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GENERAL INFORMATION



► A WIDE FIELD OF ACTIVITY

Specialized in passive microwave components, the RADIALL's engineering staff develops and manufactures a wide range of coaxial standard devices including terminations, switches, couplers, coaxial detectors, coaxial switches, rotary joints and waveguide switches, covering a wide frequency spectrum from DC to 40 GHz.

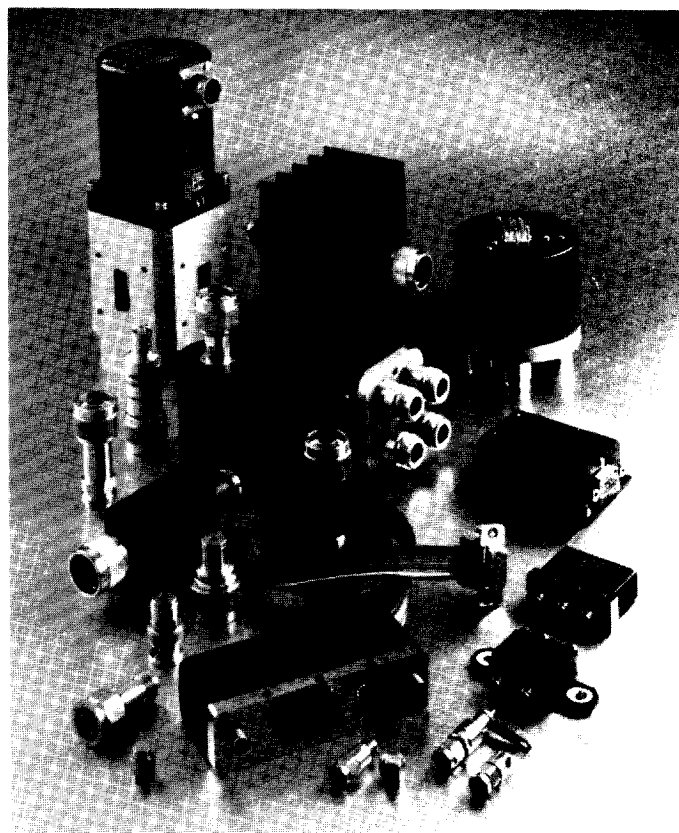


► EXPERIENCE

Owing to its 40 years experience, its high level of quality and its constant effort in R & D, RADIALL has become the EUROPEAN "N°1" in coaxial connectors.

Supported by its position, RADIALL has excelled in passive microwave component fields for more than 30 years.

RADIALL's competence in conception, development and manufacturing of passive microwave components is today widely acknowledged. The quality of its products and associated services.



► CAPACITIES AND FACILITIES

The association inside the same plant of all the technical skills : R & D, industrialization, manufacturing and quality control enable RADIALL to produce a range of high performance and low cost devices for industrial applications as well as high reliability components for severe requirements in military and space fields.

GENERAL INFORMATION



► RESEARCH AND DEVELOPMENT

The increasing complexity of microwave systems requires more and more high performance components. To meet these requirements, the R & D department is constantly engaged in the development of new products as well as improvement on present products. Fitted out with microwave and mechanical CAD and with the latest generation of microwave test equipments up to 40 GHz, RADIALL uses the state-of-the-art technology to optimize its products and to give the fastest response to the specific customer requirements.

► PRODUCTION

Electrical performances of microwave products are closely dependent upon machining quality of individual piece parts and associated surfacing.

The latest computer-controlled machinery, and a galvanoplasty department allow RADIALL to manufacture high quality piece parts compatible with the requirement of our components.

Owing to its thick film and thin film etching equipments, our production department warrants the quality and the reproductibility of our resistive cells.

A "prototype" workshop enables RADIALL to give a fast answer to special customer requirements.

All the phases of manufacturing and test are strictly inspected by our quality department, so as to warrant the constancy of our products and to achieve general and specific requirements.



GENERAL INFORMATION



Certificate of Approval

Awarded to

RADIALL

DIVISION COMPOSANTS OPTIQUES ET HYPERFREQUENCES
ROSNY-SOUS-BOIS - ISLE D'AREAU - VOIRON - FRANCE

Bureau Veritas Quality International certify that the Quality Management System of the above supplier has been assessed and found to be in accordance with the requirements of the quality standards and scope of supply detailed below.

QUALITY STANDARDS

EN 29001-1987 ISO 9001-1987 BS 5750:PART 1:1987

SCOPE OF SUPPLY

DESIGN, DEVELOPMENT, PRODUCTION AND SALE OF MICROWAVE PASSIVE COMPONENTS AND FIBRE OPTIC CONNECTORS AND DEVICES.

CONCEPTION, DEVELOPEMENT, PRODUCTION ET COMMERCIALISATION DE COMPOSANTS PASSIFS HYPERFREQUENCES ET DE CONNECTEURS ET COMPOSANTS POUR FIBRES OPTIQUES.

FORSCHUNG, ENTWICKLUNG, PRODUKTION UND VERTRIEB VON:
- PASSIVEN MIKROWELLEN-BAUELEMENTEN;
- LWL-STECKERBINDER UND -SYSTEME.

Subject to the continued satisfactory operation of the supplier's Quality Management System, this Certificate is valid for a period of three years from:

6th March, 1994

For Bureau Veritas Quality International

Date 17th May, 1994



Howley

Certificate No: 6813

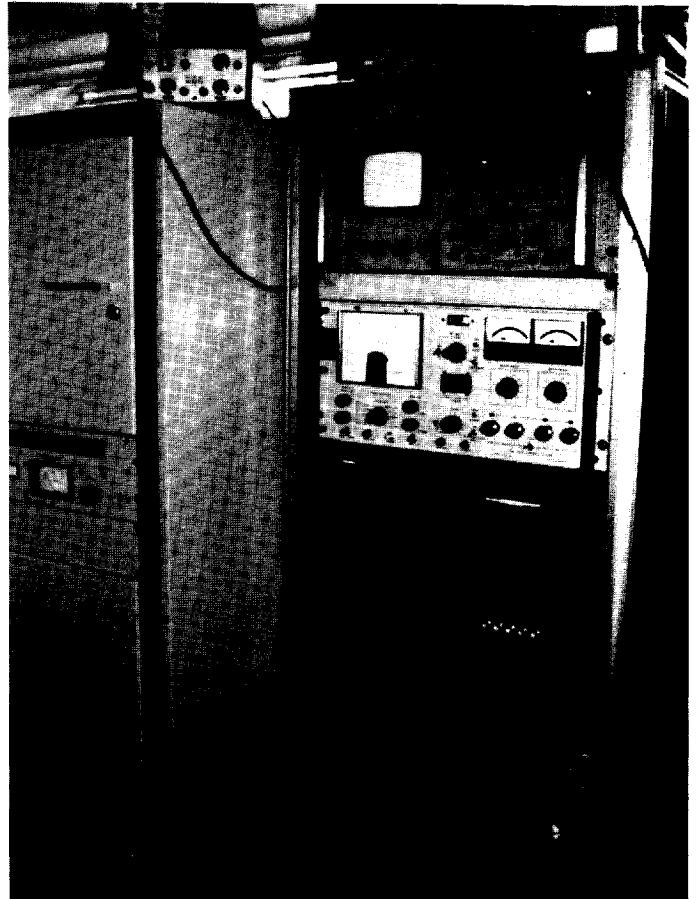
SF06/B

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 108

► QUALITY AND RELIABILITY

Quality and reliability : Two major requirements of passive microwave components that RADIALL has been taking into account for years. ISO 9001 label is the best evidence of quality assurance interfaces at every stage of a product from designing to manufacturing.

All new products are bounded to rigid qualification programs before mass production. In the same way, every element which could affect products quality is tested periodically.



► NATO CODE

RADIALL is a qualified microwave components manufacturer under military label (manufacturer code F0503 and F6507). Its products quality assurance has been developed in accordance with N.A.T.O. standards.

A list of equivalent RADIALL references with N.A.T.O. code is available on page 22 .

GENERAL INFORMATION

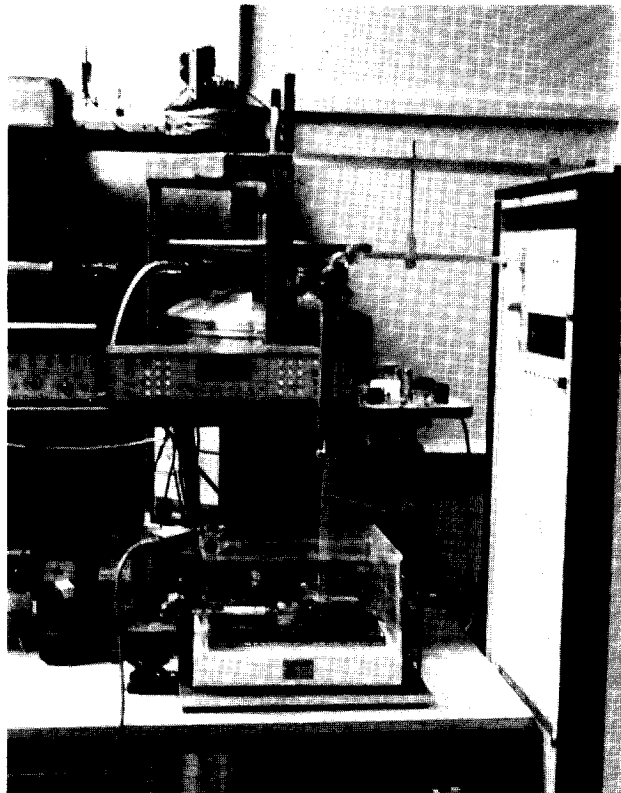
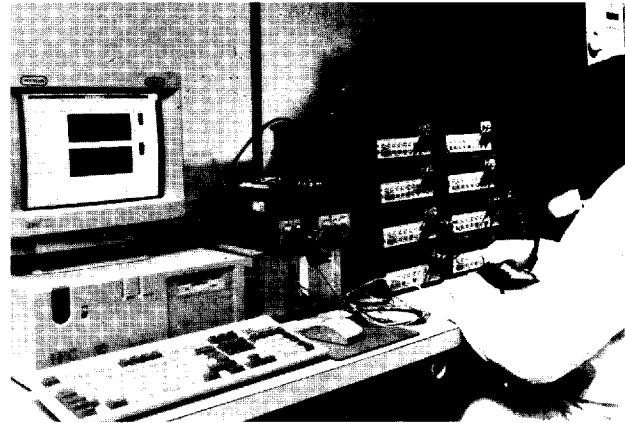
► A TESTING LABORATORY

So as to observe its engagements concerning quality and reliability, RADIALL has fitted out its company with a test laboratory qualified by CECC permitting to carry out most of the test required by its customers.

► PARTIAL LIST OF TEST MEANS :

ELECTRICALS

Breakdown voltage	12 KVolts
Insulation resistance	1 to 210 ⁶ MOhms
Contact resistance	1 μOhms



ENVIRONMENTAL

Vibrations Sine random	0–120g 5 at 4000 Hz 0–120g 5 at 4000 Hz
Shocks	30 to 200 g 6 to 18 ms
Shakes	25 to 40 g 6 ms
Thermal vacuum	10 ⁻⁵ TORR –45 to +100°C
Thermal shock	–70°C +200°C/transfer 20 s
Storage temperature	–70°C to +200°C
Humidity	20 to 98 %HR
Salt spray	+35°C to +55°C
Hermetic tests	Helium 10 ⁻⁵ to 10 ⁻⁸ atm cm ³ /s

MICROWAVE

V.S.W.R. / Insertion loss / Isolation	Vector Network Analyzer From .04 up to 60 GHz TDR 150ps
R F Leakage	Reverberation chamber 0.5 to 20 GHz/Noise 100 dB
Power handling tests	400 W CW at 936 MHz 400 W CW at 17.8 GHz 20 W CW 8 up to 18 GHz 100 W CW at 420 MHz



COAXIAL DEVICES

TECHNICAL INFORMATION

Technical data sheets are available upon request, consult RADIALL sales department.

I LIST OF APPLICABLE DOCUMENTS :

List of related documents covering the general mechanical and climatic tests applicable to the devices described in this catalog.

- NFC 93561
- NFC 93562
- NFC 93563
- NFC 93564
- NFC 93566
- MIL C 39012
- MIL STD 202

II GENERAL SPECIFICATIONS :

► ENVIRONMENTAL CHARACTERISTICS

MODELS	R405	R435	R443 / R447 / R499	R 451
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Temperature range

Operating (°C)	0 + 55	- 55 + 125	- 40 + 85	- 25 + 70
Storage (°C)	- 25 + 70	- 55 + 125	- 40 + 85	- 40 + 85

Mechanical MIL STD 202

Vibrations (method 204)	Test condition C		Test condition D
Shocks (method 213)	Test condition A		

► MECHANICAL CHARACTERISTICS, MATERIALS AND FINISHES

All materials and finishes are in accordance with applicable MIL and NF specifications

All connectors are in accordance with applicable MIL, NF and specifications.

All dimensions in this catalog are given in inches and (millimeters). The non specified dimensions are given within ± 0.5 mm

► MANUFACTURING AND QUALITY ASSURANCE

RADIALL maintains a state-of-the-art computer aided designed system, a well equipped precision machine factory, a modern component assembly area and an extensive collection of RF test and environmental test fixtures.

Special testing is available upon request.

COAXIAL DEVICES

TECHNICAL INFORMATION

III MATERIALS AND FINISHES :

RF body	Nickel Plated
Contacts	Beryllium Copper Gold Plated (CuBe2)
Insulator	PTFE or ULTEM 1000
Connectors	Stainless Steel Passivated or Brass Nickel Plated
Construction	Splashproof

IV DEFINITION OF PARAMETERS

a) FOR ALL COMPONENTS

► RF CONNECTORS

Microwave connectors have a characteristic impedance of 50 & 75 Ω. Adaptation interfaces, materials and platings are in accordance with the applicable specifications quoted in this catalog.

► FREQUENCY RANGE

The frequency range indicated for each device is that over which RADIALL warrants the device performance.

► INSERTION LOSS

The difference in the power level received at the load before and after the insertion in a transmission line. Insertion loss is measured in decibels below the input power.

► V.S.W.R.

The **V**oltage **S**tanding **W**ave **R**atio is a measure of the return loss or level of the reflected signal of a device connected on a transmission line. V.S.W.R. is linked to the coefficient of reflection $|\rho|$ by the equation :

$$V.S.W.R. = \frac{1 + |\rho|}{1 - |\rho|}$$

$|\rho|$ represents the coefficient of reflection vector standard

$$\rho = \frac{Z - Z_0}{Z + Z_0}$$

with : Z is the component impedance

and : Z_0 is the characteristic impedance of the line

It can vary within 0 and 1 , V.S.W. R. equal to 1 represents the perfect adaptation. This value can be expressed in dB's and is known as return loss, when expressed as $20 \times \log_{10} |\rho|$.

► PEAK POWER HANDLING

It is the maximum peak power which, when applied at maximum room temperature under a pulse of one microsecond (10 ns for detectors) every millisecond, will not permanently change the specifications of the component. Any overpowering beyond this limit will alter the input power handling of the component.

► AVERAGE POWER HANDLING

It is the maximum Continuous Wave input power applied for a long time at room temperature, or at the maximum temperature of 75°C. that the component can handle without permanently changing the specifications of the component. Any overpowering beyond this limit can significantly alter the input power handling of the component.

COAXIAL DEVICES

TECHNICAL INFORMATION

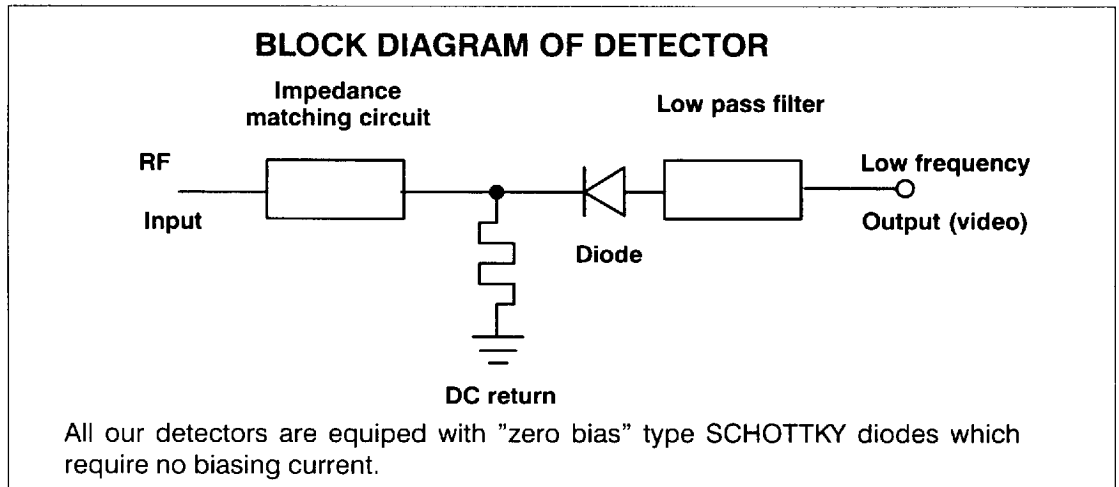
VI DEFINITION OF PARAMETERS

b) FOR COAXIAL DETECTORS

► TECHNOLOGY

Detector are normally composed of four basic circuits :

- An input matching circuit (characteristic impedance)
- A DC return circuit which also prevents earthing of the RF signal
- An RF diode which is the heart of the detector
- A low pass filter which eliminates any undesirable RF wave caused by the detection process.



► POLARITY

Polarity of the output signal from the detector depends solely on the biasing of the diode. RADIALL detectors can all be designed as either negative or positive polarity.

► VOLTAGE SENSITIVITY

This parameter characterizes the transfer function between input (RF wave) and output (DC voltage) of the detector

1) Low sensitivity :

This represents detector performance in the square law range with a load impedance on the video side greater than 50 k Ω . It is expressed in millivolts per milliwatt (mV/mW).

2) High level sensitivity :

This represents the minimum detected voltage at an input power of 0.35 mW with video load impedance being greater than 50 k Ω .

► TANGENTIAL SENSITIVITY

At low power level sensitivity is known as tangential sensitivity, TSS (" Tangential Signal Sensitivity"). This represents the input power level required to increase the DC output voltage by a value such that fluctuations in noise will not go below noise peaks without input signal. This level is around 4 dB greater than the minimum detectable signal. This parameter seems very high if we consider that in wide band systems, incoming noise (antenna noise, for example) is negligible compared to that produced by the diode and the video amplifier.

► VIDEO OUTPUT IMPEDANCE

This is the impedance presented by the low frequency output of the detector. Normally, only the resistive part of this impedance is measured, being of the order of 1000 Ω .

COAXIAL DEVICES

TECHNICAL INFORMATION

VI DEFINITIONS PARAMETERS

► FLATNESS

This expresses the fidelity of the detector transfer function (RF power - detected voltage) in the frequency band and in the square law range. It corresponds to the variation in dB, peak to peak, of the output voltage at a constant input power, i.e. .

$$\pm \Delta \text{ dB} = \frac{1}{2} \text{Log}_{10} \left(\frac{V \text{ max}}{V \text{ min}} \right)$$

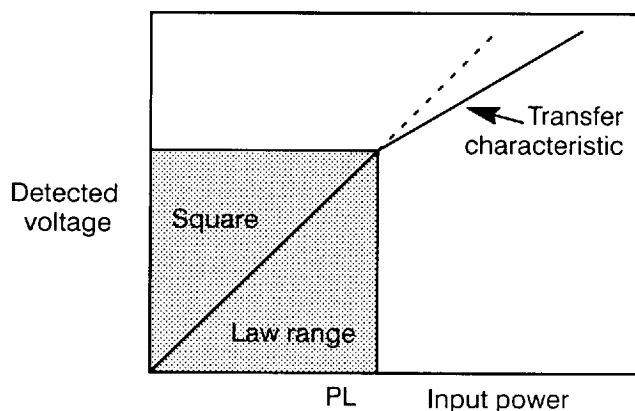
with :

V max = Maximum value of the detected voltage

V min = Minimum value of the detected voltage

► SQUARE LAW RANGE

This is the part of the detector transfer characteristic at which the detected voltage is proportional to the RF input power, the proportion factor remaining constant in this zone.



PL represents the limit value of the square law range. It can be expressed in dBm :

$$PL \text{ (dBm)} = 10 \text{Log}_{10} \left(\frac{PL \text{ (mW)}}{1 \text{ (mW)}} \right)$$

VII PRECAUTIONARY MEASURES

Apart from excessive mechanical shocks and vibrations, it is useful to know a few of the main causes of detector failure

► STATIC ELECTRICITY

When connecting an electrically charged coaxial cable, sudden discharge could destroy the diode

► EXCESSIVE HEAT


If the detector is directly connected to a high temperature device (for example , a power attenuator), the heat is transmitted to the diode by conduction in the inner conductor of the coaxial line and there is a risk of destruction.

► RF POWER

- When working with pulsed wave.
- When input is effectively too high.
- When you connect the detector and RF power is ON

COAXIAL DEVICES

SELECTION GUIDE

CONNECTOR INTERFACE 		SMA 2.9	SMA	N	BNC
DETECTORS	2.45 GHz			14	
	.01 - 4 GHz			14	
	.01 - 10 GHz			14	
	.01 - 12.4 GHz			14	
	1 - 18 GHz		12		
	.01 - 18 GHz		12	14	
DC BLOCKS	.01 - 2 GHz		17		
	1 - 12.4 GHz		17		
	.8 - 10 GHz		17		
	0.1 - 40 GHz	17			
MONITOR TEES	.01 - 1.5 GHz		18		
	1.5 - 6 GHz		18		
	6 - 12.4 GHz		18		
SIGNAL SAMPLERS	DC - 12 GHz			19	
ROTARY JOINTS	DC - 12.4 GHz		16	16	
PHASE SHIFTERS	DC - 18 GHz		20		
50 - 75 Ω IMPEDANCE TRANSFORMERS	.01 - 1 GHz			21	21

COAXIAL DEVICES

SMA-SMB/SMA/SMC/BNC/ Solder pin detectors up to 18 GHz

WIDE BAND AND HIGH SENSITIVITY

	PART NUMBER		Connectors		Figure
	Negative polarity	Positive polarity	RF Input	Video output	
WIDE BAND	R451533000	R451533500	SMA male	SMB male	1
	R451534000	R451534500	SMA male	SMC male	2
	R451542000	R451542500	SMA male	SMA female	3
	R451543000	R451543500	SMA male	Solder pin	4
	R451544000	R451544500	SMA male	BNC female	5
HIGH SENSITIVITY	R451030000	R451030500	SMA male	SMB male	1
	R451031000	R451031500	SMA male	SMC male	2
	R451032000	R451032500	SMA male	SMA female	3
	R451033000	R451033500	SMA male	Solder pin	4
	R451034000	R451034500	SMA male	BNC female	5

SPECIFICATIONS FOR ALL COAXIAL DETECTORS

Impedance (Ω)	50
Square law response limit (dBm)	- 12
Average power (max) CW (mW)	200
Peak power max (W)	2 (10 ns, 1 ms)
Video impedance (k Ω)	1 typical
Filtering capacity (pF)	20 (typical)
Polarity	Negative or positive
RF input connector	SMA (male)
Video output connector	SMA (female) - SMC (male) - SMB (male) - Pin and Solder lug - BNC (female)
Diode	SCHOTTKY "zero bias"
Weight (g)	10

SPECIFICATIONS FOR WIDE BAND COAXIAL DETECTORS

Frequency range (GHz)	.01 - 18		
	.01 - 8	8 - 12.4	12.4 - 18
Frequency response (dB)	± 0.2	± 0.5	± 1
V.S.W.R.	≤ 1.35	≤ 1.50	
Tangential sensitivity min (dB)	- 44		
Sensitivity			
Low level (input power < - 20 dBm)	> 500 mV / mW		
High level (input power = 0.35 mW)	> 100 mV		

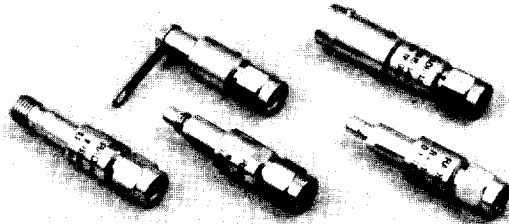
SPECIFICATIONS FOR HIGH SENSITIVITY COAXIAL DETECTORS

Frequency range (GHz)	1 - 18
V.S.W.R.	1 : 4 (Typical value)
Frequency response (dB)	± 2
Sensitivity (mV / mW)	
Low level (input power < - 20 dBm)	> 1500
Tangential sensitivity min (dB)	- 50

COAXIAL DEVICES

SMA-SMB/SMA/SMC/BNC/ Solder pin detectors up to 18 GHz

WIDE BAND AND HIGH SENSITIVITY



TYPICAL OUTLINE DRAWING

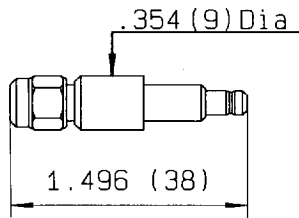


Fig. 1

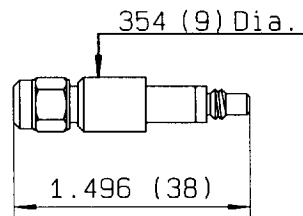


Fig. 2

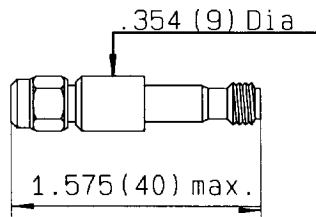


Fig. 3

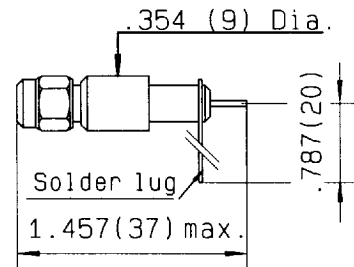


Fig. 4

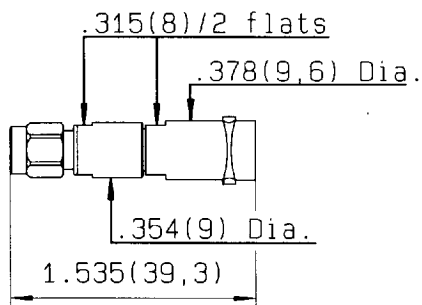


Fig. 5

COAXIAL DEVICES

N - BNC Detectors up to 18 GHz

WIDE BAND AND CRYSTAL

	PART NUMBER		Connectors		Frequency range (GHz)
	Negative polarity	Positive polarity	RF Input	Video output	
WIDE BAND	R451574000	R451574500	N male	BNC female	.01 - 12.4
	R451576000	R451576500	N male	BNC female	.01 - 18
	R451572120		N male	BNC female	2.45
CRYSTAL DETECTOR	R451570000	R451570500	N male	BNC female	.01 - 4
	R451075000		N male	BNC female	.01 - 10

NOTA : If the active part of these detectors is damaged, it can be replaced by removable cartridge :

R451950000	for model	R451574000
R451952000	for model	R451574500
R451953000	for model	R451576000
R451954000	for model	R451576500

SPECIFICATIONS FOR WIDE BAND COAXIAL DETECTORS

Impedance (Ω)	50		
Frequency range (GHz)	.01 - 12.4 / .01 - 18		2.45 \pm .05
	.01 - 8	8 - 12.4	12.4 - 18
V.S.W.R.	\leq 1.35	\leq 1.50	
Frequency response	\pm 0.2	\pm 0.5	\pm 1
Tangential sensitivity min (dB)	- 44		
Sensitivity Low level (input power < - 20 dBm) High level (input power = 0.35 mW)	> 500 mV / mW > 100 mV		80
Square law response limit (dBm)	- 12		
Average power max.CW (mW)	200		
Peak power max.CW (W)	2 (10ns, 1ms)		
Video impedance (k Ω)	1 (typical)		
Filtering capacity (pF)	20 (typical)		
Polarity	Negative or Positive		
RF input connector	N (male)		
Video output connector	BNC (female)		
Diode	SCHOTTKY "zero bias"		
Weight (g)	120		

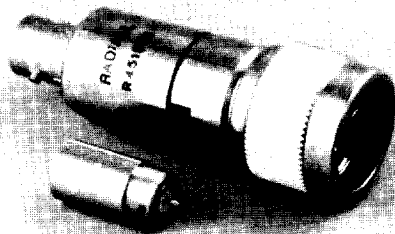
SPECIFICATIONS FOR CRYSTAL COAXIAL DETECTORS

Frequency range (GHz)	.01 - 10		
	.01 - 1	1 - 4	1 - 10
V.S.W.R.	1 : 1.6 (Typical value)	No specified	No specified
Sensitivity (mV / mW)	> 40		
Average power max.CW (mW)	100		

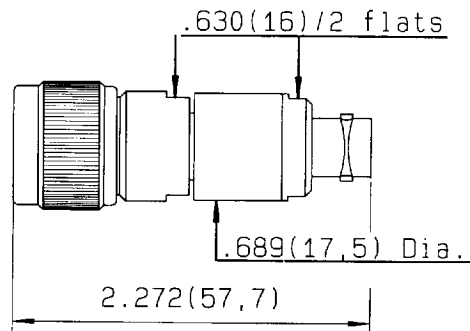
COAXIAL DEVICES

N - BNC Detectors up to 18 GHz

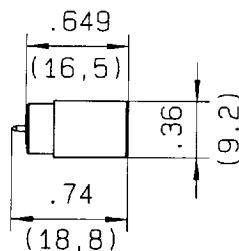
WIDE BAND AND CRYSTAL



TYPICAL OUTLINE DRAWING



Removable cartridge



COAXIAL DEVICES

N - SMA Coaxial rotary joints up to 18 GHz

MINIATURE AND STANDARD

PART NUMBER	Connectors	Figure
R447120000	SMA female / female	1
R447171000 ⁽¹⁾	N male / female	2

GENERAL SPECIFICATIONS

Impedance (Ω)	50				
Frequency range (GHz)	DC - 18				
	DC - 12.4	12.4 - 18	DC - 2	2 - 8	8 - 12.4
Connectors	SMA		N		
V.S.W.R.	≤ 1.30	≤ 1.50	≤ 1.10	≤ 1.25	≤ 1.50
Insertion loss (dB)	≤ 0.30	≤ 0.60	≤ 0.10	≤ 0.25	≤ 0.60
Average power at 25° C (W)	50		200	100	60
Peak power (KW)	1 ($1 \mu s 1^\circ/\infty$)		2 ($5 \mu s 1^\circ/\infty$)		
Maximum rotation speed (rpm)	300		100		
Maximum rotation torque (cmN)	3		10		
Life	2 x 10 ⁶ rotations				
Weight (g)	45		150		

(1) : P/N R447171000 is usable up to 18 GHz.

TYPICAL OUTLINE DRAWING

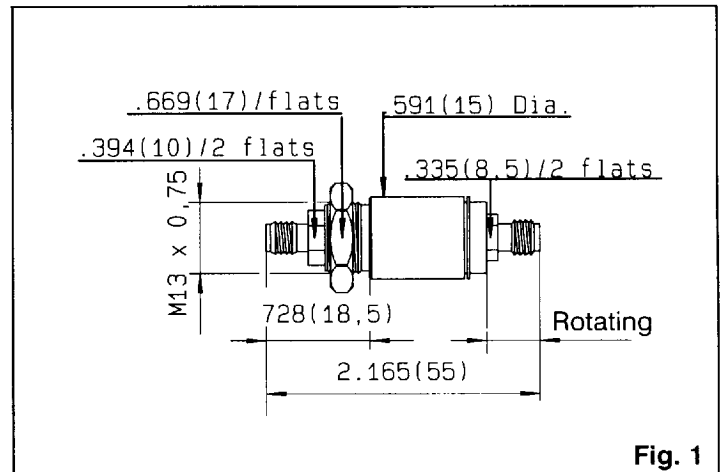
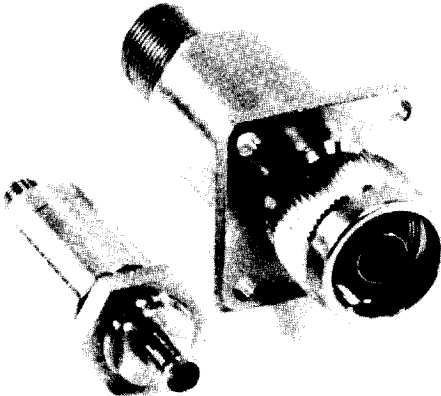


Fig. 1

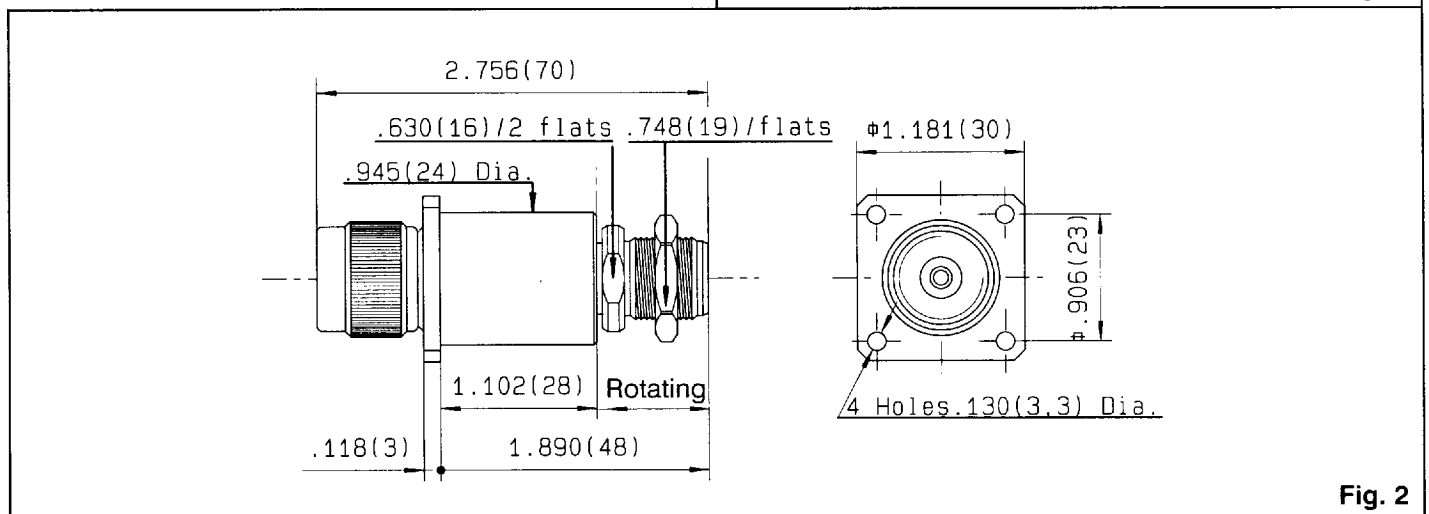


Fig. 2

COAXIAL DEVICES

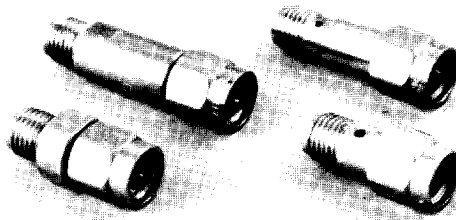
SMA - SMA 2.9 Coaxial DC blocks up to 40 GHz

MINIATURE

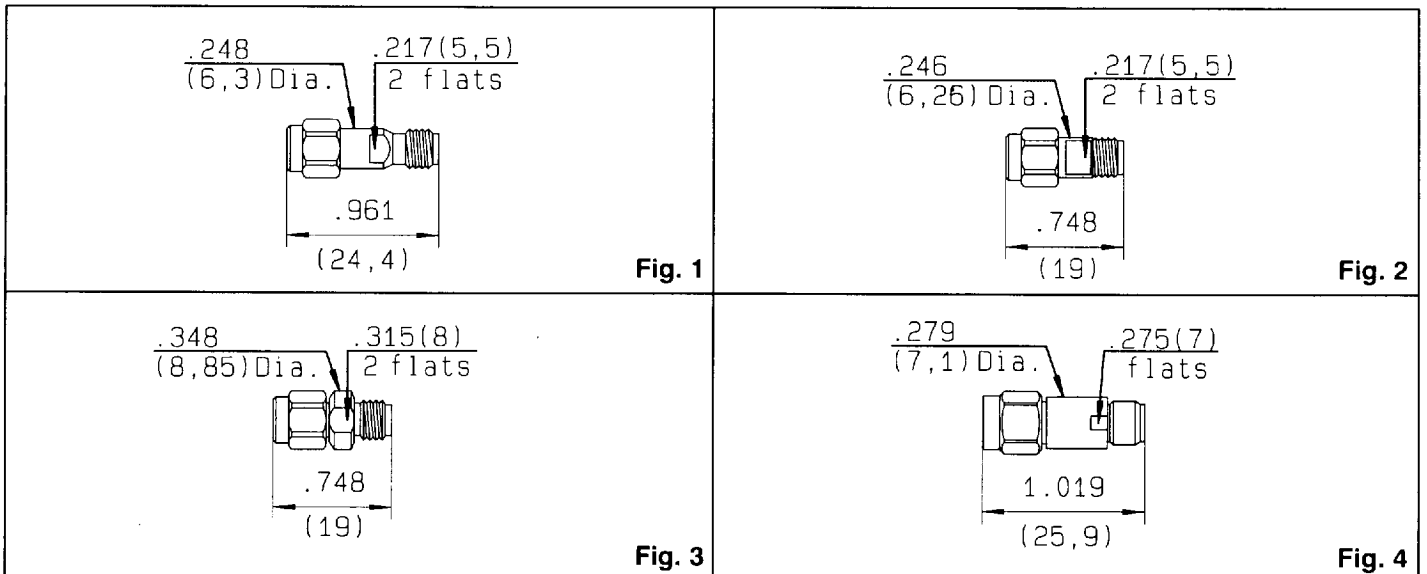
PART NUMBER	Frequency range (GHz)	Figure
R443132000	.01 - 2	1
R443134000	1 - 12.4	2
R443138000	.8 - 10	3
R443162000	.1 - 40	4

GENERAL SPECIFICATIONS

Impedance (Ω)	50						
	.01 - 2	1 - 12.4		.8 - 10		.1 - 40	
Frequency range (GHz)		1 - 4	4 - 12.4	8 - 2	2 - 10	.1 - 18	18 - 40
V.S.W.R.	≤ 1.15	≤ 1.10	≤ 1.25			≤ 1.25	≤ 1.35
Insertion loss (dB)	0.20	0.25	0.50	2	0.50	0.35	0.60
Breakdown voltage (V)	≤ 100	≤ 250		≤ 100			
Average power at 25° C (W)	10	25		10		1	
Capacitance (pF)	4700	100		3.3		220	
Connectors	SMA						SMA 2.9
Weight (g)	6	5				7	



TYPICAL OUTLINE DRAWING



COAXIAL DEVICES

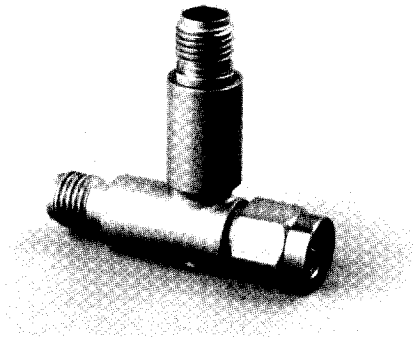
SMA Coaxial monitor tees up to 12.4 GHz

MINIATURE

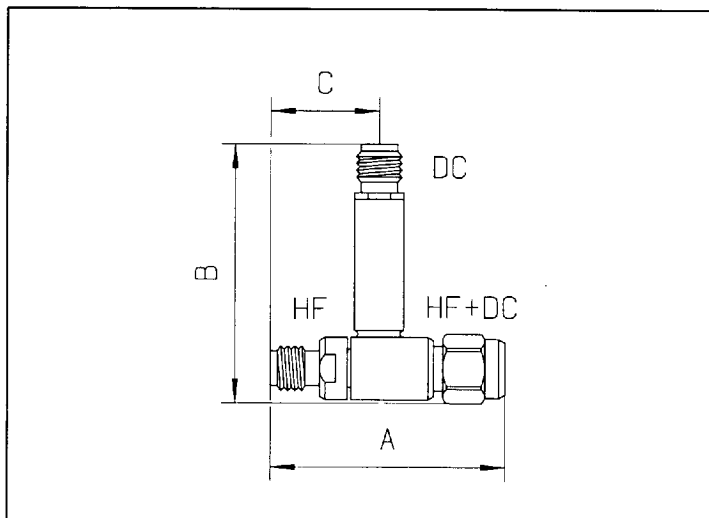
PART NUMBER	Frequency range (GHz)
R443530000	.01 - 1.5
R443533000	1.5 - 6
R443536000	6 - 12.4

GENERAL SPECIFICATIONS

Impedance (Ω)	50				
	.01 - 1.5		1.5 - 6		6 - 12.4
Frequency range (GHz)	.01 - 1	1 - 1.5	1.5 - 4	4 - 6	
V.S.W.R.	≤ 1.25	≤ 1.30	≤ 1.20		≤ 1.35
Insertion loss (dB)	≤ 0.35		≤ 0.20	≤ 0.40	≤ 0.50
Rejection attenuation (dB)	≥ 40		≥ 35	≥ 45	≥ 45
DC voltage max (V)	≤ 100		≤ 250		≤ 100
Average power at 25° C (W)	10		25		
Nominal capacity (pF)	4700		10	3.5	
DC current max. (mA)	250				
Connectors	SMA				
Weight (g)	15				



TYPICAL OUTLINE DRAWING



PART NUMBER	A inch (mm)	B inch (mm)	C inch (mm)
R443530000	1.24" (31.5)	1.122" (28.5)	.709" (18)
R443533000	1.26" (32)	1.457" (37)	.610" (15.5)
R443536000		1.50" (38)	

COAXIAL DEVICES

N / BNC Coaxial signal samplers up to 12 GHz

STANDARD

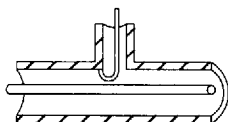
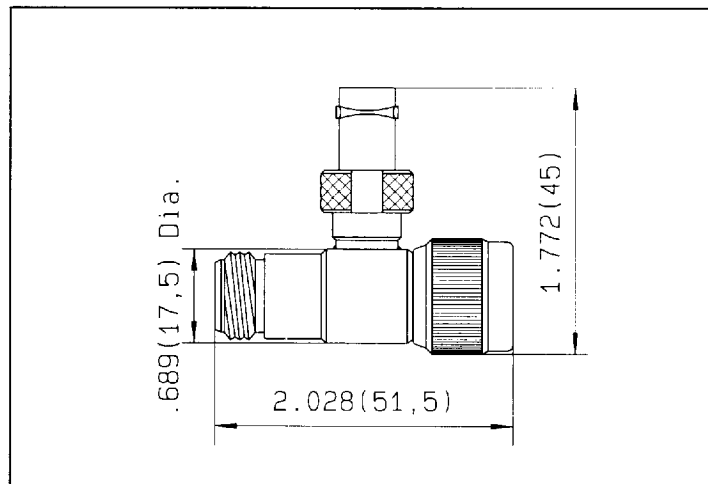
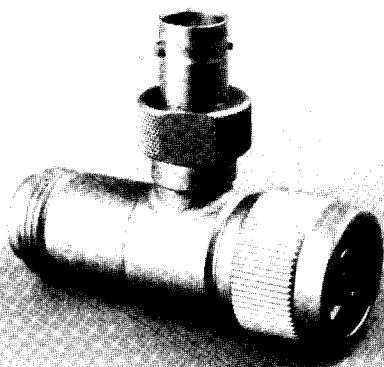
PART NUMBER	Description
R435270000	Loop probe
R435170000	Resistive loop probe
R435470000	Capacitive loop probe

GENERAL SPECIFICATIONS

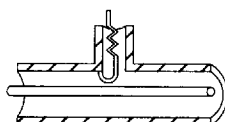
Impedance (Ω)	50	
Frequency range (GHz)	DC - 12	
	DC - 8	8 - 12
V.S.W.R.	≤ 1.20	≤ 1.50
Insertion loss (dB)	≤ 0.20	
Coupling variation	6 dB / octave	
Maximum power at 25° C (w)	500	
Peak power at 25° C (kw)	5 (1 μ s, 1 ⁰ / ₁₀₀)	
Connectors (main line)	N male / female	
Connectors (coupling line)	BNC female	
Weight (g)	100	

Nota : V.S.W.R. and insertion loss are specified for loose coupling < 20 dB

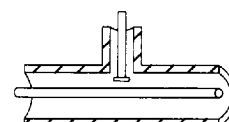
TYPICAL OUTLINE DRAWING



Loop probe



Resistive loop probe



Capacitive probe

COAXIAL DEVICES

SMA Coaxial phase shifters up to 18 GHz

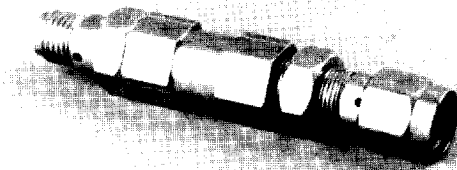
MINIATURE

PART NUMBER	Figure
R499103000	1
R499101000 ⁽¹⁾	2

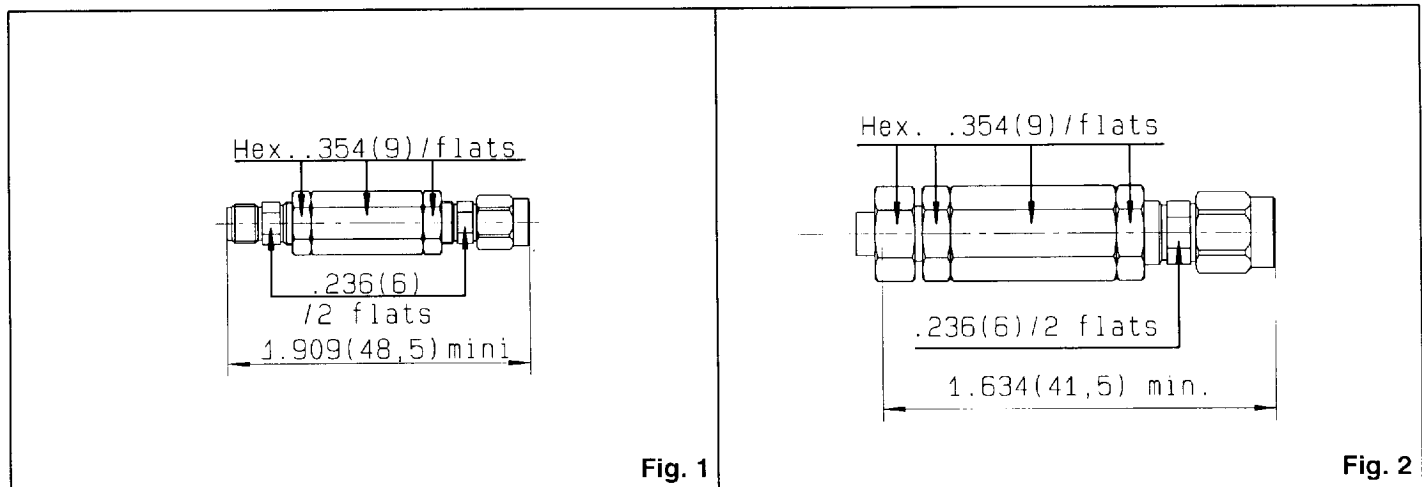
⁽¹⁾ for .141 semi-rigid cable assembly

GENERAL SPECIFICATIONS

Impedance (Ω)	50
Frequency range (GHz)	DC - 18
V.S.W.R.	$\leq 1.05 + .014 F$ (GHz)
Insertion loss (dB)	$\leq 0.1 \times \sqrt{F}$ (GHz)
Phase shift range	$10^\circ \times F$ (GHz)
Phase shift range per rotation	$0.6^\circ \times F$ (GHz)
Connectors	SMA male / female or SMA male / .141 semi-rigid cable assembly
Maximum length variation (inch/mm)	.34 / 8.6
Weight (g)	20



TYPICAL OUTLINE DRAWING



COAXIAL DEVICES

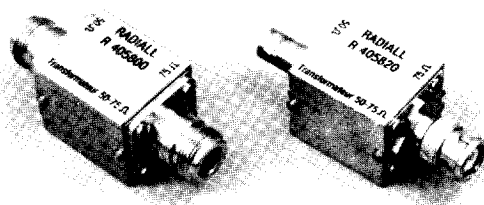
N 50/75Ω and **BNC 50/75Ω** Impedance transformers up to 1GHz

STANDARD

PART NUMBER	Connectors		Figure
	50 Ω	75 Ω	
R405800000	N female	N female	1
R405802000	N male	N female	2
R405810000	BNC male	BNC female	3
R405820000	BNC female	BNC male	4

GENERAL SPECIFICATIONS

Frequency range (GHz)	.01 - 1
V.S.W.R.	≤ 1.20
Insertion loss (dB)	≤ 1
Maximum power at 25° C (W)	4
Weight (g)	140



TYPICAL OUTLINE DRAWING

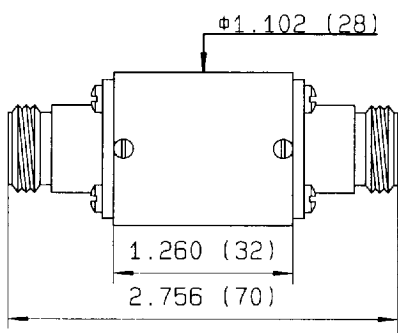


Fig. 1

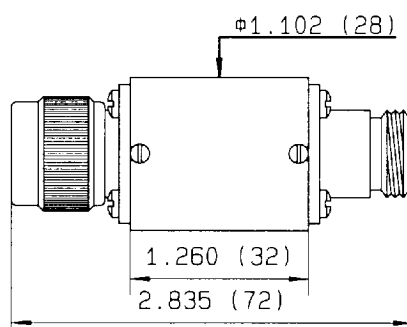


Fig. 2

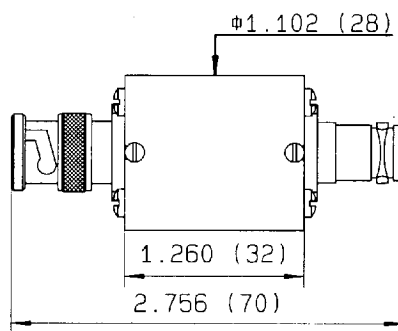


Fig. 3

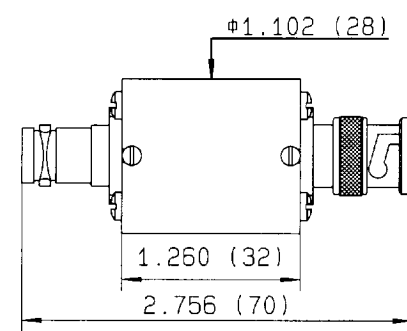


Fig. 4

COAXIAL DEVICES

EUROPEAN MILITARY APPROVED

PREFERRED PRODUCTS LIST : MICROWAVE COMPONENTS

Förderverein Für Elektrotechnische Normung eV
Cenelec Electronic Components Committee
Military Usage And Harmonisation
Advisory Group

CECC
MUAHAG

LISTE PREFERENTIELLE
DE
COMPOSANTS
ELECTRONIQUES

COMPOSANTS
HYPERFREQUENCE

PREFERRED
PRODUCTS LIST
MICROWAVE
COMPONENTS



TOME
VOLUME
BAND

12

THIS VOLUME HAS
BEEN PREPARED
IN ACCORDANCE
WITH THE REVISED
RULES DEFINED

Specification	Ident/ Generic Style	Manufacturer		Cat/ Qual	Characteristics			Connector	Climatic Category	Observations
		Country/code	Part No		f (GHz)	P (W )					Phase (°) a f (GHz)
		FR/RAV	R439100000	B/NQ	0-18	C W	Peak	180-18	40/85	Adjustable mechanical
		FR/RAV	R447120000	B/NQ	0-18	50			40/85	
		FR/RAV	R447171000	B/NQ	0-18	40			40/85	

MANUFACTURERS CODE N.A.T.O

RADIALL, Military supply code manufacturer **F0503** and **F6507**, is a qualified supplier of microwave components under military specifications, to various governmental agencies. RADIALL Quality Assurance is fully approved by NATO (AQAP4). The following is a partial listing of national stock numbers which RADIALL has provided to the French Ministry of Defence.

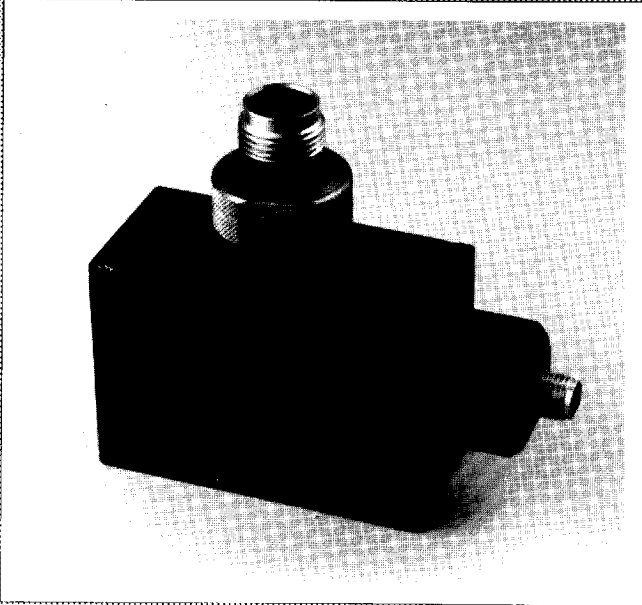
PART NUMBER	NATO CODE
R435170000	5985-14-362-7996
R435470000	6625-14-355-5455
R443134000	5985-14-400-0812
R443150000	5935-14-389-7580
R443530000	5985-14-438-6982
R447120000	5985-14-392-1430
R451030000	6625-14-418-7020
R451030500	5895-14-447-0599

PART NUMBER	NATO CODE
R451075000	5985-14-312-3965
R451533000	5985-14-406-7466
R451533500	5895-14-376-0744
R451570000	5985-14-258-9408
R451574000	5985-14-320-9223
R451574120	5985-14-334-7743
R451950000	5961-14-334-7759
R451952000	5895-14-394-4557



COAXIAL DEVICES

SPECIAL DESIGNS AND CONFIGURATIONS

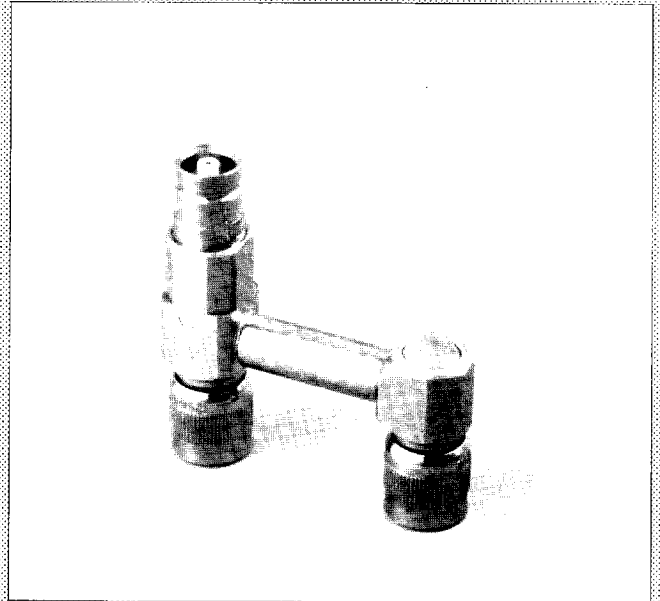


50 Watts, High power coaxial termination with coupled out.

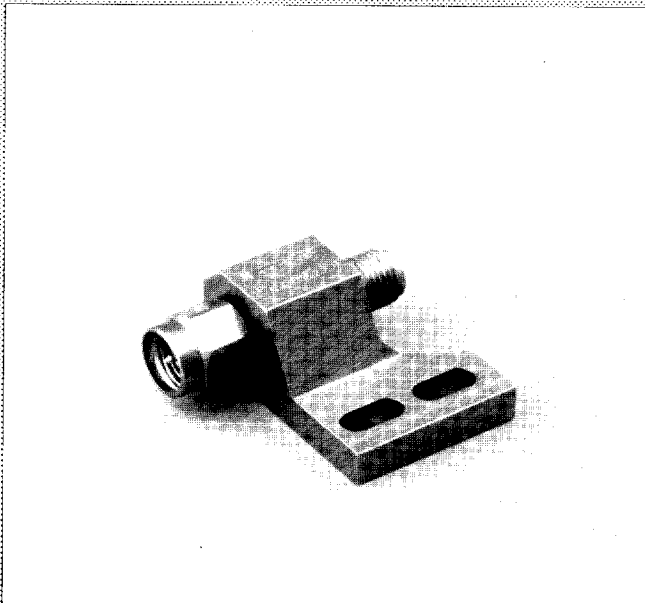
CUSTOM

RADIALL develops specific components for special customer requirements.

Ask our commercial department.



1.6/5.6 75 Ω U-Adaptator with attenuated test port.



Ku Band special coaxial rotary joint in narrow frequency band. This component is intended for airborne equipment.

COAXIAL DEVICES

PART NUMBERS INDEX

Part Numbers	Designation.	Page	Part Numbers	Designation.	Page
R405800000	..... 50/75 Ω Impedance transformer	21	R451033500	..... High sensitivity detector	12-13
R405802000	..... 50/75 Ω Impedance transformer	21	R451034000	..... High sensitivity detector	12-13
R405810000	..... 50/75 Ω Impedance transformer	21	R451034500	..... High sensitivity detector	12-13
R405820000	..... 50/75 Ω Impedance transformer	21	R451075000	..... Crystal detector	14-15
R435170000	..... Signal sampler	19	R451533000	..... Wide band detector	12-13
R435270000	..... Signal sampler	19	R451533500	..... Wide band detector	12-13
R435470000	..... Signal sampler	19	R451534000	..... Wide band detector	12-13
R443132000	..... DC block	17	R451534500	..... Wide band detector	12-13
R443134000	..... DC block	17	R451542000	..... Wide band detector	12-13
R443138000	..... DC block	17	R451542500	..... Wide band detector	12-13
R443162000	..... DC block	17	R451543000	..... Wide band detector	12-13
R443530000	..... Monitor tee	18	R451543500	..... Wide band detector	12-13
R443533000	..... Monitor tee	18	R451544000	..... Wide band detector	12-13
R443536000	..... Monitor tee	18	R451544500	..... Wide band detector	12-13
R447120000	..... Rotary joint	16	R451570000	..... Crystal detector	14-15
R447171000	..... Rotary joint	16	R451570500	..... Crystal detector	14-15
R451030000	..... High sensitivity detector	12-13	R451572120	..... 2.45 GHz detector	14-15
R451030500	..... High sensitivity detector	12-13	R451574000	..... Wide band detector	14-15
R451031000	..... High sensitivity detector	12-13	R451574500	..... Wide band detector	14-15
R451031500	..... High sensitivity detector	12-13	R451576000	..... Wide band detector	14-15
R451032000	..... High sensitivity detector	12-13	R451576500	..... Wide band detector	14-15
R451032500	..... High sensitivity detector	12-13	R451950000	..... Removable cartridge detector	14-15
R451033000	..... High sensitivity detector	12-13	R451952000	..... Removable cartridge detector	14-15
R499101000	..... Phase shifter	20	R451953000	..... Removable cartridge detector	14-15
R499103000	..... Phase shifter	20	R451954000	..... Removable cartridge detector	14-15