
Dimensions:	
width	483 mm (19 inches)
height	1U, 44 mm (1.75 inches)
depth (not including connector mating halves)	153 mm (6 inches)
Cooling	natural

Environmental

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

Operating temperature	-20 to +50 °C
Storage temperature	-40 to +70 °C
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 ETS 300 327
Safety	Low Voltage Directive 73/23/EEC BS EN 60950

CONNECTORS

Mains (see note 1)	IEC320
Amplifier interface (see note 2)	9-pin D-type plug
Waveguide switch unit (see note 2)	15-pin D-type plug
Remote serial interface (see note 2)	9-pin D-type socket

CONTROLS

Main power on/off switch

Front panel control keys:

- AMPLIFIERS A and B
 - Off mode select (OFF)
 - Standby mode select (STBY)
 - Transmit mode select (XMIT)
 - Set-up enter (SET-UP) (see note 3)

REDUNDANCY

- RF switch position select (SEL A/B) (see note 4)
 - Automatic or manual mode select AUTO/MAN
- Two rotary shaft encoders for parameter selection and gain control (see note 5).

FRONT PANEL DISPLAY

Backlit LCD, functions selected by front panel keys, shows:

Amplifier status	Output Power
Helix Current	Fault identification
Set-up parameters	

FRONT PANEL INDICATORS

Audible alarm

Amplifier state (1 and 2):

Off	Standby
Transmit	Summary fault

Redundancy state:

Automatic/manual mode	RF switch position
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DOCUMENTATION

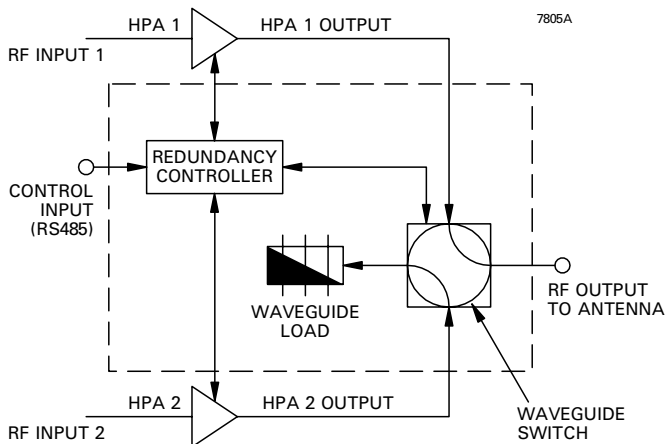
An operation manual is supplied with each unit

NOTES

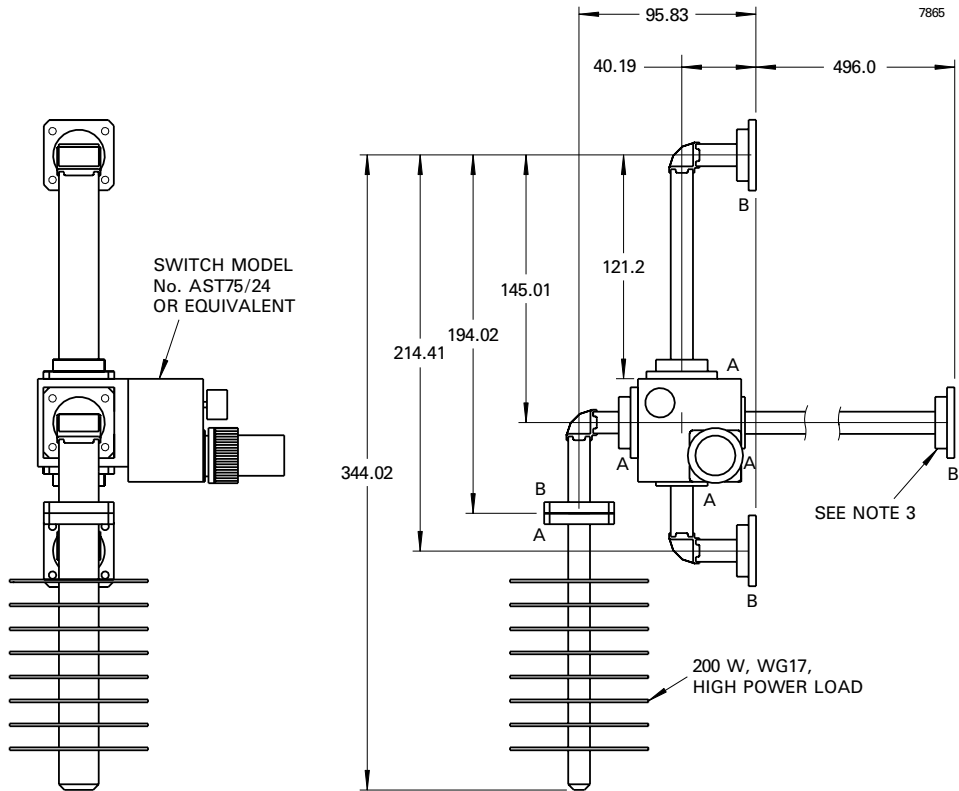
1. A mating connector is supplied with each unit.
2. Interconnecting cables are not provided.
3. Used in conjunction with the rotary shaft encoder for display mode and parameter selection.
4. Only operational when manual mode is selected (AUTO/MAN key).
5. Gain control function is only applicable if specified as an option when purchasing amplifiers.

OPTIONS

The following options each comprise a waveguide switch, high power load, interface waveguide and the N6143 controller. The system block diagram is shown below.



OUTLINE OF N6143C – 1 for 1 system for use with Ku-band antenna mount amplifiers
(All dimensions nominal and in millimetres)



Microwave Specification

Frequency range	10.0 to 15.0 GHz
Power handling	200 W/channel max
Input VSWR	1.15:1
Insertion loss	0.3 dB max
Integral load power	200 W max
Switching time	200 ms typ

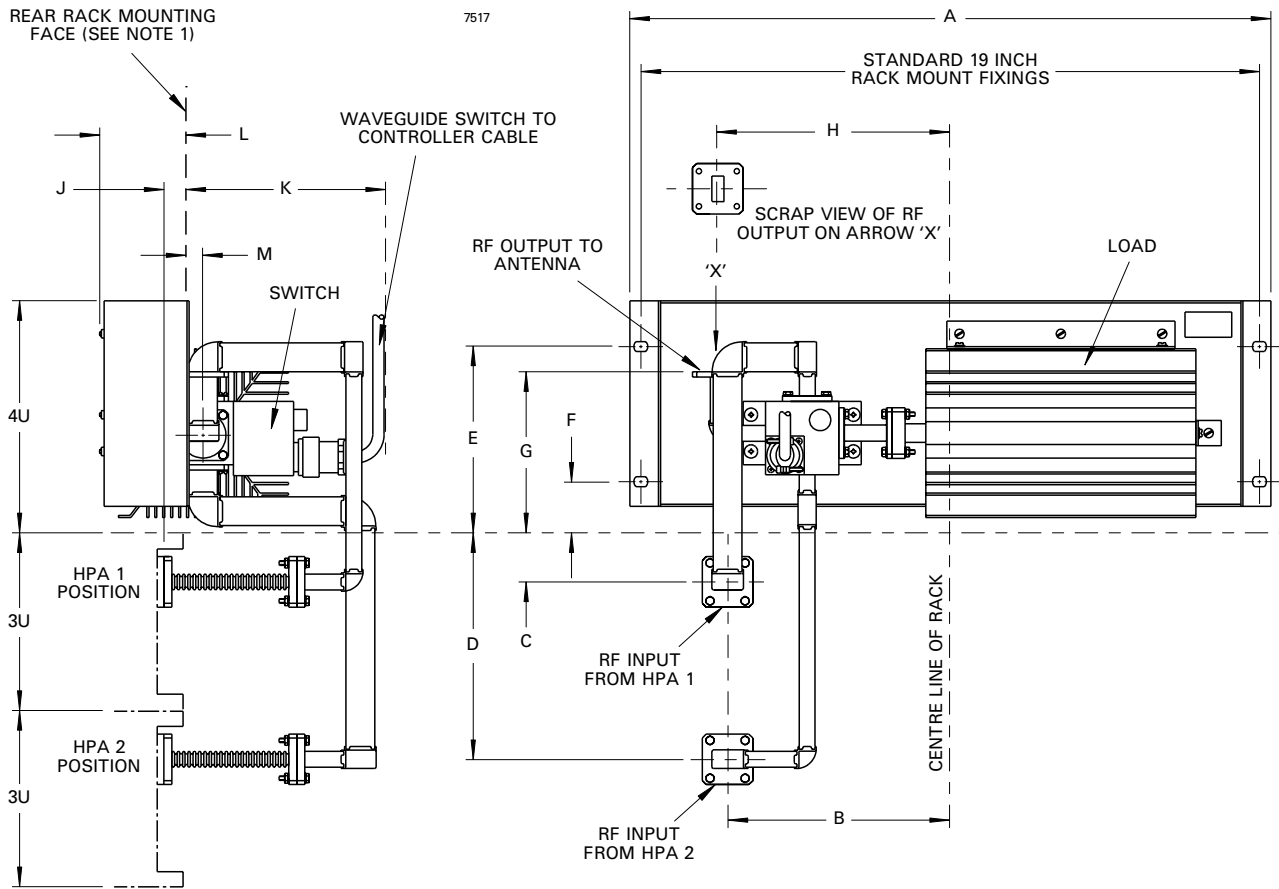
Environmental Specification

Operating temperature	-40 to +75 °C
Storage temperature	-50 to +100 °C
Humidity	100%

Outline Notes

1. All mating flanges to be 'O'-ring sealed
2. Flange designation:
A - Plain 154-IEC-UBR-120 clearance holes;
B - 'O'-ring 154-IEC-UBR-120 clearance holes.
3. The distance between flange faces is 512.0 mm.
4. An upgraded weatherised switch option (N6143CI) is recommended where freezing rain is present and when the elements can cause the manual override to stick. The weather cap can be easily removed without loss of pressure.

OUTLINE OF N6143D – 1 for 1 system for use with Ku-band rack mount amplifiers
(All dimensions nominal)



Ref	Millimetres	Inches
A	482.0	18.976
B	167.3	6.587
C	37.3	1.469
D	170.65	6.718
E	139.7	5.500
F	38.1	1.500
G	120.7	4.752
H	175.0	6.890
J	16.8	0.661
K	150.0	5.906
L	67.0	2.638
M	13.0	0.512

Inch dimensions have been derived from millimetres.

Outline Notes

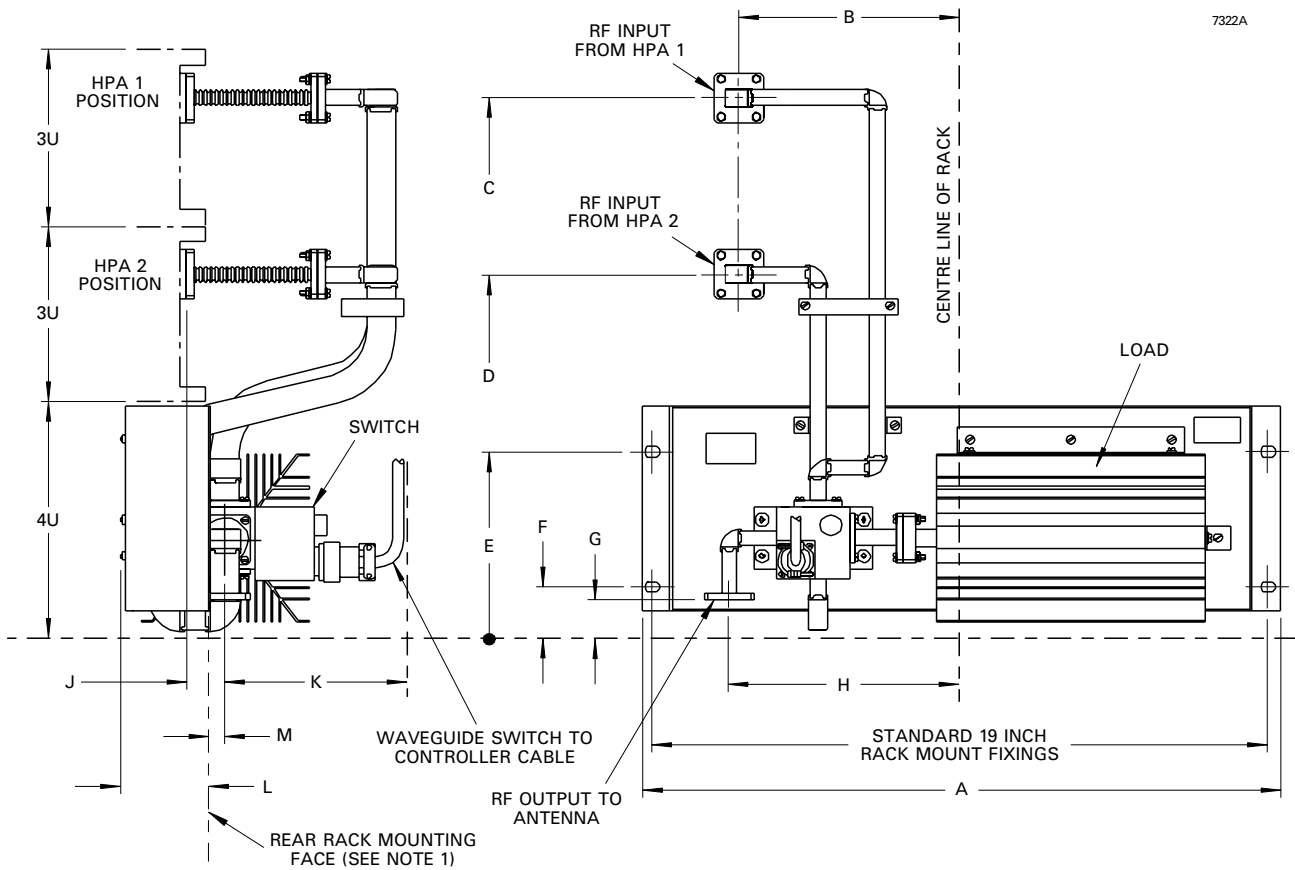
1. Rear rack mounting rails should be positioned 480 mm (18.898 inches) from the front rack mounting rails, to which the waveguide switch and load assembly is bolted from the rear of the rack.
2. Standard rack unit 1U = 44.45 mm (1.75 inches)

Microwave Specification

Frequency range	10.0 to 15.0 GHz
Power handling	600 W/channel max
Input VSWR	1.15:1
Insertion loss	0.3 dB max
Integral load power	600 W max
Switching time	200 ms typ

**OUTLINE OF N6143E – 1 for 1 system for use with Ku-band rack mount amplifiers
(Alternative orientation) (All dimensions nominal)**

7322A



Ref	Millimetres	Inches
A	482	19.0
B	167	6.6
C	407	16.0
D	274	10.8
E	140	5.5
F	38	1.5
G	28	1.1
H	175	6.9
J	17	0.7
K	150	5.9
L	67	2.6
M	13	0.5

Inch dimensions have been derived from millimetres.

Outline Notes

1. Rear rack mounting rails should be positioned 480 mm (18.898 inches) from the front rack mounting rails, to which the waveguide switch and load assembly is bolted from the rear of the rack.
2. Standard rack unit 1U = 44.45 mm (1.75 inches)

Microwave Specification

Frequency range 10.0 to 15.0 GHz
 Power handling 600 W/channel max
 Input VSWR 1.15:1
 Insertion loss 0.3 dB max
 Integral load power 600 W max
 Switching time 200 ms typ

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