

MAIN FEATURES

Mini coaxial connectors combine the high performance of coaxial connectors with the convenience, compactness and cost effectiveness of hard metric modules.

■ COAX

- **Excellent electrical performances**

- Low crosstalk
- Low signal distortion
- High levels of EMI/RFI shielding
- Optimum impedance control

- **Optimized high-speed performance**

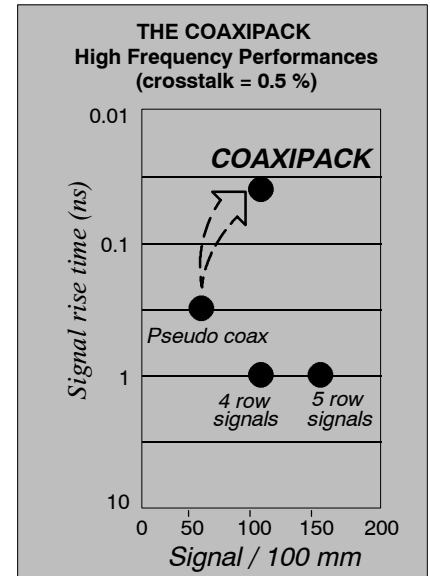
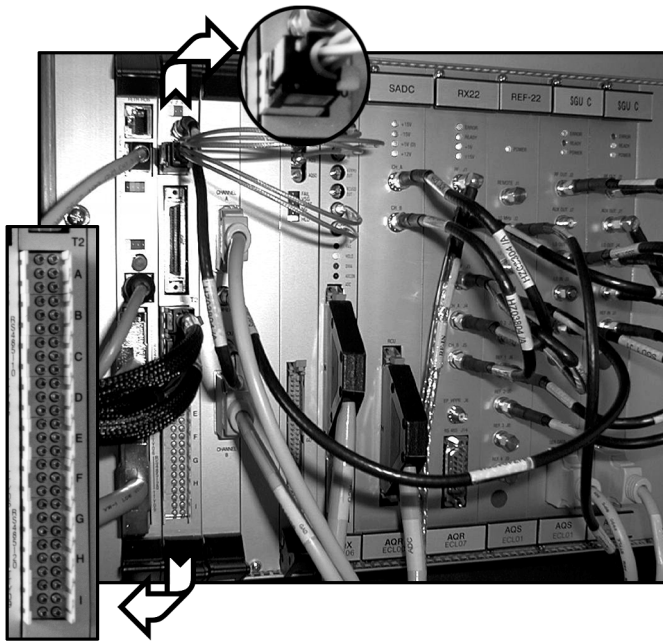
- Minimum reflection and propagation delay
- Sub-nanosecond rise time capabilities

- **High reliability** in a wide variety of environments

- Industrial atmosphere, humidity, shock resistance, vibrations ...

■ MINIATURIZED

- **Space saving on PCB**



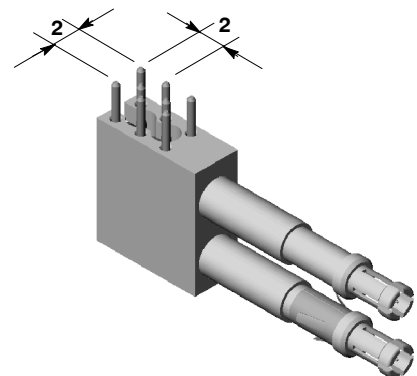
Example of customer application

New generation of NMR spectrometer.
High density connectors permit to dramatically decrease the size of the rack : divided by two compared to the former generation.

■ METRIC

- **Ideal for high density applications**, e.g. backplane applications

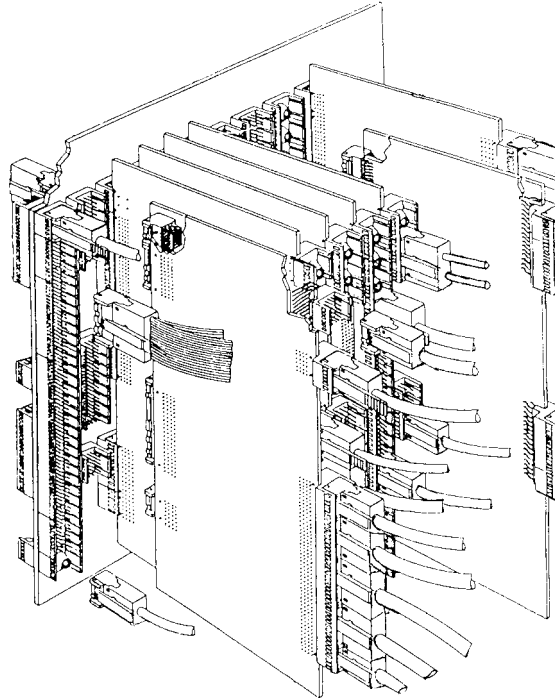
The chosen hard metric pitch of 2 mm offers space saving on PCB area compared to traditional 2.54 mm pitch.



■ MODULAR

- **Stackable with other 2 mm hard metric function modules (e.g. power, signal) from most manufacturers**
- **Maximum flexibility in system architecture**

Thanks to this modular design, system designers are able to upgrade designs and add new functions without having to adopt major changes in hardware and hard metric packaging practice.

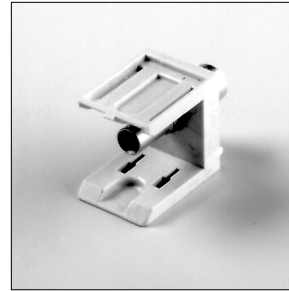
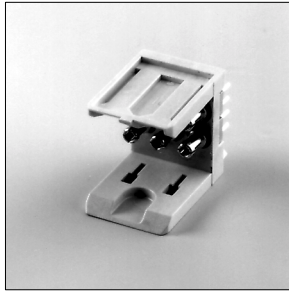


- **Modules can be aligned on PCB without any loss of position**
- **Separation of coaxial, signal and power lines**
- **Cost efficient**

RF functions are separated in specific modules, so that you don't pay for functions you don't need. The modular concept allows specific designs while using standard components.

■ **Two series comply with the standard IEC 61076-4-104, dealing with 2 mm metric system.**

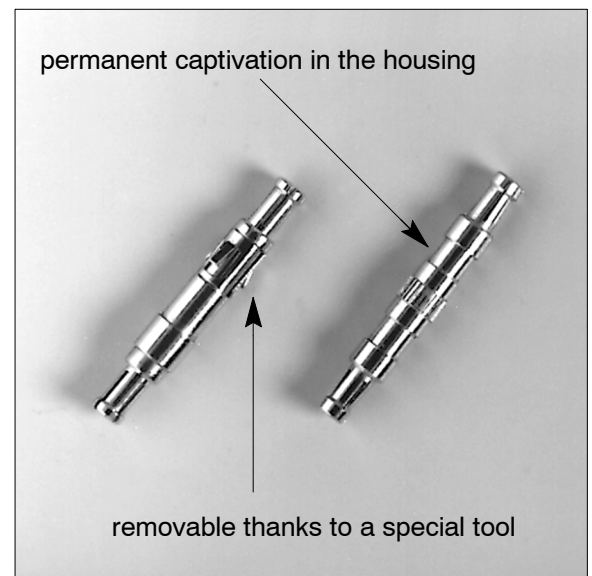
- **COAXIPACK 2 series** provides the highest density of coaxial connectors : each module offers up to 6 coaxial contacts (see p 16 to p 29).
- **DIN 41626 series** : some housings can be filled with one insert following DIN standard (see p 31 to p 34).



- A comparison of each series performance is available p 10.

■ **Captivation of the connectors inside the housing**

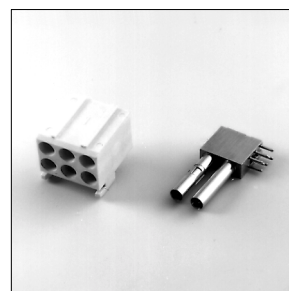
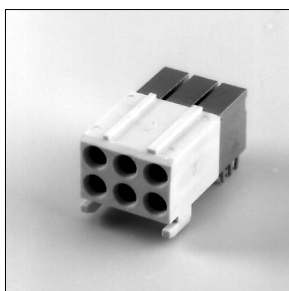
- **2 systems to choose from :**



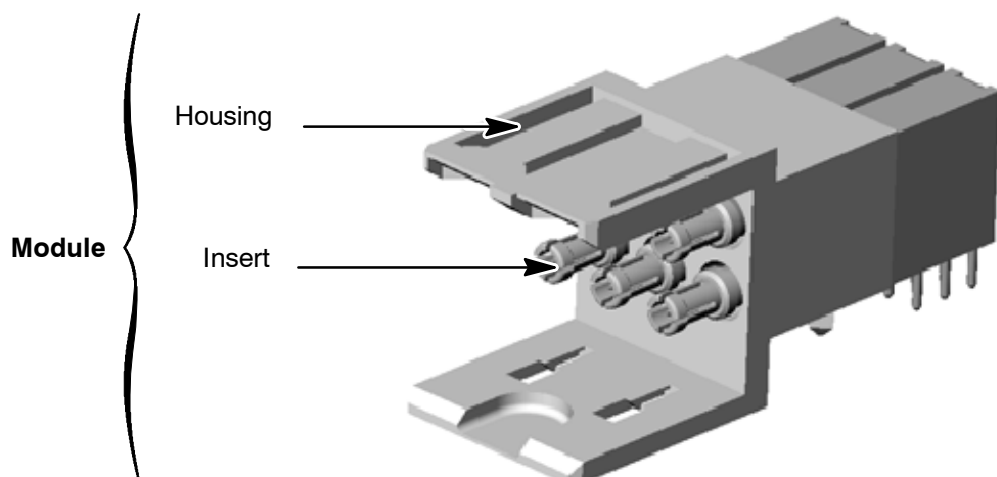
■ **Ordering options**

Regarding the COAXIPACK 2 series, Radiall offers two options :

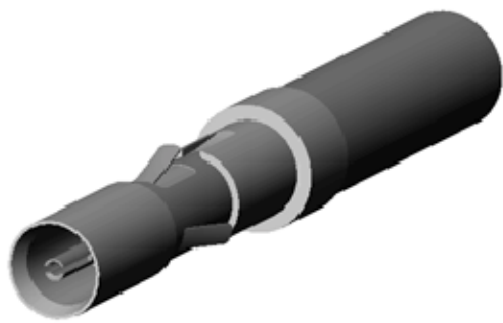
- a selection of **pre-assembled** modules and cable kits for standard configurations (p 16 to 19)
- a wide range of housings and inserts, so that you can build your custom solution (p 26 to 29)



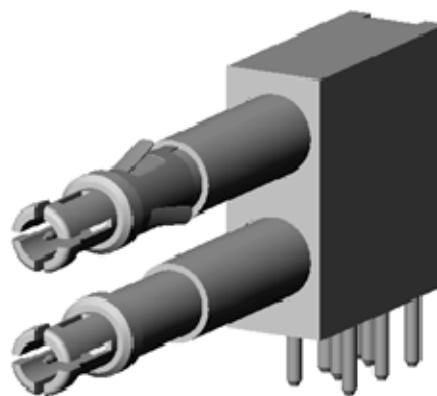
- Each connector is composed of a plastic **housing** with coaxial **inserts**.
- The combination of one plastic housing filled with one (or more) inserts is called a **module**.



- One insert provides one or two coaxial **contacts** (depending on the part number).



1 insert = 1 contact



1 insert = 2 contacts

MICROMINIATURE COAXIAL CONNECTOR SYSTEM FOR BACK PLANE

Electrical

	COAXIPACK 2	DIN 41626
Frequency range	DC – 6 GHz, <i>optimum</i> 3 GHz	DC – 2 GHz
Impedance	50 Ω	50 Ω
V.S.W.R. <i>mated pair</i>	< 1.15 at 2 GHz (<i>typical value</i>)	< 1.3
Insertion loss <i>mated pair</i>	0.1 dB at 2 GHz (<i>typical value</i>)	
RF leakage	–37 dB at 2 GHz (<i>typical value</i>)	
Voltage rating	500 V	335 V
Dielectric withstanding voltage	750 V	750 V
Insulation resistance	\geq 5 M Ω	\geq 1 M Ω
Contact resistance	Initial After environmental test	
center contact (m Ω)	3.5 4.2	
outer contact (m Ω)	0.45 0.6	
Rise time degradation (corrected for board effects) at 300 ps	6 ps	
Difference in propagation delay between shortest and longest line	26 ps	
Near end crosstalk at 300 ps	0.2%	

Mechanical

Mating cycles	500	500
Engagement and separation force		
engagement	2.5 N	10 N
separation	2.2 N	10 N
Contact density	2 to 6 contacts per module 60 contacts per 120 mm x 16 mm	1 contact per module 10 contacts per 120 mm x 16 mm

Environmental

Temperature range	– 25 / + 125 °C	– 55 / + 125 °C
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Material

Housing	Liquid Crystal polymer (LCP) glass filled	
Mini coax. contacts <i>bodies</i> <i>insulators</i> <i>spring contacts</i>	Brass or bronze PTFE Beryllium copper	Brass PTFE Beryllium copper

Plating

Mini coax contacts	Gold plated for contact zone
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Further information on electrical performances, testing methods and spice modelling are available upon request.