



# *Exir* *Broadcasting*



**RIGID LINE, ACCESSORIES & MEASUREMENT EQUIPMENT** Broadcasting Products #04



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## TYPICAL VALUES

The specifications herein represent typical values unless otherwise indicated. Please contact Exir Broadcasting for more information.

## SPECIAL REQUIREMENTS AND SOLUTIONS

This catalogue encompasses a large selection of standard broadcasting products from Exir Broadcasting. Many situations, however, call for special system configurations due to the singular demands of specific broadcasting applications.

At Exir Broadcasting our knowledgeable staff is accustomed to helping customers find the best possible solutions to meet their particular needs, no matter what the situation may be. So please do not hesitate to contact us to discuss any special requirements you may have.

While all efforts have been made to provide accurate specifications at time of printing, Exir Broadcasting is not responsible for any errors or omissions in this catalogue. All specifications are subject to change without prior notice and neither Exir Broadcasting nor its employees may be held responsible for discrepancies between the printed specifications and those actually in effect at any given time.

For actual specifications please contact Exir Broadcasting for more information.

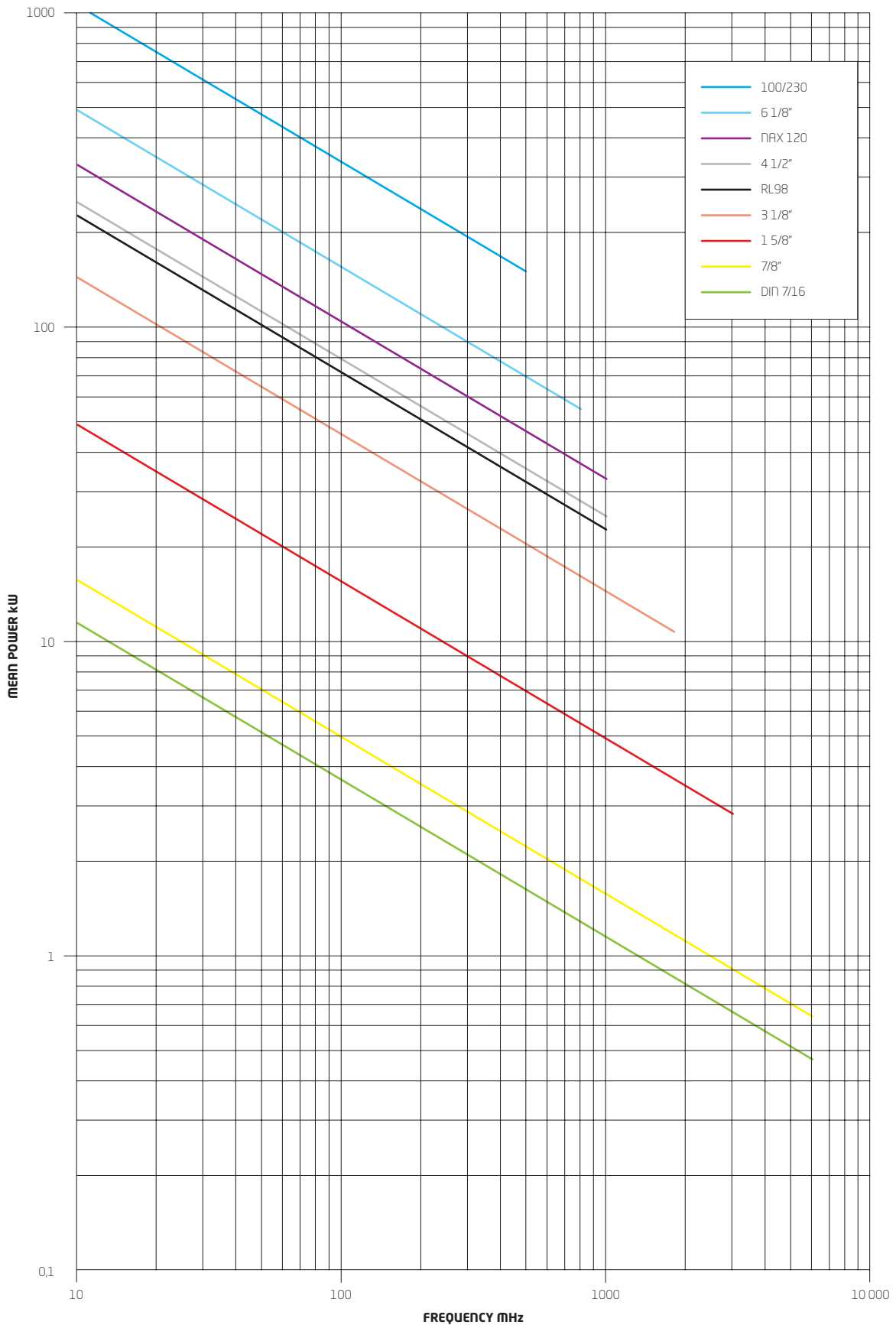
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# Power Rating

Data based on: Ambient T=40°C , Inner T=120°C



# Rigid Line

## Vital to Overall Performance

The importance of transmission line quality is easily overlooked when planning a broadcasting site. Yet the installation's rigid transmission line can significantly affect the system's overall performance and expansion capabilities.

The benefits of using high quality rigid line instead of cable or other systems are quite measurable, both in terms of performance and cost of installation and maintenance. At Exir Broadcasting we pride ourselves on being able to deliver a complete range of transmission line products offering extremely low loss for total system quality.

### **DOES TRANSMISSION LINE QUALITY REALLY MATTER?**

Transmission line quality is as vital to a system's overall performance as is the quality of more critical components like transmitters and combiners. Every component in a system affects the electrical performance and output power of the transmission.

### **WHY RIGID LINE WHEN THERE IS CABLE?**

Cables with dimensions greater than 7/8" are very bulky and heavy, and are also more expensive and more difficult to install than rigid line. In addition, the cable must be over-dimensioned in order to compensate for its comparatively high attenuation.

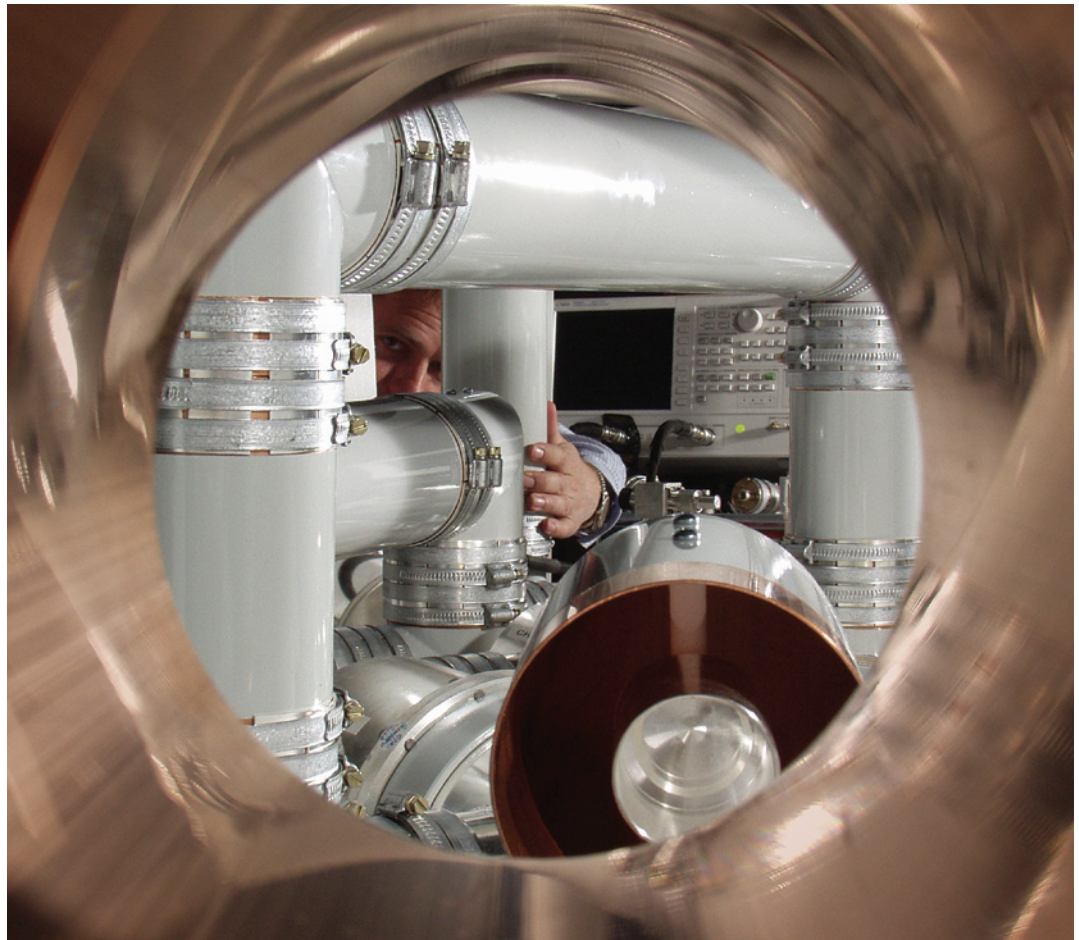
### **WHAT'S SO UNIQUE ABOUT RIGID LINE FROM EXIR BROADCASTING?**

First, we offer a complete program of interconnecting rigid line components to ensure easy assembly and consistently high quality from start to finish. Secondly, our adapters perform so well that they can be used as test adapters. Most importantly, our rigid line is manufactured using the purest copper available in order to achieve the lowest loss.

### **99.9% PURE COPPER**

During transmission all power is concentrated to the coax line's inner conductor. For this reason, we use only the purest material available for our inner conductors consisting of 99.9% pure copper. This is how we are able to minimize loss.





All other key rigid line components are similarly designed to contribute to a low-loss system. For example, the inner conductor used in our elbows is milled from a single piece to achieve a return loss that is not only very good, but very consistent as well. Likewise, the exceptional isolation properties of our high quality adapters are kept consistent by using only virgin, high grade Teflon manufactured under strict controls.

#### **KEEPING IT SIMPLE**

One of the main features of Exir Broadcasting rigid line is its unique simplicity. The entire system is of a modular design according to the Lego-principle, meaning that all components can be assembled quickly, easily and reliably. Rigid line sections are easily adapted to the unique layout and characteristics of a station, and a wide variety of adapters even allows for varying rigid line dimensions within the same system.

Installing cable is much more cumbersome and time-consuming, and every splice means another possible source of trouble. Rigid line components, on the other hand, are connected safely and quickly using innovative coupling kits. These kits are available for both flanged rigid line for outdoor use, and unflanged rigid line for indoor use. They require neither welding nor threading, and completely eliminate the need for pins.

#### **GOOD CONTACT THROUGH-OUT ENTIRE LIFETIME**

Designing rigid line products that are easy to assemble and provide good contact throughout their entire lifetime is no easy task. Any small gap in the contact between components reduces conductivity, which may lead to increased temperature and a greater risk of interruption. At Exir Broadcasting we never use contact springs in transmission line components. Instead, our coupling kit solution with an inner bullet designed like a plug offers a durable alternative that will not wear out and at the same time eliminates the risk of installation flaws.

#### **ACHIEVING DESIRED SYSTEM PERFORMANCE**

The return loss value for each component in a coax system is of importance to the cost of installation and tuning. Every rigid line component from Exir Broadcasting has a guaranteed value of  $-32$  dB or better.

Elbows are even more impressive with a typical return loss of  $-45$  dB up to 860 MHz. And their consistent performance means sections of the line can be rebuilt without having to re-tune the entire system.

For multi-channel systems, only highest quality components are good enough. The total return loss during broadband measurement of the system will always be greater than the value for each individual component.

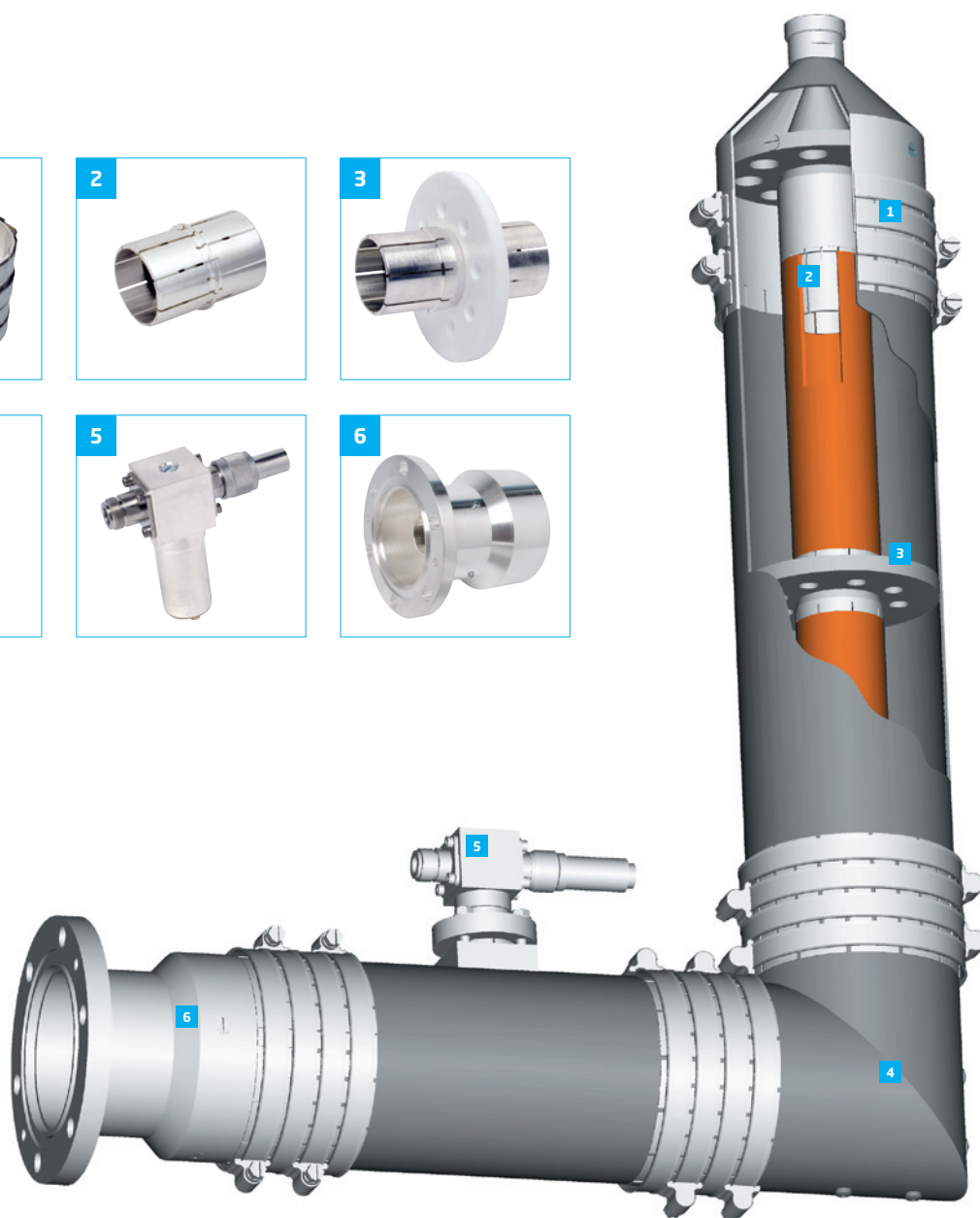
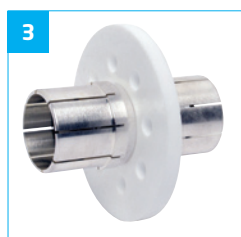
The important thing to remember is that building complete systems to meet specifications is really not that difficult when using components that have excellent values to begin with.

### TAKING RIGID LINE TO A HIGHER LEVEL

In the final analysis, careful planning and the use of high quality components are the only means for achieving long-term

security and quality for transmission line installations. These are the decisive factors that determine overall electrical performance of the complete system.

Rigid line from Exir Broadcasting takes your rigid line installation to a higher level. With the reliability and innovation our customers have come to expect, the simplicity of our system makes transmission line installation easier, faster and safer than both cable and other systems, not only initially but also upon future modifications of the system.

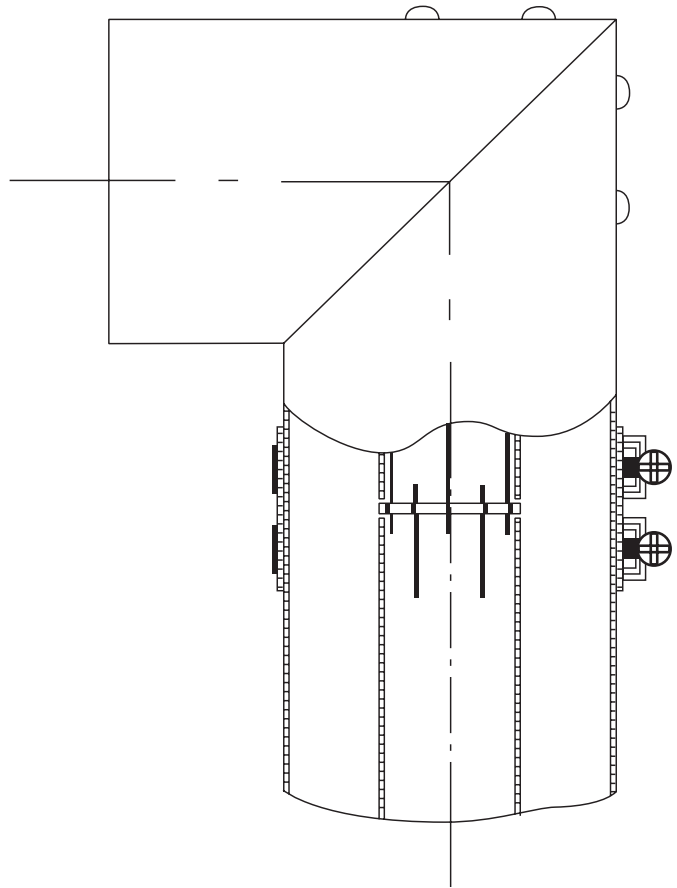


# Mounting Description

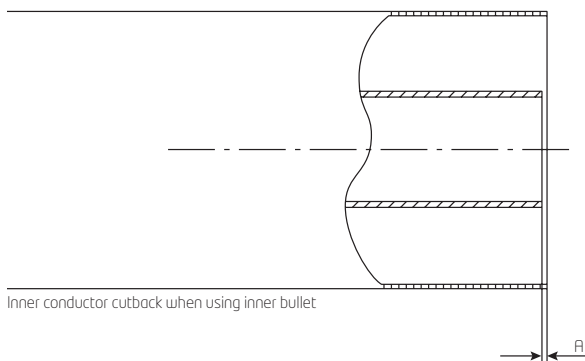
## INDOOR FITTING

All indoor rigid lines are connected together using a coupling kit. The kit consists of an inner bullet, an outer sleeve and 2 or 4 tube clamps (depending on format). All rigid line components are built with the inner conductor 1.5mm shorter than the outer conductor (except RL 230, 2 mm). If the rigid line exceeds a certain length, an inner support must be used. These lengths depend on the format of the rigid line. These relationships are shown in the table below.

FORMAT	MAXIMUM LENGTH WITHOUT INNER SUPPORT
7/8"	1000 mm
EIA 1 5/8"	1400 mm
EIA 3 1/8"	2000 mm
RL 98	2500 mm
EIA 4 1/2	2500 mm
NAX 120	2500 mm
EIA 6 1/8"	3000 mm
RL 230	2515 mm

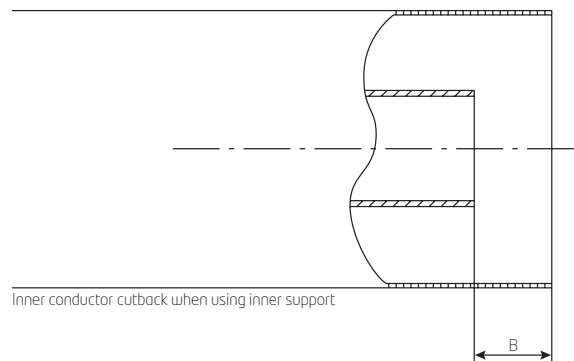


## CUT-BACK DIMENSIONS FOR RIGID LINE A. WITH INNER BULLET



FORMAT	CUTBACK "A"
7/8"	1.5 mm
EIA 1 5/8"	1.5 mm
EIA 3 1/8"	1.5 mm
RL 98	1.5 mm
EIA 4 1/2	1.5 mm
NAX 120	1.5 mm
EIA 6 1/8"	1.5 mm
RL 230	2.0 mm

## B. WITH INNER SUPPORT



FORMAT	CUTBACK "B"
7/8"	12.7 mm
EIA 1 5/8"	15.0 mm
EIA 3 1/8"	23.2 mm
RL 98	17.0 mm
EIA 4 1/2	24.5 mm
NAX 120	17.0 mm
EIA 6 1/8"	32.0 mm
RL 230	71.0 mm



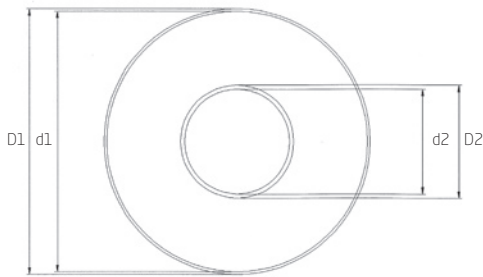
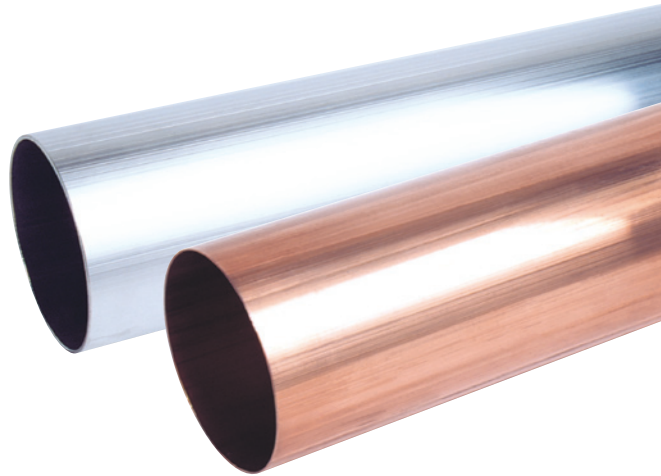
# Rigid Line - Tubes



## PRODUCT PROFILE

Exir Broadcasting supplies rigid lines of different types. Low-loss copper and various aluminium alloys are used to ensure high conductivity. The tubes are connected with silver-plated brass sleeves that are tightened with tube clamps. The inner conductors are connected with silver-plated brass bullets.

The maximum production length of a tube is approximately 5 metres (16.4 ft). If the maximum length is used, then the inner conductor must be supported by inner supports. All dimensions can be ordered with connecting flanges for outdoor use. More detailed information is available on request.



CLAMPS	
TYPE OF LINE	ARTICLE
EIA 7/8"	015-0900
EIA 1 5/8"	015-1000
EIA 3 1/8"	015-1050
RL 98	015-1075
EIA 4 1/2"	015-1100
NAX 120	015-1095



WALL HANGERS	
TYPE OF LINE	ARTICLE
EIA 7/8"	1100555
EIA 1 5/8"	R158-FASTA1
EIA 3 1/8"	R318-FASTA1
RL 98	RL98-FASTA1
NAX 120	R120-FASTA2
EIA 6 1/8"	R618-FASTA1

ARTICLE	211-008006 INNER 211-022011 OUTER	211-016009 INNER 211-041012 OUTER	211-033010 INNER 211-079012 OUTER	211-042015 INNER 211-100010 OUTER
TYPE OF LINE	EIA 7/8"	EIA 1 5/8"	EIA 3 1/8"	RL98
MATERIAL INNER	Low-loss copper	Low-loss copper	Low-loss copper	Low-loss copper
MATERIAL OUTER	Copper	Copper	Copper	Low-loss copper
IMPEDANCE	50 Ohm	50 Ohm	50 Ohm	50 Ohm
D1	22.23 mm (0.88 in)	41.28 mm (1.64 in)	79.38 mm (3.12 in)	100 mm (3.94 in)
d1	19.95 mm (0.79 in)	38.79 mm (1.52 in)	76.88 mm (3.03 in)	98 mm (3.86 in)
D2	8.66 mm (0.34 in)	16.87 mm (0.66 in)	33.4 mm (1.31 in)	42.55 mm (1.67 in)
d2	7.39 mm (0.29 in)	14.93 mm (0.58 in)	31.27 mm (1.23 in)	39.50 mm (1.55 in)

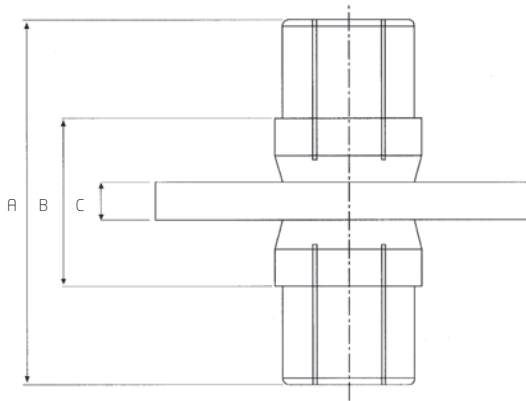
ARTICLE	211-044010 INNER 211-106015 OUTER	211-052010 INNER 219-125025 OUTER	211-660010 INNER 211-155018 OUTER	211-100010 INNER 219-235025 OUTER
TYPE OF LINE	EIA 4 1/2"	Nax 120	EIA 6 1/8"	RL230 [EIA 230/100]
MATERIAL INNER	Low-loss copper	Low-loss copper	Low-loss copper	Low-loss copper
MATERIAL OUTER	Copper	Aluminium	Copper	Aluminium
IMPEDANCE	50 Ohm	50 Ohm	50 Ohm	50 Ohm
D1	106 mm (4.17 in)	125 mm (4.92 in)	155.6 mm (6.13 in)	235 mm (9.26 in)
d1	103 mm (4.06 in)	120 mm (4.72 in)	151.92 (5.98 in)	230 mm (9.06 in)
D2	44,73 mm (1.76 in)	52.1 mm (2.05 in)	66 mm (2.6 in)	100 mm (3.94 in)
d2	43 mm (1.69 in)	50.1 mm (1.97 in)	64.1 mm (2.52 in)	98 mm (3.86 in)

# Inner Supports



## PRODUCT PROFILE

Exir Broadcastings manufactures inner supports for all our rigid lines. The supports are designed to maintain excellent connectivity in rigid line and flanged connections. Silver-plated brass is used for the inner conductor. The ends are slotted and a circlip ensures excellent contact. All the support plates are made of high quality teflon (PTFE) that has been controlled and adjusted before manufacturing.



LINE TYPE	ARTICLE	Dim. A	Dim. B	Dim. C
EIA 7/8" unflanged	<b>R078-ISUP-AA00</b>	49,0 mm (1,93 in)	23,8 mm (0,94 in)	5,0 mm (0,20 in)
EIA 7/8" flanged	<b>O78F-ISUP-AO</b>	49,0 mm (1,93 in)	23,8 mm (0,94 in)	4,7 mm (0,19 in)
EIA 1 5/8" unflanged	<b>R158-ISUP-AO</b>	58,5 mm (2,30 in)	28,7 mm (1,13 in)	6,3 mm (0,25 in)
EIA 1 5/8" flanged	<b>158F-ISUP-AO</b>	59,4 mm (2,34 in)	28,4 mm (1,12 in)	6,3 mm (0,25 in)
EIA 3 1/8" unflanged	<b>R318-ISUP-AO</b>	76,3 mm (3,00 in)	45,3 mm (1,78 in)	8,2 mm (0,32 in)
EIA 3 1/8" flanged	<b>318F-ISUP-AO</b>	76,3 mm (3,00 in)	45,3 mm (1,78 in)	9,5 mm (0,37 in)
RL98 unflanged	<b>RL98-ISUP-AO</b>	92,3 mm (3,63 in)	32,2 mm (1,27 in)	8,2 mm (0,32 in)
RL98 flanged	<b>R98F-ISUP-AO</b>	92,3 mm (3,63 in)	32,2 mm (1,27 in)	8,2 mm (0,32 in)
EIA 4 1/2" unflanged	<b>R412-ISUP-AO</b>	108,5 mm (4,27 in)	47,5 mm (1,87 in)	9,4 mm (0,37 in)
EIA 4 1/2" flanged	<b>412F-ISUP-AO</b>	100,6 mm (3,96 in)	45,6 mm (1,80 in)	9,8 mm (0,38 in)
Nax 120 unflanged	<b>R120-ISUP-AO</b>	92,2 mm (3,63 in)	32,2 mm (1,27 in)	8,2 mm (0,32 in)
EIA 6 1/8" unflanged	<b>R618-ISUP-AO</b>	108,0 mm (4,25 in)	63,0 mm (2,48 in)	8,2 mm (0,32 in)
EIA 6 1/8" flanged	<b>618F-ISUP-AO</b>	108,0 mm (4,25 in)	63,0 mm (2,48 in)	11,1 mm (0,44 in)
RL230 unflanged	<b>R230-ISUP-AO</b>	219,8 mm (8,65 in)	139,8 mm (5,50 in)	16,0 mm (0,63 in)
RL230 flanged	<b>230F-ISUP-AO</b>	228,0 mm (8,98 in)	148,0 mm (5,83 in)	25,0 mm (0,98 in)

# Elbows



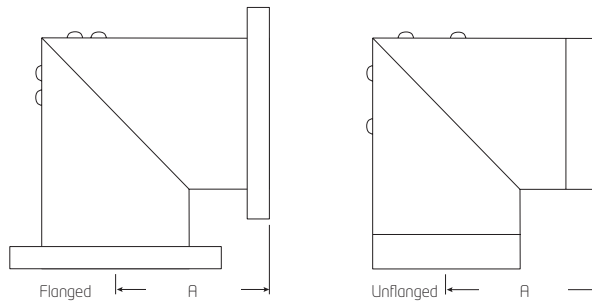
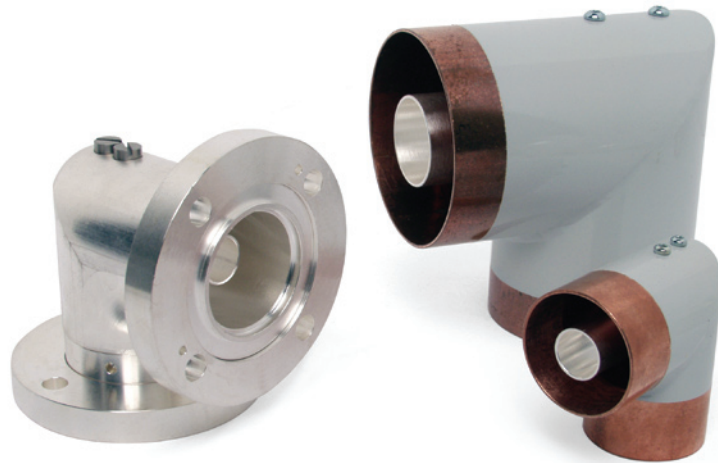
## PRODUCT FEATURES

- High quality copper
- Easy assembly
- Customising possibilities

## PRODUCT PROFILE

Exir Broadcasting manufactures elbows for all our rigid lines, both for outdoor and indoor use. The outdoor models are equipped with fixed or swivel flanges. O-rings of high quality EPDM are used for gas tight flanged connections.

All the support insulators for the inner conductor are made of high quality teflon (PTFE) that has been controlled and adjusted before manufacturing.



LINE TYPE	ARTICLE	Dim. A	MATERIAL OUTER CONDUCTOR
EIA 7/8" unflanged	<b>R078-ELBO-A0</b>	42.5 mm (1.67 in)	Copper
EIA 7/8" flanged	<b>O78F-ELBO-AA00</b>	30° (male - male)	Silver-plated brass
EIA 1 5/8" unflanged	<b>R158-ELBO-A0</b>	42.1 mm (1.77 in)	Copper
EIA 1 5/8" flanged	<b>158F-ELBO-A0</b>	59.0 mm (2.32 in)	Silver-plated brass
EIA 3 1/8" unflanged	<b>R318-ELBO-A0</b>	80.0 mm (3.15 in)	Copper
EIA 3 1/8" flanged	<b>318F-ELBO-A0</b>	102.2 mm (4.02 in)	Silver-plated brass
RL98 unflanged	<b>RL98-ELBO-A0</b>	85.0 mm (3.35 in)	Copper
EIA 4 1/2" unflanged	<b>R412-ELBO-A0</b>	87.8 mm (3.46 in)	Copper
EIA 4 1/2" flanged	<b>412F-ELBO-AC00</b>	100.0 mm (3.94 in)	
Nax 120 unflanged	<b>R120-ELBO-A0</b>	97.5 mm (3.84 in)	Aluminum
EIA 6 1/8" unflanged	<b>R618-ELBO-A0</b>	117.8 mm (4.46 in)	Copper
EIA 6 1/8" flanged	<b>618F-ELBO-A0</b>	148.8 mm (5.86 in)	Copper
RL230 unflanged	<b>R230-ELBO-A0</b>	157.5 mm (6.20 in)	Aluminum
RL230 flanged	<b>230F-ELBO-A0</b>	231.5 mm (9.11 in)	Aluminum

# Adapters



## PRODUCT FEATURES

- Manufactured in silver-plated brass and PTFE teflon
- Wide range of sizes
- Low VSWR

## PRODUCT PROFILE

Exir Broadcasting manufactures a wide variety of adapters for flanged and unflanged rigid line and other connectors. Custom designs are also available.

We guarantee VSWR lower than 1.05 on every adapter. The maximum power is the same as the specifications for the smallest diameter/connector. Measurement protocols and more detailed specifications concerning the materials used are available on request.

The adapters that we manufacture are made from solid silver-plated brass. The most common material for support and isolation details is high quality teflon (PTFE). The teflon is electrically controlled before being milled and lathed into its final shape. As different types of teflon have different electrical characteristics, these measurements are monitored to help us maintain uniform high quality.

All models with flanges at both ends are fully waterproof. Joints and holes for screws are covered with high quality EPDM or silicone O-rings. These gaskets also maintain internal gas pressure in pressurised systems.

CONNECTING ENDS	Length (outer conductor)	ARTICLE
EIA 7/8" unflanged to N-female	77 mm	<b>R078-00Nf-AO</b>
EIA 7/8" unflanged to DIN 7/16 female	66 mm	<b>R078-716f-AO</b>
EIA 7/8" unflanged to DIN 7/16 male	67 mm	<b>R078-716m-AO</b>
EIA 7/8" unflanged to EIA 7/8" flanged	26 mm	<b>R078-078F-AO</b>
EIA 7/8" flanged to DIN 7/16 female	77 mm	<b>078F-716f-AO</b>
EIA 7/8" flanged to DIN 7/16 male	78 mm	<b>078F-716m-AO</b>
EIA 1 5/8" unflanged to N female	84 mm	<b>158R-00Nf-AA00</b>
EIA 1 5/8" unflanged to DIN 7/16 female	74 mm	<b>R158-716f-AO</b>
EIA 1 5/8" unflanged to DIN 7/16 male	74 mm	<b>R158-716m-AO</b>
EIA 1 5/8" unflanged to EIA 7/8 unflanged	87 mm	<b>158R-078R-AA00</b>
EIA 1 5/8" unflanged to EIA 7/8 flanged	97 mm	<b>R158-078F-AO</b>
EIA 1 5/8" unflanged to EIA 1 5/8" flanged	36 mm	<b>158R-158F-AO</b>
EIA 1 5/8" flanged to DIN 7/16 female	88 mm	<b>158F-716f-AO</b>
EIA 1 5/8" flanged to DIN 7/16 male	89 mm	<b>158F-716m-AO</b>
EIA 3 1/8" unflange to N female	97 mm	<b>318R-00Nf-AA00</b>
EIA 3 1/8" unflanged to DIN 7/16 female	87 mm	<b>R318-716f-AO</b>
EIA 3 1/8" unflanged to DIN 7/16 male	88 mm	<b>R318-716m-AO</b>
EIA 3 1/8" unflanged to EIA 7/8" flanged	106 mm	<b>R318-078F-AO</b>
EIA 3 1/8" unflanged to EIA 1 5/8" unflanged	85 mm	<b>R318-R158-AO</b>
EIA 3 1/8" unflanged to EIA 1 5/8" flanged	101 mm	<b>R318-158F-AO</b>
EIA 3 1/8" unflanged to EIA 3 1/8" flanged	45 mm	<b>R318-318F-AO</b>
EIA 3 1/8" flanged to DIN 7/16 female	109 mm	<b>318F-716f-AO</b>
EIA 3 1/8" flanged to DIN 7/16 male	110 mm	<b>318F-716m-AO</b>
EIA 3 1/8" flanged to EIA 1 5/8" flanged	125 mm	<b>318F-R158-AO</b>
RL98 to DIN 7/16 female	121 mm	<b>RL98-716f-AO</b>
RL98 to DIN 7/16 male	122 mm	<b>RL98-716m-AO</b>
RL98 to EIA 1 5/8" unflanged	124 mm	<b>RL98-R158-AO</b>
RL98 to EIA 1 5/8" flanged	89 mm	<b>RL98-158F-AO</b>
RL98 to EIA 3 1/8" unflanged	95 mm	<b>RL98-R318-AO</b>
RL98 to EIA 3 1/8" flanged	120 mm	<b>RL98-318F-AO</b>
EIA 4 1/2" unflanged to DIN 7/16 female	134 mm	<b>412R-716f-AA00</b>
EIA 4 1/2" unflanged to DIN 7/16 male	135 mm	<b>412R-716m-AA00</b>
EIA 4 1/2" unflanged to EIA 1 5/8" unflanged	135 mm	<b>412R-158R-AA00</b>
EIA 4 1/2" unflanged to EIA 3 1/8" unflanged	95 mm	<b>412R-318R-AA00</b>
EIA 4 1/2" unflanged to EIA 3 1/8" flanged	118 mm	<b>R412-318F-AO</b>
EIA 4 1/2" unflanged to RL98	97 mm	<b>412R-RL98-AA00</b>
EIA 4 1/2" unflanged to EIA 4 1/2" flanged	63 mm	<b>R412-412F-AO</b>
EIA 4 1/2" flanged to EIA 3 1/8" unflanged	118 mm	<b>412F-R318-AO</b>
EIA 4 1/2" flanged to RL98	120 mm	<b>412F-RL98-AO</b>
Nax 120 to DIN 7/16 female	130 mm	<b>R120-716f-AO</b>
Nax 120 to DIN 7/16 male	131 mm	<b>R120-716m-AO</b>
Nax 120 to RL98	107 mm	<b>R120-RL98-AO</b>
Nax 120 to EIA 4 1/2" flanged	125 mm	<b>R120-412F-AO</b>
EIA 6 1/8" unflanged to RL98	136 mm	<b>R618-RL98-AO</b>
EIA 6 1/8" unflanged to Nax 120	123 mm	<b>R618-R120-AO</b>
EIA 6 1/8" unflanged to EIA 6 1/8" flanged	71 mm	<b>R618-618F-AO</b>
EIA 6 1/8" flanged to RL98	167 mm	<b>618F-RL98-AO</b>
EIA 6 1/8" flanged to Nax 120	154 mm	<b>618F-R120-AO</b>
EIA 6 1/8" flanged to EIA 3 1/8" flanged	186 mm	<b>618F-318F-AO</b>
RL230 to EIA 6 1/8" flanged	190 mm	<b>R230-618F-AO</b>
RL230 to RL230 flanged	84 mm	<b>R230-230F-AO</b>

# Coupling Kits



Flanged coupling kit



Unflanged coupling kit



Flanged coupling kit put together



Unflanged coupling kit put together

## PRODUCT PROFILE

The flanged version comprises flanged inner supports, O-rings, bolts, nuts and washers for outdoor and indoor use. The unflanged version comprises an inner bullet, an outer sleeve and two or more tube clamps (depending on format), and is suitable for indoor use.

ARTICLE	TYPE
<b>R078-CKIT-A0</b>	7/8" Unflanged coupling kit
<b>O78F-CKIT-A0</b>	7/8" Flanged coupling kit
<b>R158-CKIT-A0</b>	1 5/8" Unflanged coupling kit
<b>158F-CKIT-A0</b>	1 5/8" Flanged coupling kit
<b>R318-CKIT-A0</b>	3 1/8" Unflanged coupling kit
<b>318F-CKIT-A0</b>	3 1/8" Flanged coupling kit
<b>RL98-CKIT-A0</b>	RL98 Unflanged coupling kit
<b>R98F-CKIT-A0</b>	RL98 Flanged coupling kit
<b>R412-CKIT-A0</b>	4 1/2" Unflanged coupling kit
<b>412F-CKIT-A0</b>	4 1/2" Flanged coupling kit
<b>R120-CKIT-A0</b>	Nax 120 Unflanged coupling kit
<b>R618-CKIT-A0</b>	6 1/8" Unflanged coupling kit
<b>618F-CKIT-A0</b>	6 1/8" Flanged coupling kit
<b>R230-CKIT-A0</b>	RL230 Unflanged coupling kit

# Power Load

50 kW / 100 kW Water-cooled



50 kW

## PRODUCT FEATURES

- Excellent VSWR
- Moisture-proof
- Customising possibilities
- Resistor-less construction
- Compact size
- Adapters to all line sizes

## PRODUCT PROFILE

These well proven loads have provided years of reliable service in UHF systems throughout the world. The elegant and simple design requires no resistor and is well suited to high peak voltage applications. Using either water or water glycol mixture for cooling, the loads efficiently absorb transmitter powers up to 100 kW.

ARTICLE	LDB4-040K-A0	LDB4-100K-A0
<b>FREQUENCY RANGE</b>	470 - 860 MHz	470 - 860 MHz
<b>MAX INPUT POWER (at 25°C)</b>	50 kW	100 kW
<b>IMPEDANCE</b>	50 Ohm	50 Ohm
<b>VSWR (at operating channel)</b>	<1.05 (>32 dB) with matching section	<1.05 with (>32 dB) matching section
<b>COOLING SYSTEM CONN.</b>	1" FPT	2" FPT
<b>COOLING FLUID</b>	Water glycol	Water glycol
<b>WATER FLOW</b>	35 l/min	100 l/min
<b>CONNECTION</b>	RL98	EIA 6 1/8" flanged
<b>DIMENSIONS</b>	Diameter 148 mm (5.53 in) Length 650 mm (25.61 in)	Diameter 262 mm (10.3 in) Length 1370 mm (53.9 in)
<b>WEIGHT</b>	20 kg (44.1 lb)	~70 kg (154.3 lb)

# Power Load

200, 600 and 1200 W Dry



## PRODUCT PROFILE

These loads are well proven convection cooled loads that are used in all are combiners and systems and also as a stand alone component. The compact design and high-quality production is matter of course for many years in trouble free service.

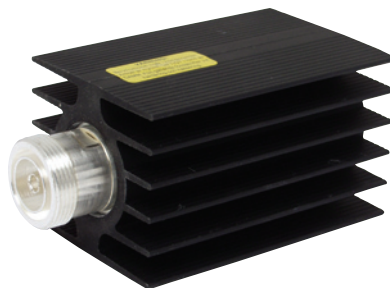
ARTICLE	LDB4-0600-A0	LDB4-0600-B0	LDB4-0600-C0
<b>FREQUENCY RANGE</b>	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz
<b>MAX INPUT POWER (at 25°C)</b>	200 W	600 W with cooling flange	1200 W with cooling flange
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm
<b>VSWR</b> (at operating channel)	<1.05 (>32 dB)	<1.05 (>32 dB)	<1.05 (>32 dB)
<b>AMBIENT TEMPERATURE</b>	-55° C to +80° C	-55° C to +80° C	-55° C to +80° C
<b>CONNECTOR</b>	DIN 7/16 female	DIN 7/16 female	DIN 7/16 female
<b>DIMENSIONS</b>	300 x 105 x 45 mm (11.8 x 4.13 x 1.77 in)	80 x 615 x 680 mm (3.15 x 24.21 x 26.77 in)	80 x 615 x 1360 mm (3.15 x 24.21 x 53.54 in)
<b>WEIGHT</b>	4 kg (8.82 lb)	16.6 kg (36.59 lb)	33.2 kg (73.18 lb)

# Power Load

## 5, 25 and 100 W Dry



100 W



25 W



5 W

### PRODUCT PROFILE

These loads are well proven convection cooled loads that are used in all are combiners and systems and also as a stand alone component. The compact design and high-quality production is matter of course for many years in trouble free service.

ARTICLE	LDB0-0005-A0	LDB0-0005-B0
<b>FREQUENCY RANGE</b>	0-1 GHz	0-1 GHz
<b>MAX INPUT POWER (at 25° C)</b>	5 W	5 W
<b>IMPEDANCE</b>	50 Ohm	50 Ohm
<b>RETURN LOSS (0-1 GHz)</b>	>35 dB	>35 dB
<b>AMBIENT TEMPERATURE</b>	-55° C to +80° C	-55° C to +80° C
<b>CONNECTOR</b>	DIN 7/16 female	DIN 7/16 male
<b>DIMENSIONS</b>	Lenght 73 mm (2.88 in) Diam. 73 mm (2.88 in)	Lenght 73 mm (2.88 in) Diam. 73 mm (2.88 in)
<b>WEIGHT</b>	400 g (0.87 lb)	400 g (0.87 lb)

ARTICLE	LDB0-0025-AE00 DIN 7/16 female	LDB0-0025-AG00 N female
	LDB0-0025-AF00 DIN 7/16 male	LDB0-0025-AH00 N male
<b>FREQUENCY RANGE</b>	0-1 GHz	0-1 GHz
<b>MAX INPUT POWER (at 25° C)</b>	25 W	25 W
<b>IMPEDANCE</b>	50 Ohm	50 Ohm
<b>RETURN LOSS (0-1 GHz)</b>	>35 dB	>35 dB
<b>AMBIENT TEMPERATURE</b>	-55° C to +80° C	-55° C to +80° C
<b>CONNECTOR</b>	DIN 7/16 female/male	N female/male
<b>DIMENSIONS~</b>	122 x 58 x 65 mm L x W x H (4.80 x 2.28 x 2.56 in)	133 x 58 x 65 mm L x W x H (5.24 x 2.28 x 2.56 in)
<b>WEIGHT~</b>	820 g (1.8 lb)	820 g (1.8 lb)

ARTICLE	LDB0-0100-A0	LDB0-0100-B0
<b>FREQUENCY RANGE</b>	0-1 GHz	0-1 GHz
<b>MAX INPUT POWER (at 25° C)</b>	100 W	100 W
<b>IMPEDANCE</b>	50 Ohm	50 Ohm
<b>RETURN LOSS (0-1 GHz)</b>	>35 dB	>35 dB
<b>AMBIENT TEMPERATURE</b>	-55° C to +80° C	-55° C to +80° C
<b>CONNECTOR</b>	DIN 7/16 female	DIN 7/16 male
<b>DIMENSIONS</b>	125 x 135 x 125 mm L x W x H (4.92 x 5.32 x 4.92 in)	125 x 135 x 125 mm L x W x H (4.92 x 5.32 x 4.92 in)
<b>WEIGHT</b>	2.4 kg (5.29 lb)	2.4 kg (5.29 lb)



# Matching Sections

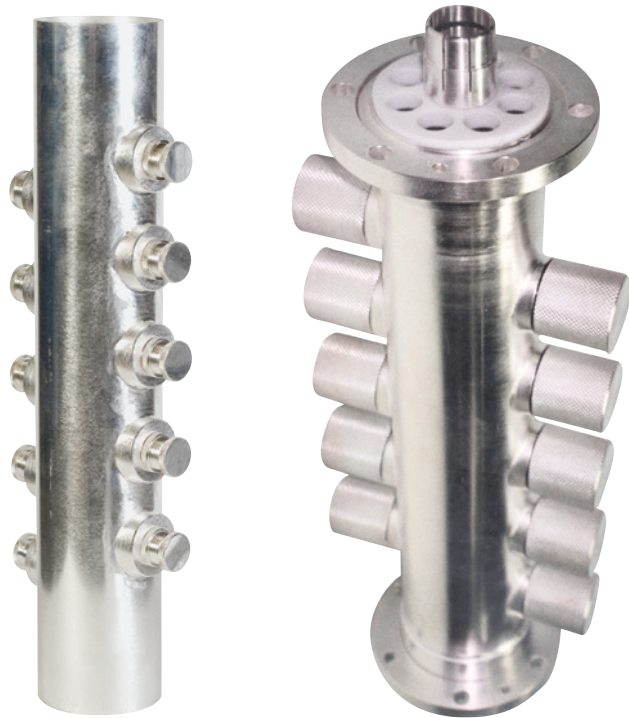


## PRODUCT FEATURES

- Manufactured in silver-plated brass and copper
- All line sizes up to 6 1/8"
- Gas tight versions available
- Flanged and unflanged options
- FM, VHF and UHF versions available

## PRODUCT PROFILE

These high-quality units are constructed from silver-plated brass and copper with a low-loss copper inner. Tuners can vary in number up to 10 depending on application and are available in both pressurised and non-pressurised versions. Available in all rigid line sizes up to 6 1/8" for VSUR matching in all radio and TV bands.



ARTICLE	MATC-7160-A0	MATC-R158-A0	MATC-158F-B0	MATC-2966-A0	MATC-R318-AA00	MATC-318F-A0
<b>FREQUENCY</b>	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
<b>MATCHING CAPABILITY AT OPERATING CHANNEL VSWR</b>						
	1.05 to 6	1.05 to 6	1.05 to 6	1.05 to 6	1.05 to 6	1.05 to 6
<b>CONNECTION</b>	DIN 7/16	EIA 1 5/8" Unflanged	EIA 1 5/8" Flanged	DIN 29/66	EIA 3 1/8"	EIA 3 1/8" Flanged
<b>TYPE</b>	Outdoor	Indoor	Outdoor	Outdoor	Indoor	Outdoor
<b>DIMENSIONS</b>	Diam 20 mm (0.78 in) Length 310 mm (12.2 in)	Diam 52 mm (2.0 in) Length 436 mm (17.16 in)	Diam 89 mm (3.5 in) Length 370 mm (14.58 in)	Diam 96 mm (3.78 in) Length 450 mm (17.73 in)	Diam 77 mm (3.03 in) Length 370 mm (14.58 in)	Diam 77 mm (3.03 in) Length 370 mm (14.58 in)
<b>WEIGHT</b>	~3 kg (6.6 lb)	11 kg (24 lb)	12 kg (26.46 lb)	16 kg (35.28 lb)	~13 kg (35.28 lb)	16 kg (35.28 lb)

ARTICLE	MATC-4398-A0	MATC-RL98-AA00	MATC-R412-AA00	MAT4-618F-AA00	MATC-R618-A0
<b>FREQUENCY</b>	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz	470 - 860 MHz
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
<b>MATCHING CAPABILITY AT OPERATING CHANNEL VSWR</b>					
	1.05 to 6	1.05 to 6	1.05 to 6	1.05 to 6	1.05 to 6
<b>CONNECTION</b>	DIN 43/98	RL98	EIA 4 1/2" Unflanged	EIA 6 1/8" Flanged	EIA 6 1/8" Unflanged
<b>TYPE</b>	Outdoor	Indoor	Indoor	Outdoor	Indoor
<b>DIMENSIONS</b>	Diam 120 mm (4.7 in) Length 436 mm (17.65 in)	Diam 100 mm (3.94 in) Length 423 mm (16.66 in)	Diam 106 mm (4.17 in) Length 423 mm (16.65 in)	Diam 164 mm (6.46 in) Length 501 mm (19.72 in)	Diam 164 mm (6.46 in) Length 422 mm (16.62 in)
<b>WEIGHT</b>	~18 kg (40 lb)	~14 kg (22.05 lb)	~14 kg (22.05 lb)	~18 kg (40 lb)	~11 kg (24 lb)

# Directional Couplers

## for Monitoring Various Power Levels



### PRODUCT FEATURES

- Forward and reverse couplers
- Adjustable coupling
- Low VSWR
- Low cost

### PRODUCT PROFILE

Directional couplers consist of a short loop inserted in the rigid line. Each end of the loop is then connected to a suitable contact, i.e. an  $\Pi$ -type contact. Between the inner conductor and the loop there are two types of coupling - inductive and capacitive. The inductive coupling resembles a short coil with the voltage at each end 180 degrees apart. The capacitive coupling generates a phase voltage at both ends.

All our directional couplers deliver excellent directivity, stable performance and low VSWR.

Other combinations than those shown below are available on request

SINGLE DIRECTIONAL COUPLERS INCLUDING MOUNTING KIT				
ARTICLE	DIRC-078R-AA00	DIRC-R158-A0	DIRC-R318-A0	DIRC-RL98-A0
<b>DIRECTIVITY</b>	40 dB	40 dB	40 dB	40 dB
<b>COUPLING RANGE</b>	Customer specified	Customer specified	Customer specified	Customer specified
<b>OUTPUT JACK</b>	Type N female	Type N female	Type N female	Type N female
<b>OUTPUT SOURCE</b>				
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm	50 Ohm
<b>MOUNTING</b>	7/8"	EIA 1 5/8	EIA 3 1/8	RL 98

ARTICLE	DIRC-R120-A0	DIRC-R618-A0	DIRC-R230-A0
<b>DIRECTIVITY</b>	40 dB	40 dB	40 dB
<b>COUPLING RANGE</b>	Customer specified	Customer specified	Customer specified
<b>OUTPUT JACK</b>	Type N female	Type N female	Type N female
<b>OUTPUT SOURCE</b>			
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm
<b>MOUNTING</b>	NAX 120	EIA 6 1/8	RL 230

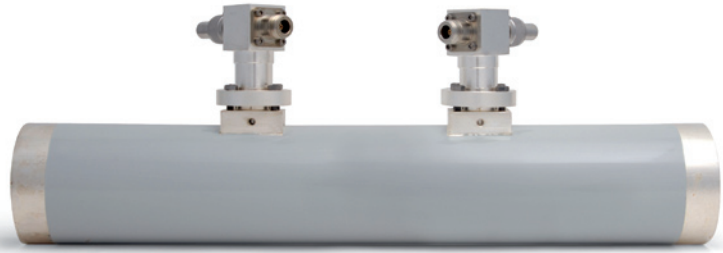
# Directional Couplers

for Monitoring Various Power Levels



Other combinations than those shown below are available on request

1 DIRECTIONAL COUPLER MOUNTED ON A PIECE OF RIGID LINE					
ARTICLE	MDIR-7160-A0	MDIR-R158-A0	MDIR-R318-A0	MDIR-RL98-A0	MDIR-R120-A0
<b>DIRECTIVITY</b>	40 dB	40 dB	40 dB	40 dB	40 dB
<b>COUPLING RANGE</b>	Customer specified	Customer specified	Customer specified	Customer specified	Customer specified
<b>OUTPUT JACK</b>	Type N female	Type N female	Type N female	Type N female	Type N female
<b>OUTPUT SOURCE</b>					
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
<b>MOUNTING</b>	DIN 7/16	EIA 1 5/8	EIA 3 1/8	RL 98	NAX 120



Other combinations than those shown below are available on request

2 DIRECTIONAL COUPLERS MOUNTED ON A PIECE OF RIGID LINE					
ARTICLE	MDR2-412R-AA00	MDIR-2158-A0	MDIR-2158F-A0	MDIR-2318-A0	MDIR-2RL98-A0
<b>DIRECTIVITY</b>	40 dB	40 dB	40 dB	40 dB	40 dB
<b>COUPLING RANGE</b>	Customer specified	Customer specified	Customer specified	Customer specified	Customer specified
<b>OUTPUT JACK</b>	Type N female	Type N female	Type N female	Type N female	Type N female
<b>OUTPUT SOURCE</b>					
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
<b>MOUNTING</b>	EIA 4 1/2	EIA 1 5/8	EIA 1 5/8 flanged	EIA 3 1/8	RL 98



Other combinations than those shown below are available on request

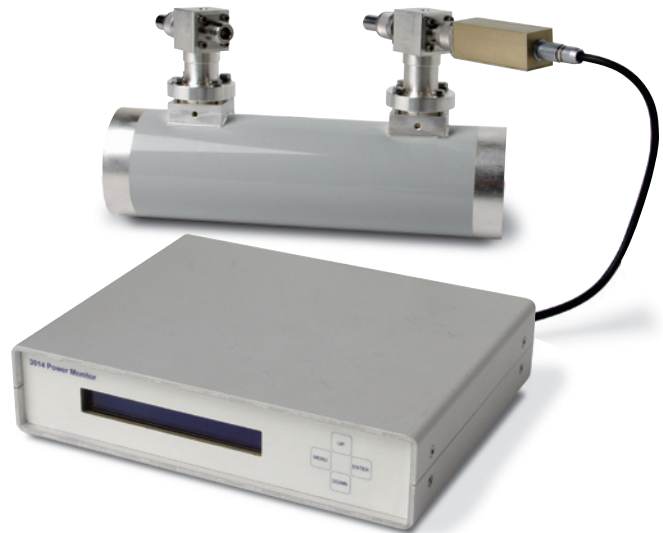
3 DIRECTIONAL COUPLERS MOUNTED ON A PIECE OF RIGID LINE				
ARTICLE	MDIR-3158-A0	MDIR-3158F-A0	MDIR-3318-A0	MDIR-3RL98-A0
<b>DIRECTIVITY</b>	40 dB	40 dB	40 dB	40 dB
<b>COUPLING RANGE</b>	Customer specified	Customer specified	Customer specified	Customer specified
<b>OUTPUT JACK</b>	Type N female	Type N female	Type N female	Type N female
<b>OUTPUT SOURCE</b>				
<b>IMPEDANCE</b>	50 Ohm	50 Ohm	50 Ohm	50 Ohm
<b>MOUNTING</b>	EIA 1 5/8	EIA 1 5/8 flanged	EIA 3 1/8	RL 98

# RF Power Monitor

## With Directional Couplers

### PRODUCT FEATURES

- Digital RF Power Meter
- RMS, Average and Peak Sync modes
- VHF Band I, II and III, UHF Band IV and V
- 7/8", 1 5/8", 3 1/8", RL98, 4 1/2", NAX 120, 6 1/8" and RL230(EIA 230/100) rigid line sections with directional couplers available
- Frequency compensated for use with Directional Coupler
- Additional power reflected
- VSWR Calculator and limit
- Analogue input, temperature and limit
- Digital input/output
- RS 232 data out
- Monitoring, limit checking and alarm



### PRODUCT PROFILE

The RF Power Monitor from Exir Broadcasting is designed to provide customers with a reasonably priced solution featuring all the functionality they require for monitoring various power levels.

The solution comes in both 1 U 19" and stand-alone designs, and incorporates a front display panel for on-site monitoring as well as a communications controller for remote monitoring.

Connection to the RF transmission line is achieved using Exir Broadcastings standard directional couplers. This means that units can also be purchased separately and easily integrated into the system.

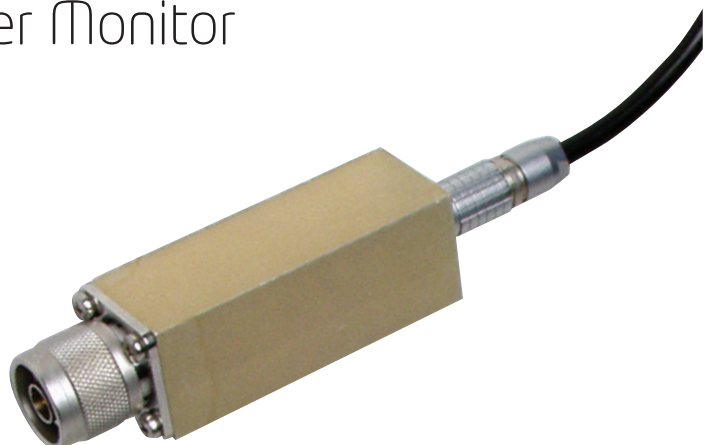
The solution also features alarm functions enabling maintenance personnel to be notified in the event of possible problems.

# VHF and UHF Probe

## For Broadcast RF Power Monitor

### PRODUCT FEATURES

- True RMS Probe
- Multi carrier and any waveform detector
- Frequency compensated for use with Directional Coupler





# Order and Sales Information

Ordering products from Exir Broadcasting is easy. Orders can be placed directly via telephone, fax or e-mail to our Head Office, or through our sales representatives located around the globe.

## Direct Order

PHONE	+46 415 164 00
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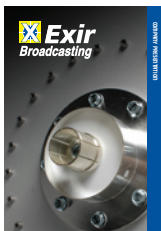
FAX	+46 415 166 01
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E-MAIL	<a href="mailto:info@exirbroadcasting.com">info@exirbroadcasting.com</a>
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# Other available publications



**Broadcasting  
Company information**



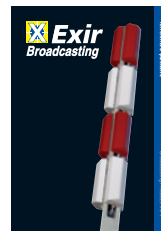
**Filters & Combiners**



**Patch Panels &  
Splitters**



**Rigid Line,  
Accessories &  
Measurement  
Equipment**



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# Reliability and High-Performance



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