# Adapters, Planar & Blind-mate Connector Systems & dc Blocks

MCE WEINSCHEL

## General Information

In this section of the catalog, each product is outlined utilizing individual data sheets containing product features, specifications, and outline drawings. These data sheets are preceded by a quick reference guide to help you select the product(s) that fits your needs. The page number for each product data sheet is given in the quick reference guide.

## Precision Adapters...dc-26.5 GHz

| MODEL NUMBER | CONNECTOR TYPE | FREQUENCY RANGE | SWR (MAXIMUM) | INSERTION LOSS | REPEATABILITY | Page No. | |
|---|---|---|---|---|---|---|---|
| ★ F1513<br>★ M1513 | N female - N female<br>N male - N male | dc - 18 | 1.10-1.15* | <0.25 | 0.020 dB | 203 |  |
| ★ 1548-13<br>★ 1548-14<br>★ 1548-23<br>★ 1548-24 | SMA female - N female<br>SMA female - N male<br>SMA male - N female<br>SMA male - N male | dc - 18 | 1.10 | 0.43 (maximum) per mated pair | Type N: 0.006-0.010*<br>SMA: 0.010-0.020* | 205 |  |
| ★ 1568 | SMA (female-female) bulkhead (add -1 to model number for stainless steel) | dc - 26.5 | 1.15-1.20* | <0.30 - <0.50* | 0.010-0.020* | 201 |  |
| ★ 1587<br>★ 1588<br>★ 1589 | SMA female - SMA female<br>SMA male - SMA female<br>SMA male - SMA male | dc - 26.5 | 1.15-1.20* | <0.30 - <0.50* | 0.010-0.020* | 202 |  |
| ★ 7002-13<br>★ 7002-14<br>★ 7002-23<br>★ 7002-24 | SMA female to N female<br>SMA female to N male<br>SMA male to N female<br>SMA male to N male | dc - 18 | 1.12 | <0.40 - <0.50* | 0.010-0.020* | 204 |  |

## Blind-Mate Connectors...dc-40.0 GHz

| Model Number | Connector Type | Frequency Range (GHz) | SWR (Maximum) | Loss (Maximum dB) | Page No. | |
|---|---|---|---|---|---|---|
| 7008 | Pressurized SMA Female | dc - 40.0 | 1.30-1.65* | 0.3-1.5* | 208 |  |
| 7034 | 2.92mm Female, Rear Lock, Floating | dc - 40.0 | 1.35-1.55* | 0.85 | 209 |  |
| 7034-1 | 2.92mm Female, Rear Lock, Fixed | dc - 40.0 | 1.35-1.55* | 0.85 | 209 | |
| 7035 | 2.92mm Female, Front Locking Hex Nut, Floating | dc - 40.0 | 1.35-1.55* | 0.85 | 209 |  |
| 7035-1 | 2.92mm Female, Front Locking Hex Nut, Fixed | dc - 40.0 | 1.35-1.55* | 0.85 | 209 | |
| 7035R | 2.92mm Female, Front Locking, Floating, Round Nut | dc - 40.0 | 1.35-1.55* | 0.85 | 209 | |
| 7035R-1 | 2.92mm Female, Front Locking, Fixed, Round Nut | dc - 40.0 | 1.35-1.55* | 0.85 | 209 | |

## dc Blocks...dc to 18.0 GHz

| Model Number | Type | Connector Type | Frequency Range (GHz) | Insertion Loss Maximum (dB) | SWR (Maximum) | Page No. | |
|---|---|---|---|---|---|---|---|
| ★ 7003<br>★ 7006 | Inside | N<br>SMA | 0.01 to 18 | 0.8 | 1.35-1.50* | 217 |  |
| 7012 | Inside/ Outside | SMA | 0.5 to 8.6 | 0.4 | 1.25 | 218 |  |

★ ***Express*** Shipment available. *Varies with frequency.


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## Planar Bulkhead Connectors...dc-40.0 GHz

| Model Number/ Primary Conn. | Frequency Range (GHz) | SWR* (maximum) | Insertion Loss * (dB maximum) | Electrical Length | Page No. | |
|---|---|---|---|---|---|---|
| 7004A-1<br>2.92mm Female | dc - 40 | ---- | ---- | 19.9 ± 0.25mm | 212 |  |
| 7004A-2<br>2.92mm Male | dc - 40 | ---- | ---- | 21.6 ± 0.25mm | 212 |  |
| 7010-1<br>2.92mm Female<br>with dc Block | dc - 26.5 | 1.20-1.25 | 0.6-0.9 | 19.9 ± 0.25mm | 216 |  |
| 7010-2<br>2.92mm Male<br>with dc Block | dc - 26.5 | 1.20-1.25 | 0.6-0.9 | 21.6 ± 0.25mm | 216 |  |

## Planar Crown Connectors...dc-40.0 GHz

| Model Number/ Primary Conn. | Frequency Range (GHz) | SWR* (maximum) | Insertion Loss * (dB maximum) | Electrical Length | Page No. | |
|---|---|---|---|---|---|---|
| 7005A-1<br>SMA Female | dc - 26.5 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz) | 18.6 ± 0.25mm | 212 |  |
| 7005A-2<br>SMA Male | dc - 26.5 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz) | 18.6 ± 0.25mm | 212 |  |
| 7005A-3<br>Type N Female | dc - 18 | 1.20 | 0.25 | 18.6 ± 0.25mm | 212 |  |
| 7005A-4<br>Type N Male | dc - 18 | 1.20 | 0.25 | 28.6 ± 0.25mm | 212 |  |
| 7005A-5<br>GPC-7 | dc - 18 | 1.20 | 0.25 | 34.8 ± 0.25mm | 212 |  |
| 7005A-6<br>3.5mm Female | dc - 34 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.30 (26.5 - 34 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 34 GHz) | 18.0 ± 0.20mm | 212 |  |
| 7005A-7<br>3.5mm Male | dc - 34 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.30 (26.5 - 34 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 34 GHz) | 18.0 ± 0.20mm | 212 |  |
| 7005A-8<br>TNC Female | dc - 18 | 1.20 | 0.25 | 26.3 ± 0.35mm | 212 |  |
| 7005A-9<br>TNC Male | dc - 18 | 1.20 | 0.25 | 28.6 ± 0.35mm | 212 |  |
| 7005A-10<br>2.92mm Female | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5 - 40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5 - 40 GHz) | 18.0 ± 0.15mm | 212 |  |
| 7005A-11<br>2.92mm Male | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5 - 40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5 - 40 GHz) | 18.0 ± 0.15mm | 212 |  |
| 7005A-12<br>2.4mm Female | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5 - 40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5 - 40 GHz) | 18.0 ± 0.15mm | 212 |  |
| 7005A-13<br>2.4mm Male | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5-40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5-40 GHz) | 18.0 ± 0.15mm | 212 |  |



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# *Frequently Asked Questions about Adapters & Precision Connector Systems...*

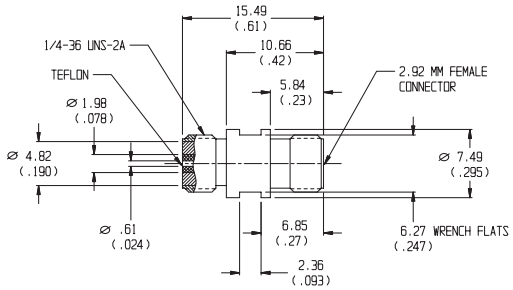
### *What types of adapters and/or connectors does Weinschel offer?*

Weinschel Corporation offers a wide variety of precision SMA, 2.92mm, Type N, GPC-7, 3.5mm, 2.4mm and male, female, and sexless combinations of adapters from which to choose. Also, Weinschel Corporation manufactures a wide range of Blind-mate Connectors and our own PLANAR CROWN® Connector System. All Weinschel Corporation components are designed and manufactured to obtain low SWR and excellent repeatability over the longest possible operational life. Other features of Weinschel Corporation Adapters and Connectors include:

1. High Repeatability.
2. Quality Connectors - SMA, Type N, TNC, BNC, 3.5mm, 2.92mm, and 2.4mm.
3. Bulkhead Mounting Available
4. Broad Frequency Range - dc to 40 GHz.

### *What are Blind-mate Connectors and where would I use them?*

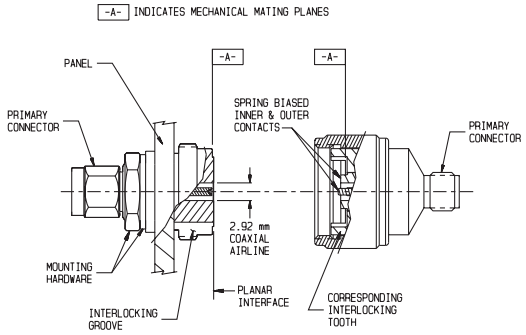
Weinschel Corporation Blind-mate connector series provides thread-less connector mating which is useful when mating an array of connectors on one RF module to another array within seconds. Each connector pair will tolerate a radial and axial offset of 0.02 inch and still meet all of its electrical specifications. These connectors simplify RF connections in the most inaccessible regions and high package density systems where conventional threaded connector mating is extremely difficult.




### *What is difference between Weinschel precision SMA/ 2.92mm connectors and other SMA connectors?*

Typical commercial SMA connectors may have a useful SWR to 18 or 26 GHz; however, most absorb energy between 22 and 25 GHz due to TEM mode conversion. A mated pair could have between 0.5 dB to 2.0 dB insertion loss. A mated pair of Weinschel Precision Miniature connectors (2.92mm), which mate with SMA type connectors, have a VSWR of less than 1.25 and an insertion loss of less than 0.5 dB to 26 GHz. The new 2.92mm expands this range to 40 GHz.

### *What is the advantages of using Weinschel PLANAR CROWN® connectors?.*




The Weinschel Corporation PLANAR CROWN® Universal Connector System incorporates design and application features that eliminate the mechanical, electrical and economical drawbacks of standard bulkhead connectors, connector savers, cable connectors and adapters. In one standard design, it has resolved connector related problems faced by users and manufacturers of instruments, cables and components, how to quickly and inexpensive to change connector series or replace damaged front panel connectors on instruments. This system features an operating frequency range of dc to 40 GHz; ability to maintain calibration integrity when changing connector types; and compatibility with all Type N, TNC, GPC-7, SMA, 2.92mm, and 2.4mm connectors used throughout the microwave industry.

### *What is a Ruggedized SMA Connector?*

All Weinschel SMA connectors labeled as ruggedized have a dielectric insulator at the interface of the connector to provide additional support for the center conductor during connects and disconnects and to keep out foreign material. This provides an important benefit--improved axial alignment of the center contact. This substantially reduces finger breakage of the female contact. Longevity of the Weinschel SMA connector is enhanced because of the increased shoulder-wall thickness of the male connector shell. Typically, a standard SMA male connector shell has a 0.0065 inch wide shoulder. Compare that to 0.018 inch for the Weinschel SMA series. The shoulder of most SMA male connectors gradually collapses from use. This causes the center contact to exceed the maximum height tolerance and eventually destroys the mating female contact. This will not happen with a Weinschel SMA connector.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# Model 1568 & 1568-1
# OEM Precision Coaxial Panel Adapter

**dc to 26.5 GHz**

***Ruggedized SMA Connectors (female to female)***

EXPRESS 800-542-4457

## *Features*

- **High Repeatability.**
- **Rugged Injection Molded Connectors.**
- **Bulkhead Mounting** - Conveniently mounts on any panel using a D-hole shown below. Extra heavy construction for long life even with mistreatment makes this adapter suitable for instrument and subsystem front panel applications.

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 26.5 GHz

**MAXIMUM SWR:**

| Frequency (GHz) | SWR |
|---|---|
| dc - 18 | 1.15 |
| 18 - 26.5 | 1.20 |

**INSERTION LOSS & REPEATABILITY (dB):**

| Frequency (GHz) | Ins Loss | Repeatability |
|---|---|---|
| dc - 12.4 | < 0.30 | 0.01 |
| 12.4 - 18 | < 0.40 | 0.02 |
| 18.0 to 26.5 | < 0.50 | 0.02 |

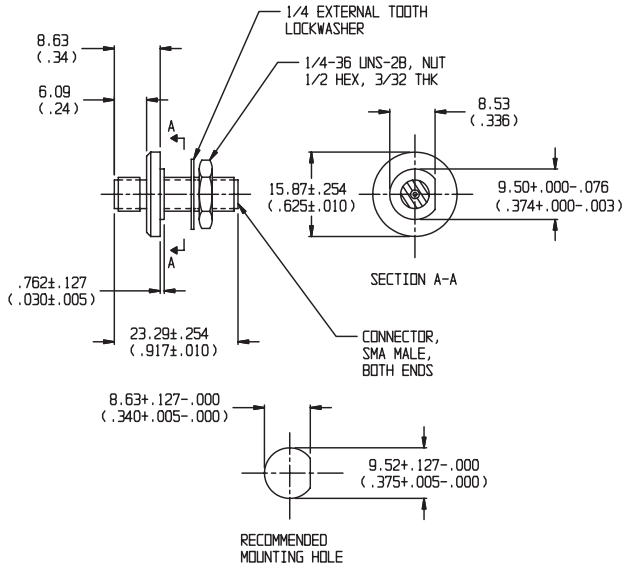
**TEMPERATURE RANGE:** -55°C to +125°C

**CONSTRUCTION:** Inner and outer conductors: heat treated beryllium copper, gold plated. Mounting hardware provided (Hex nut and lockwasher) Add -1 to model number for the optional stainless steel body.

**CONNECTORS:** SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

**WEIGHT:** 56.7 g (2 oz) maximum

**PHYSICAL DIMENSIONS:**




NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.



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# Models 1587, 1588 & 1589 Precision Coaxial Adapter

# dc to 26.5 GHz

## *Ruggedized SMA Connectors*

EXPRESS 800-542-4457

## *Features*

- **High Repeatability.**
- **Rugged Injection Molded Connectors.**
- **Designed for Measurement System Use** - Auxiliary wrench flats aid in torquing connections without "chain reaction" loosing of multiple component hookups.

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 26.5 GHz

| MAXIMUM SWR: | |
|---|---|
| Frequency (GHz) | SWR |
| dc - 18 | 1.15 |
| 18 - 26.5 | 1.20 |

| INSERTION LOSS & REPEATABILITY (dB): | | |
|---|---|---|
| Frequency (GHz) | Ins Loss | Repeatability |
| dc - 12.4 | < 0.30 | 0.01 |
| 12.4 - 18 | < 0.40 | 0.02 |
| 18 to 26.5 | < 0.50 | 0.02 |

**TEMPERATURE RANGE:** -55°C to +125°C

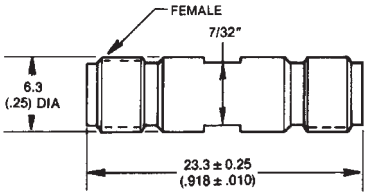
**CONSTRUCTION:** Inner and outer conductors: heat treated beryllium copper, gold plated.

**CONNECTORS:** SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

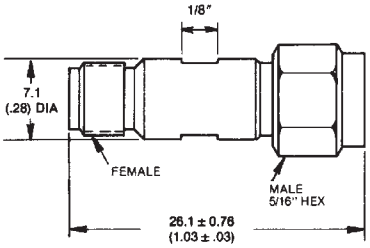
**WEIGHT:** 56.7 g (2 oz) maximum

**PHYSICAL DIMENSIONS:**

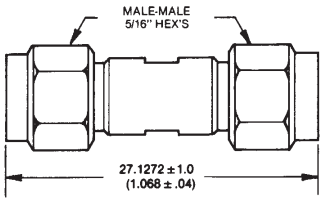
**MODEL 1587:**




**MODEL 1588:**




**MODEL 1589:**

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# Model 1513
# Precision Coaxial Adapter

**dc to 18.0 GHz**

***Type N to Type N***

EXPRESS 800-542-4457

## Features

- **Low SWR.**
- **High Repeatability.**
- **Stainless Steel Construction.**

## Specifications

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 18.0 GHz

| MAXIMUM SWR: | |
|---|---|
| Frequency (GHz) | SWR |
| dc - 10 | 1.10 |
| 10 - 18 | 1.15 |

| INSERTION LOSS & REPEATABILITY (dB): | | |
|---|---|---|
| Frequency (GHz) | Maximum Ins Loss | Repeatability (Typical) |
| dc - 18 | < 0.25 | 0.02 |

**TEMPERATURE RANGE:** -55°C to +85°C

**CONSTRUCTION:** Stainless Steel body, beryllium copper, gold plated contacts.

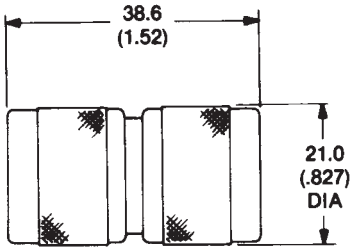
**CONNECTORS:** Type N per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors. Select model number as follows:

Model M1513: male to male
Model F1513: female to female

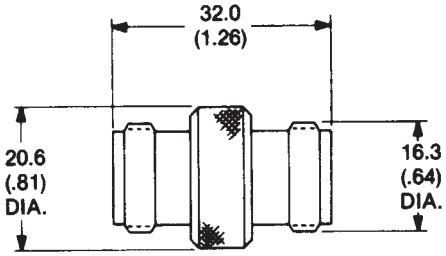
**WEIGHT:** Model M1513: 50 g (1.7 oz) maximum
Model F1513: 40 g (1.4 oz) maximum

**PHYSICAL DIMENSIONS:**

**MODEL M1513:**




**MODEL F1513:**

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# Model 7002
# High Performance Coaxial Adapter

**dc to 18.0 GHz**

***Ruggedized SMA to Type N***

EXPRESS 800-542-4457

## Features

- **High Repeatability**
- **Rugged Injection Molded Connectors**
- **Stainless Steel Construction**

## Specifications

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 18.0 GHz

**MAXIMUM SWR:**

| Frequency (GHz) | SWR (per adapter) |
|---|---|
| dc - 18 | 1.12 |

**INSERTION LOSS & REPEATABILITY (dB):**

| Frequency (GHz) | Ins Loss* | Repeatability* |
|---|---|---|
| dc - 12.4 | < 0.40 | 0.01 |
| 12.4 - 18 | < 0.50 | 0.02 |

*Specification based on mated pair terminated in 50 Ω.

**ELECTRICAL LENGTH:**

Models 7002-14 & 7002-24: 33mm
Models 7002-13 & 7002-23: 20mm

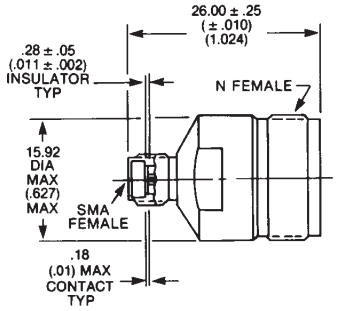
**CONSTRUCTION:** Gold plated beryllium copper center conductors, injection molded into stainless steel outer bodies.

**CONNECTORS:** Type N and SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

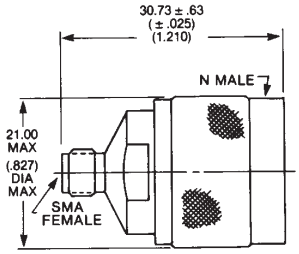
**WEIGHT:** 30 g (1.1 oz) maximum

**PHYSICAL DIMENSIONS:**

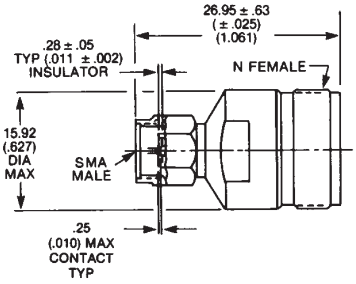
**MODEL 7002-13:**



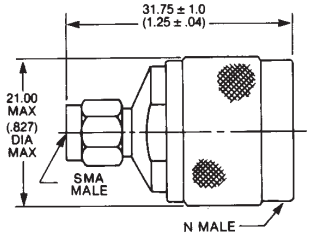

**MODEL 7002-14:**




**MODEL 7002-23:**




**MODEL 7002-24:**

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# Model 1548
# Precision Coaxial Adapter

## dc to 18.0 GHz

### *SMA to Type N*

EXPRESS 800-542-4457

## *Features*

- **High Repeatability**
- **Rugged Construction**
- **Stainless Steel Construction**

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 18.0 GHz

| MAXIMUM SWR: | |
|---|---|
| Frequency (GHz) | SWR* |
| dc - 18 | 1.10 |

| INSERTION LOSS (dB): | |
|---|---|
| Frequency (GHz) | Loss (maximum)* |
| dc - 18 | <0.43 |

| REPEATABILITY (dB): | | |
|---|---|---|
| Frequency (GHz) | Type N | SMA |
| dc - 12.4 | < 0.006 | 0.01 |
| 12.4 - 18 | < 0.010 | 0.02 |

* Specification based on mated pair terminated in 50 Ω.

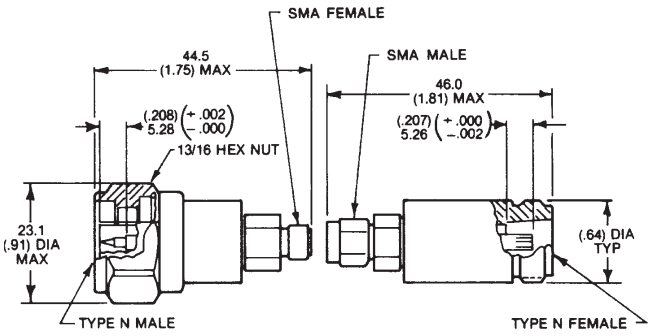
**TEMPERATURE RANGE:** -55°C to + 85°C

**CONSTRUCTION:** Stainless steel body and coupling nuts. Gold plated beryllium copper center conductors and SMA bodies, injection molded insulators. Coupling Torque: 14 ± 1 inch pounds for Type N and 8±0.5 inch pounds for SMA.

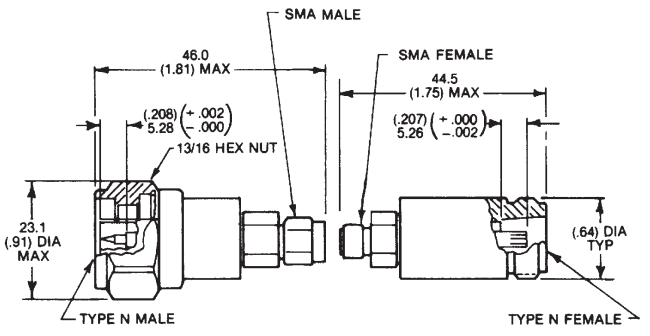
**CONNECTORS:** Type N and SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

**WEIGHT:** 56.7 g (2 oz) maximum connectors only.

**PHYSICAL DIMENSIONS:**




**MODEL 1548-14** **MODEL 1548-23**




**MODEL 1548-24** **MODEL 1548-13**

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# Models 7008, 7034, 7035 & 7035R Planar Blind-Mate™ Connectors

**dc to 40.0 GHz**

NEW

***Space Saving, Long Life, Threadless Connector Mating System***

## Features

- **Threadless Connector Mating -** This blind-mate connector series provides threadless connector mating which is useful when mating an array of connectors on one RF module to another array within seconds.
- **Space Saving -** These connectors can simplify RF connections in the most inaccessible regions and high package density systems where conventional threaded connector mating is extremely difficult.
- **Long Life** - 1,000,000 typical matings. Excellent for ATE applications. Non-piloting spring loaded contact areas provided extremely long life and repeatability.
- **Connector Options -** Choose from many standard Connector options such as SMA per MIL-C-39012, SMP (GPO™), SSMA, 2.92mm, 2.4mm, 3.5mm, and SMB.
- **Broad Frequency Range** - Weinschel Corporation offers a wide selection of frequency ranges from dc to 40 GHz including most wireless bands.
- **Blind-Mate Fixed Attenuator, Termination & dc Block Designs -** Blind-mates can be configured on other coaxial products such as Fixed Attenuators, terminations and even dc blocks.

- **Ideal for mass-mount and receiver interface subsystems** where hundreds of high frequency connections need to be made simultaneously**.**
- **New Front & Rear Locking Models** - New designs offer front or rear mounting options.
- **Optimized Designs for RF & Wireless Applications**

## Description

Planar Blind-mates connectors are typically used as a pair or set which is comprised of two connector subassemblies that have a common mating interface. Generally, a pair contains one floating blind-mate Interface with spring loaded inner/outer contacts and the other is a fixed blind-mate interface with fixed inner/outer contacts (Figure 1).

The Planar Blind-mate series provides threadless connector mating which is useful when mating an array of connectors on one RF module to another array within seconds. Each connector pair will tolerate typically 0.02 per pair radial and axial offset misalignment and still meet all of its electrical specifications.

Most Weinschel Planar Blind-mates designs conveniently mount on any panel using a standard panel D-hole or most any standardized hole pattern. Extra heavy construction for long life even with mistreatment makes these blind-mate products suitable for panel use.

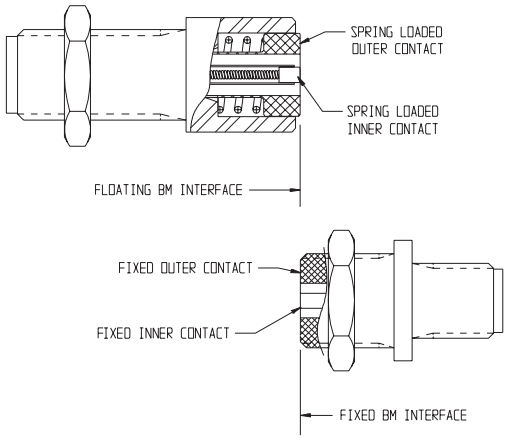


*Figure 1. Common Blind-Mate Mating Interface*

U.S. and Foreign Patents pending



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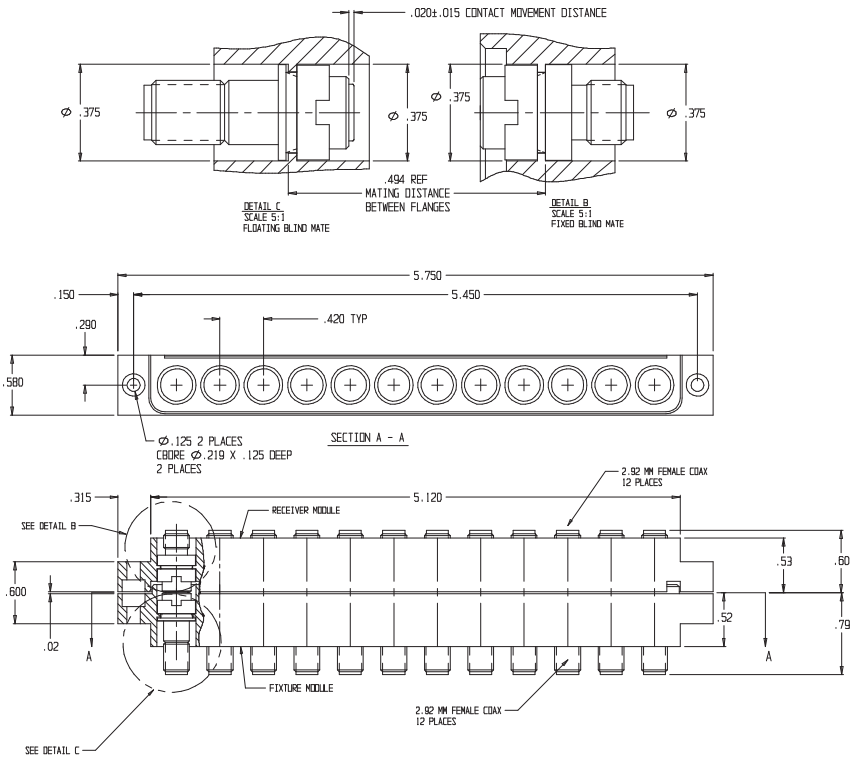
## Applications

Ideal applications for these high quality/high frequency connectors range from mass-mount and receiver interface subsystems that house hundreds of high frequency connectors to single connector configurations. In either case these connectors allow threadless connector mating which is very useful when mating an array of connectors on one RF module to another array or connector within seconds.

Figure 2 shows a typical application where each connector half contains 7035R series connectors. These connectors contain spring loaded inner/outer contacts which allows for extremely long contact life as well as 0.02 per pair maximum radial and axial offset misalignment while still meeting all the specified electrical specifications.

Weinschel offers a variety of standard models which are designed to fit or be configured into a wide range of applications:

- **Pressurized Designs -** Model 7008 (page 208) is equipped with a flange arrangement designed to withstand 1000 PSI of hydrostatic pressure. This model can be mated with another 7008 or any 7034 or 7035 series Planar Blind-mate. See page 208 for mating applications.
- **Rear Locking** - Models 7034 & 7034-1 (page 209) are beneficial in applications where there is easy access to the front of the connector for holding while the cable and connector is added or removed. Rotation is also prevented if the connector front is inserted in a slot which could allow for easier cable and connector assembly installation.
- **Front Locking** - Models 7035, 7035-1, 7035R & 7035R-1 (page 209) are beneficial in applications where the cable and connector will be inserted as an assembly into a panel or connector module from the rear.
- **Custom Configurations** - Other types of Planar Blind-mate connectors such as SMA, SMB, 3.5mm, flange, microstrip/pc board mount launch, test probes, frequency specific, arrays or interface subsystems can be designed for your particular application. Refer to page 210-211 for other examples.



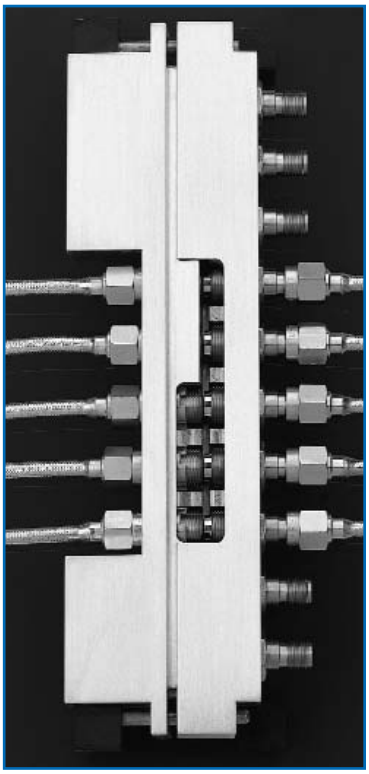



*Figure 2. Typical Application*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# Model 7008
# dc to 40.0 GHz
# Pressurized Planar Blind-Mate Connectors

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** dc to 40.0 GHz

**INSERTION LOSS (dB) & SWR*:**

| Frequency (GHz) | Loss (maximum) | SWR (maximum) |
|---|---|---|
| dc - 18 | 0.3 | 1.30 |
| 18 - 26.5 | 0.8 | 1.40 |
| 26.5 - 40 | 1.5 | 1.65 |

*Specifications are for mated pair (Mated pair can be any combination of Model 7008 and 7035).

**HYDROSTATIC PRESSURE:** 1000 PSI

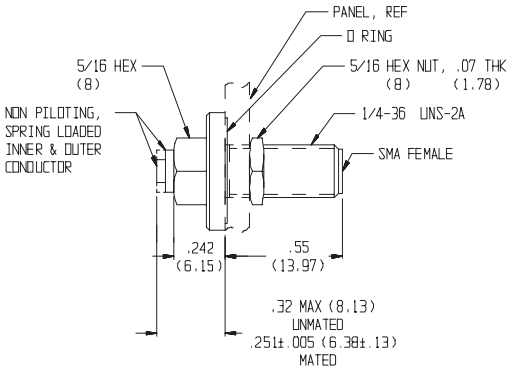
**STATIC PRESSURE:** 50 PSI

**TEMPERATURE RANGE:** -50°C to +125°C

**CONNECTORS:** Stainless Steel SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors.

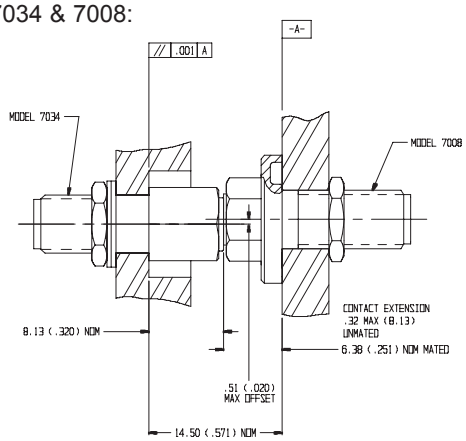
**WEIGHT:** 2 oz (56.7 g) maximum

**PHYSICAL DIMENSIONS:**

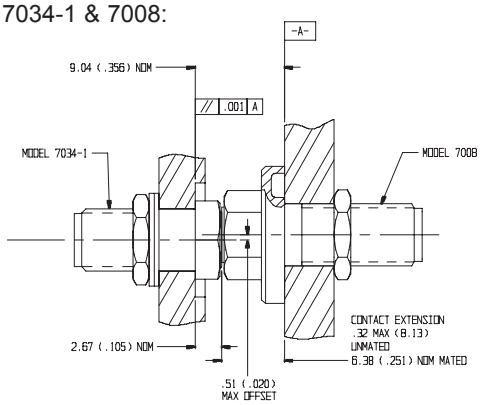



## *Applications*

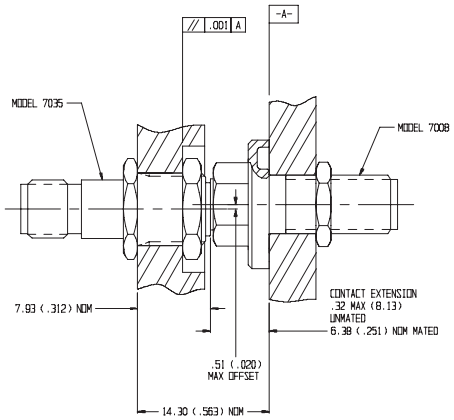
Model 7034 & 7008:



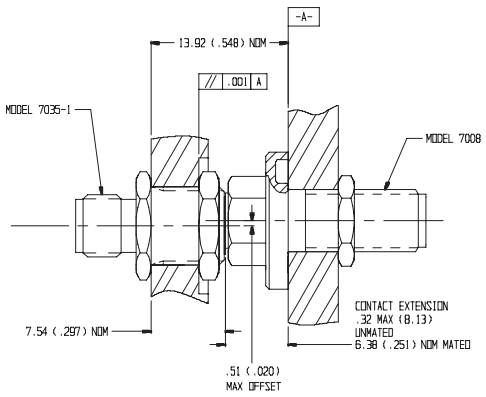

Model 7034-1 & 7008:




Model 7035 & 7008:




Model 7035-1 & 7008:



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# Models 7034 & 7034-1
# Rear Locking Planar Blind-Mate Connectors

**dc to 40.0 GHz**

NEW

## *Specifications*

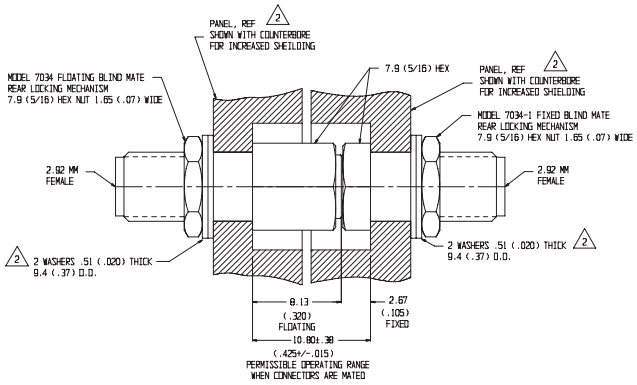
**NOMINAL IMPEDANCE:** 50 Ω
**FREQUENCY RANGE:** dc to 40.0 GHz

**INSERTION LOSS (dB) & SWR:**

| Frequency (GHz) | Loss (maximum) | SWR (maximum) |
|---|---|---|
| dc - 18 | 0.85 | 1.35 |
| 18 - 40 | 0.85 | 1.55 |

**INSERTION LOSS REPEATABILITY:** ±0.1 dB typical
**MECHANICAL LIFE:** 25,000 matings minimum
**RADIAL OFFSET ALLOWED:** ±0.02 per pair
**TEMPERATURE RANGE:** -50°C to +100°C
**CONNECTORS:** Stainless Steel 2.92mm connector with gold plated contacts
**WEIGHT:** 2 oz, (56.7 g) maximum

**PHYSICAL DIMENSIONS:**




NOTES:
1. All dimensions are given in mm (inches) and are nominal, unless otherwise specified.
2. Maximum panel thickness for Model 7034 is 4.9 (0.195). For panels less than 4.2 (0.165) installation requires appropriate washers.

# Models 7035, 7035-1, 7035R & 7035R-1
# Front Locking Planar Blind-Mate Connectors

**dc to 40.0 GHz**

NEW

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω
**FREQUENCY RANGE:** dc to 40.0 GHz

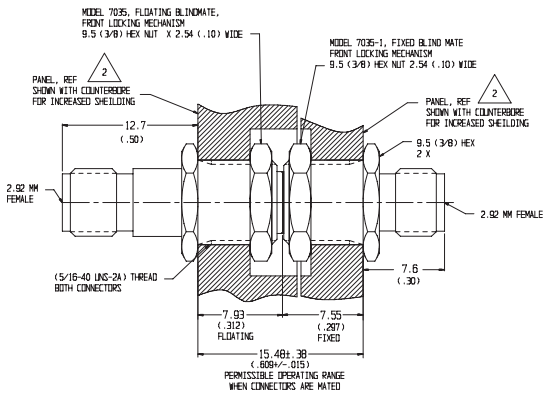
**INSERTION LOSS (dB) & SWR:**

| Frequency (GHz) | Loss (maximum) | SWR (maximum) |
|---|---|---|
| dc - 18 | 0.85 | 1.35 |
| 18 - 40 | 0.85 | 1.55 |

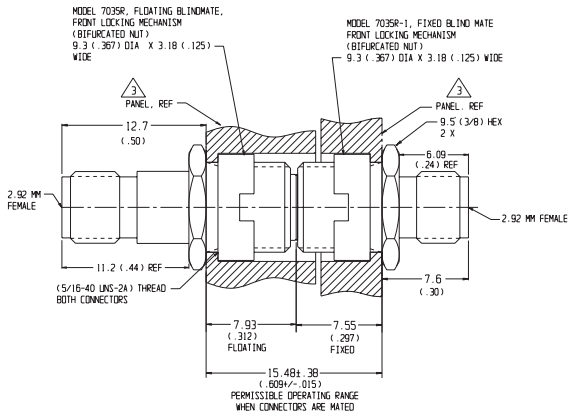
**INSERTION LOSS REPEATABILITY:** ±0.1 dB typical
**MECHANICAL LIFE:** 25,000 matings minimum
**RADIAL OFFSET ALLOWED:** ±0.02 per pair
**TEMPERATURE RANGE:** -50°C to +100°C
**CONNECTORS:** Stainless Steel 2.92mm connector with gold plated contacts
**WEIGHT:** 2 oz (56.7 g) maximum

**PHYSICAL DIMENSIONS:**

**Models7035 & 7035-1:**




**Models 7035R & 7035R-1:**




NOTES:
1. All dimensions are given in mm (inches) and are nominal, unless otherwise specified.
2. Maximum panel thickness for Model 7035 is 4.9 (0.195).
3. Panel flange thickness of 1.0 (0.03) shown for 7035R. Connector Mating shown with counterbore for increased shielding effectiveness.



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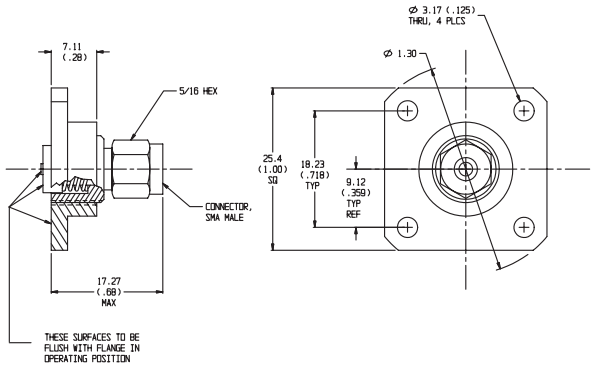
## Custom Examples

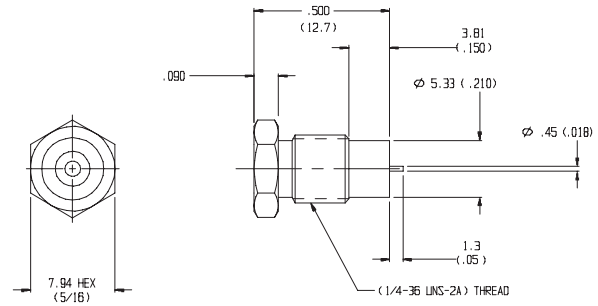
The following examples illustrate some typical Blind-mate designs that can be either modified or used as a basis for creating a specific blind-mate connector or system for your application:

***Example 1:***



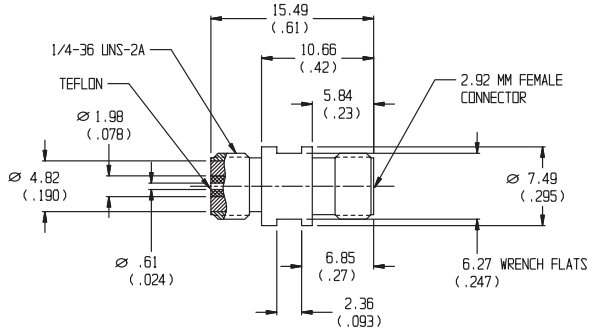

This example shows a blind-mate to SMA flange connector which includes a standard 4 hole mounting pattern and SMA connectors per MIL-C-39012 connectors. These connectors can be optimized to a specific frequency range and/or your defined specifications.

***Example 2:***



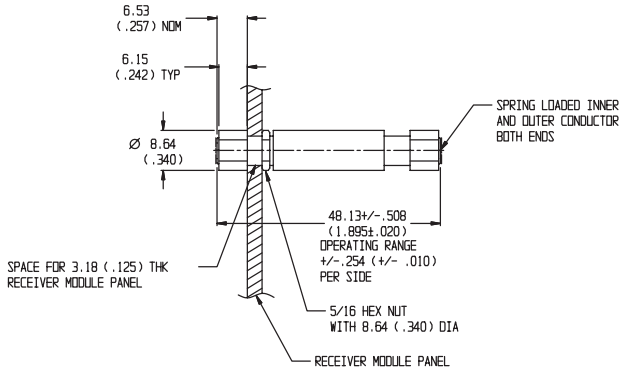

Example 2 illustrates a blind-mate to a microstrip launch design that features a non-piloting (fixed), spring loaded inner connector. Specifications include dc to 4 GHz frequency operation, maximum insertion loss of 0.5 dB and maximum SWR of 1.25.

***Example 3:***



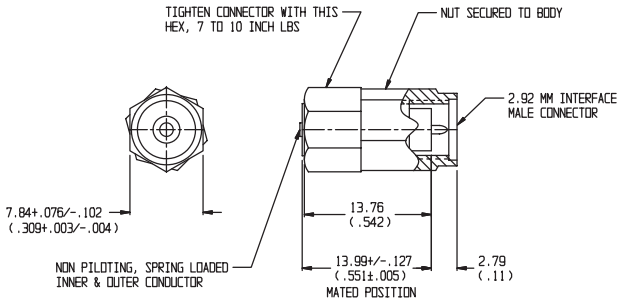

Example 3 illustrates a blind-mate to 2.92mm test probe design that features wrench flats, dc to 18 GHz frequency operation, maximum insertion loss of 6 dB and maximum SWR of 1.25. This was specifically designed to interface with standard SMA, 3.5mm, and 2.92mm Bulkhead connectors.

***Example 4:***




This example illustrates shows a 6 dB blind-mate attenuator design that consists of two floating receivers with a compression spring and spring loaded contacts (inner and outer conductors). Designs can also be supplied with stationary fixed surface connectors. Specifications for this unit include dc-32 GHz operation, 1.35 maximum SWR, and a radial alignment ±0.02 offset.

***Example 5:***




This example illustrates a blind-mate to 2.92mm connector design that features a non-piloting, spring loaded inner and outer connector. Specifications included dc to 40 GHz frequency operation, static pressure of 50 PSI, temperature range of -50°C to +125°C maximum insertion loss of 0.3 to 1.5 and maximum SWR of 1.30-1.70.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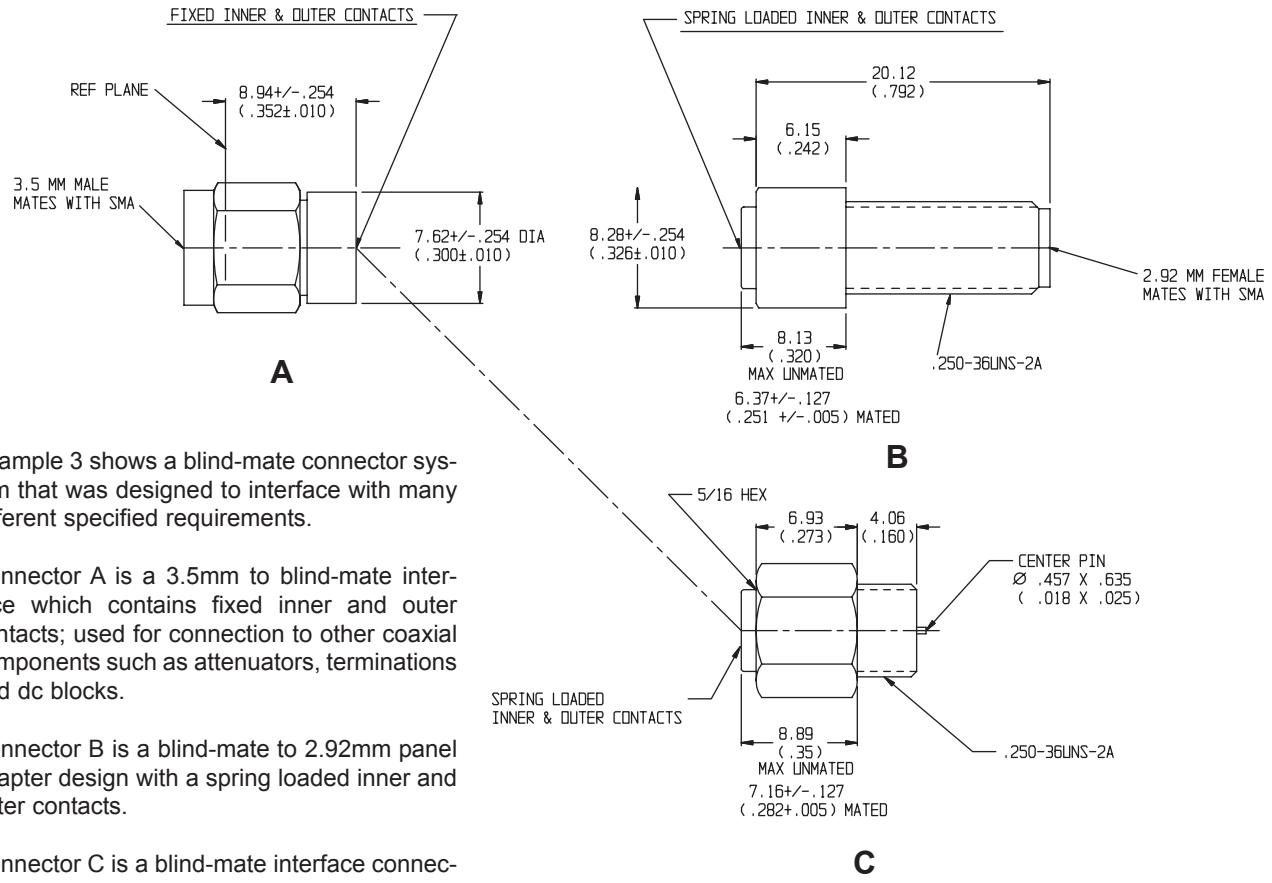
***Example 6:***




Example 3 shows a blind-mate connector system that was designed to interface with many different specified requirements.

Connector A is a 3.5mm to blind-mate interface which contains fixed inner and outer contacts; used for connection to other coaxial components such as attenuators, terminations and dc blocks.

Connector B is a blind-mate to 2.92mm panel adapter design with a spring loaded inner and outer contacts.

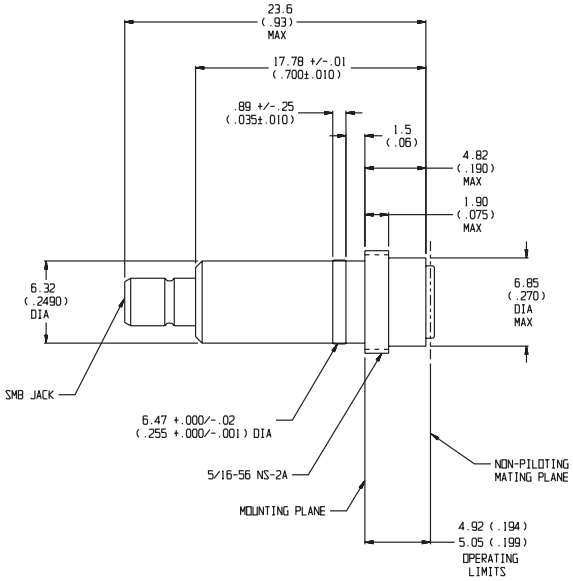
Connector C is a blind-mate interface connector that can be easily installed to coaxial cables or printed circuit board assemblies.

***Example 7:***

This example illustrates a low cost blind-mate to SMB configuration specifically designed and optimized for RF & wireless applications. These connectors offer not only all the features of the Planar Blind-mate interface but the SMB connector provides an additional quick disconnect for cable assemblies.

Specifications for this connector include dc to 2.0 GHz operation, 50 Ω nominal impedance, insertion loss of 0.35 dB, SWR of 1.15-1.30, radial/axial misalignment of ±0.020" OFFSET (blind-mate side)**, operating temperature of** +10°C to +40°C, dielectric withstanding voltage of 1000 Vac and a insulation resistance of **1000 MΩ nominal.**

**These** stainless steel connectors contain non-piloting contacts that provides long life (1,000,000 matings) and offers a repeatability of ±0.05 dB typical.




NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.



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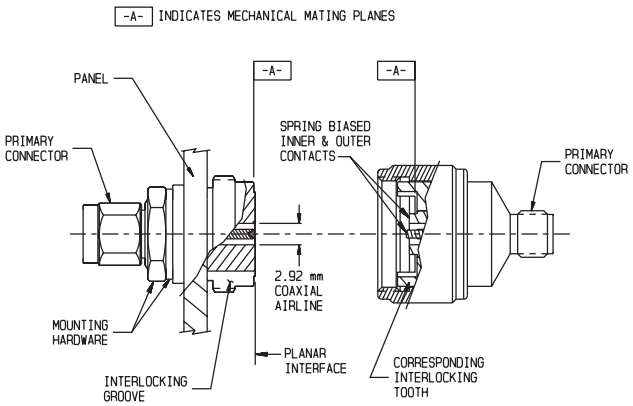
# Models 7004 & 7005 dc to 40.0 GHz
# Planar Crown® Universal Connector System

***SMA; Type N; TNC; GPC-7; 3.5mm; 2.92mm; 2.4mm***

## Description

The PLANAR CROWN® Universal Connector System is comprised of two connector halves/subassemblies which have a common mating interface referred to as the PLANAR INTERFACE. The first connector half is called the PLANAR BULKHEAD which readily mounts into instrument front panels, components and cables. One end of this bulkhead has a 2.92mm male/female primary connector. The other end has a combination of grooves, external threads and a coaxial PLANAR INTERFACE with a 2.92mm airline geometry. The bulkhead operates mode free beyond 40 GHz. The second connector half, called the PLANAR CROWN®, has a similar 2.92mm PLANAR INTERFACE on one end, with spring biased inner and outer contacts. It has corresponding projections which interlock with slots on the bulkhead and a coupling nut which secures the two connector halves, resulting in a non-rotational, torque independent electrical connection. The spring biased inner and outer contacts eliminate the need for specifying proof torque and no tools are required to make or break the connection. The primary end of the PLANAR CROWN® is offered in a variety of primary coaxial connector configurations such as SMA, Type N, GPC-7, TNC, 3.5mm, 2.92mm and 2.4mm (under development), thus providing an extremely versatile connector system wherein a connector can be replaced in a matter of seconds.




## Features

The use of **PLANAR CROWN®** connectors on instruments, cables, components/accessories offers the manufacturer and user the following benefits.

**Reduced Downtime** - Damaged connectors can be replaced in seconds without any tools. Repair cost is minimized to that of a single connector. Recalibration, in most applications, is virtually eliminated due to closely matched phase, mechanical dimensions and insertion loss of the replaceable PLANAR CROWN® assemblies.

**Versatility** - Ability to select different connector types adds versatility to instruments, cables, systems and accessories. It offers the end user multiple connector options. Connector type and sex can be readily interchanged as dictated by the system/DUT, eliminating the need for adapters.

**Superior Electrical Performance** than would be obtained by additional adapters.

**Simplified Network and Power Measurements** on non-insertable devices.

**Non-rotational Interface** - Since the PLANAR INTERFACE has interlocking teeth, it eliminates unthreading of the connection when the Crown is subjected to a rotational torque. This feature is especially useful on coaxial cables where one end unthreads so easily when the cable is subjected to twisting or flexing.

**Torque Independent Connection** - A torque wrench is not required when mating the Crown to the bulkhead. A reasonable hand tightening of the coupling nut results in an excellent RF connection. This is achieved by having spring biased inner and outer contacts in the Crown connectors. Spring biasing ensures an intimate electrical contact at the PLANAR INTERFACE. A pilot diameter on the bulkhead guarantees excellent concentricity.

**Axial Isolation of the Center Contact** - Any excessive axial force on the Crown center contact is absorbed by the spring biasing at the Planar interface end.

**Standardized Mounting Holes** - All instrument panels can be fabricated with a standard 3/8" Dia. D-hole independent of the front panel connector type/sex. This eliminates changes in sheet metal design when different connector options are requested.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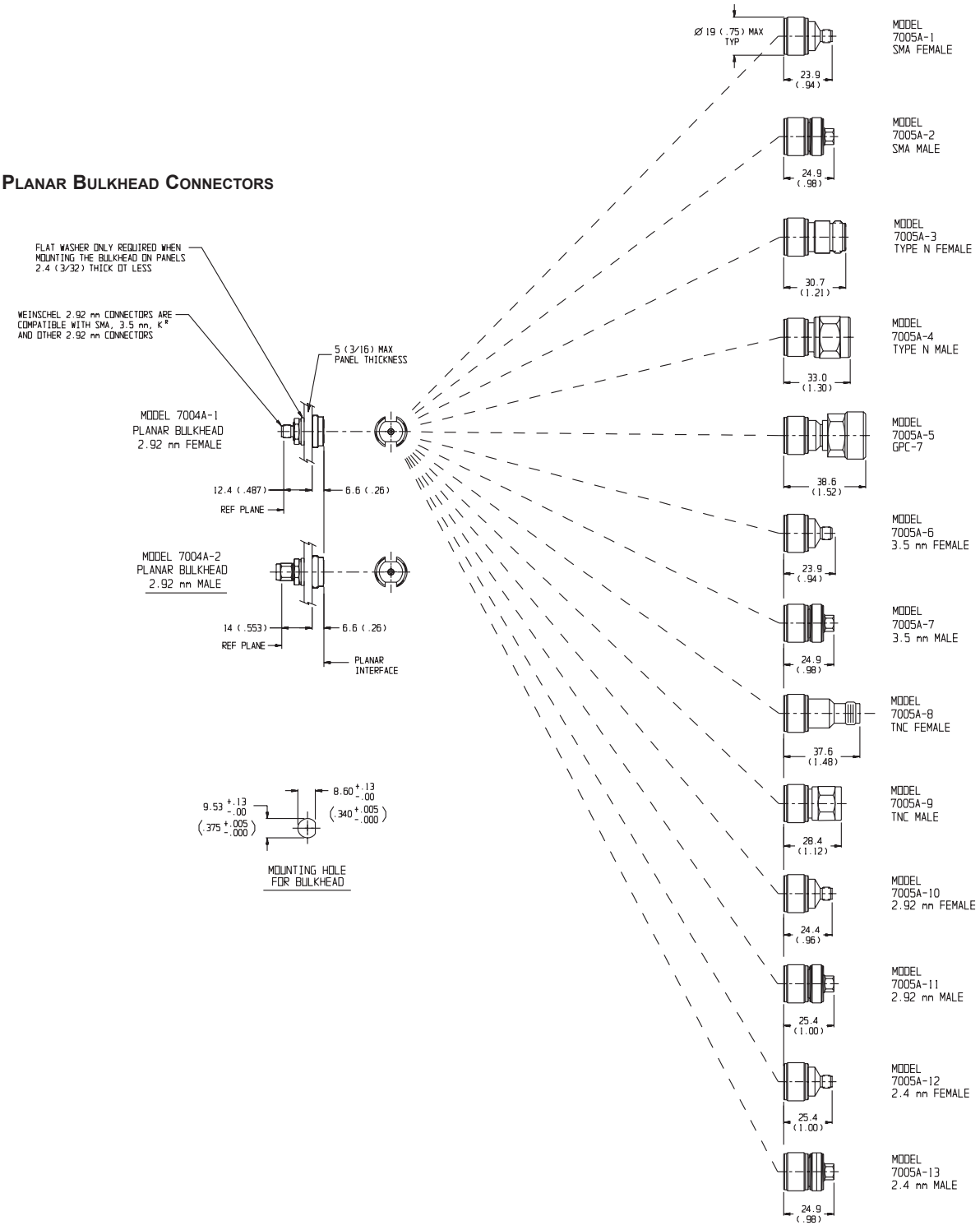
## *Specifications*

### Planar Crown Connectors

### Planar Bulkhead Connectors




U.S. Patent No. 4,836,801
(Other U.S. and Foreign Patents pending)

NOTES: 1. All dimensions are given in mm (inches) and are nominal, unless otherwise specified.
2. K® is a registered trademark of the Wiltron 2.92mm connector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## Planar Bulkhead Connectors...dc-40.0 GHz

| Model Number/ Primary Conn. | Frequency Range (GHz) | SWR* (maximum) | Insertion Loss * (dB maximum) | Electrical Length | |
|---|---|---|---|---|---|
| 7004A-1<br>2.92mm Female | dc - 40 | ---- | ---- | 19.9 ± 0.25mm |  |
| 7004A-2<br>2.92mm Male | dc - 40 | ---- | ---- | 21.6 ± 0.25mm |  |
| 7010-1<br>2.92mm Female<br>with dc Block | dc - 26.5 | 1.20-1.25 | 0.6-0.9 | 19.9 ± 0.25mm |  |
| 7010-2<br>2.92mm Male<br>with dc Block | dc - 26.5 | 1.20-1.25 | 0.6-0.9 | 21.6 ± 0.25mm |  |

## Planar Crown Connectors...dc-40.0 GHz

| Model Number/ Primary Conn. | Frequency Range (GHz) | SWR* (maximum) | Insertion Loss * (dB maximum) | Electrical Length | |
|---|---|---|---|---|---|
| 7005A-1<br>SMA Female | dc - 26.5 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz) | 18.6 ± 0.25mm |  |
| 7005A-2<br>SMA Male | dc - 26.5 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz) | 18.6 ± 0.25mm |  |
| 7005A-3<br>Type N Female | dc - 18 | 1.20 | 0.25 | 18.6 ± 0.25mm |  |
| 7005A-4<br>Type N Male | dc - 18 | 1.20 | 0.25 | 28.6 ± 0.25mm |  |
| 7005A-5<br>GPC-7 | dc - 18 | 1.20 | 0.25 | 34.8 ± 0.25mm |  |
| 7005A-6<br>3.5mm Female | dc - 34 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.30 (26.5 - 34 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 34 GHz) | 18.0 ± 0.20mm |  |
| 7005A-7<br>3.5mm Male | dc - 34 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.30 (26.5 - 34 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 34 GHz) | 18.0 ± 0.20mm |  |
| 7005A-8<br>TNC Female | dc - 18 | 1.20 | 0.25 | 26.3 ± 0.35mm |  |
| 7005A-9<br>TNC Male | dc - 18 | 1.20 | 0.25 | 26.3 ± 0.35mm |  |
| 7005A-10<br>2.92mm Female | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5 - 40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5 - 40 GHz) | 18.0 ± 0.15mm |  |
| 7005A-11<br>2.92mm Male | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5 - 40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5 - 40 GHz) | 18.0 ± 0.15mm |  |
| 7005A-12<br>2.4mm Female | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5 - 40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5 - 40 GHz) | 18.0 ± 0.15mm |  |
| 7005A-13<br>2.4mm Male | dc - 40 | 1.20 (dc -18 GHz)<br>1.25 (18 - 26.5 GHz)<br>1.35 (26.5-40 GHz) | 0.25 (dc -18 GHz)<br>0.35 (18 - 26.5 GHz)<br>0.45 (26.5-40 GHz) | 18.0 ± 0.15mm |  |

Notes: 1. Specifications based on mated pair of **7004A-X** and **7005A-XX**. Refer to mating PLANAR CROWN for SWR and Insertion loss specifications.
2. Weinschel Corporation 2.92mm connectors are compatible with SMA, 3.5mm and other 2.92mm connectors.



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## General Specifications

**PLANAR INTERFACE REPEATABILITY[1]:**
**Reflection Coefficient (Magnitude):**

60 dB (dc - 18 GHz)
50 dB (18 - 26.5 GHz)
45 dB (26.5 - 40 GHz)

**Transmission (Magnitude)[2]:**

40 dB (dc - 18 GHz)
35 dB (18 - 26.5 GHz)
30 dB (26.5 - 40 GHz)

**Transmission (phase)[2]:** 0.5°

1. The Repeatability specifications apply to ten consecutive disconnections and reconnections of the PLANAR INTERFACE.

2. Transmission repeatability includes the repeatability of the VNA test cable.

**OPERATING TEMPERATURE:** 0°C to 85°C

**CONSTRUCTION:** Passivated stainless steel bodies and coupling nuts. Gold plated beryllium copper contacts.

**INTERFACE DIMENSIONS & ADDITIONAL FEATURES OF PRIMARY CONNECTORS:**

**SMA (Models 7005A-1 and -2):**

Contact Pin Recession: 0 to 0.1mm (0 to 0.004 in)

Front Insulator Recession: 0.23 to 0.33mm (0.009 to 0.013 in)

Weinschel Corporation high frequency **SMA** connector operates mode free beyond 26.5 GHz and is a superior SMA connector. It incorporates a wider shoulder on the male and female mating planes (0.020" typical compared to 0.007" on standard SMA connectors) and has a 3 slot female contact instead of the conventional four slot design. Both these features result in a **more rugged** connector with longer life and improved repeatability. Unlike many commercial teflon loaded SMA connectors, these connectors will not cause premature damage when mated with 3.5mm, 2.92mm and K® connectors.

**Type N (Models 7005A-3 and -4):**

Contact Pin Protrusion (N female): 5.18 to 5.26mm (0.204 to 0.207 in)

Contact Pin Recession (N Male): 5.28 to 5.36mm (0.208 to 0.211 in)

The male and female Type N connectors are Precision Test connectors per MIL-STD-348. They are usable to 22 GHz.

**GPC-7 (Model 7005A-5):**

Contact Pin Recession: 0 to 0.05mm (0 to 0.002 in)

The GPC-7 connectors are designed per IEEE Std 287.

**3.5mm (Models 7005A-6 and -7):**

Contact Pin Recession: 0 to 0.08mm (0 to 0.003 in)

**TNC (Models 7005A-8 and -9):**

Contact Pin and Insulator Protrusion (TNC Female): 5.03 to 5.28mm (0.198 to 0.208 inch)

Contact Pin and Insulator Recession: 5.28mm (0.208 in) minimum

These TNC male and female connectors are designed per MIL-STD-348 interface requirements for the NEW TNC connectors and operate mode free beyond 18 GHz.

**2.92mm (Models 7005A-10 and -11):**

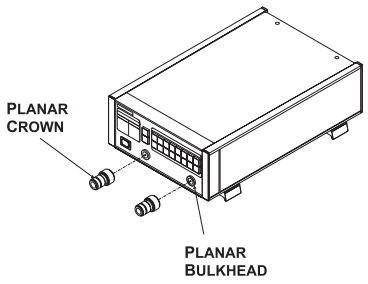
Contact Pin Recession: 0 to 0.08mm (0 to 0.003 in)

In addition to the many advantages of 2.92mm airline connectors the Weinschel Corporation version incorporates a three slot female contact design resulting in a more ruggedized contact than the conventional four slot design on most 2.92mm connectors.

**2.4mm (Models 7005A-12 and 7005A-13):**

Contact Pin Recession: 0 to 0.08mm (0 to 0.003 in)

## Applications




**Test Instruments** - Synthesizers; network/spectrum analyzers, power meters and many more.

**Accessories** - Detectors, SWR bridges/auto testers; power sensors, etc.,

**Microwave Cables** - Cables constructed with the **PLANAR BULKHEAD** connector interface at one end offer the user a wide choice of primary coaxial connectors offered on the **PLANAR CROWN** models. For an instrument such as a VNA, this eliminates the need for having different sets of test cables for different connector configurations. Cables with a built in PLANAR CROWN on the opposite end mate directly with **PLANAR BULKHEADS** on instruments, providing an excellent non-rotational electrical connection.

**Special Configurations** - The **PLANAR BULKHEAD** design can be provided with a built in attenuator or dc block. This is a useful feature when instrument front ends require a masking attenuator or need to be protected against dc voltages. Although the basic mechanical design of the **PLANAR BULKHEAD** was intended for panel mounting, it can be modified to mount directly into other accessories. The primary connector of the bulkhead can also be modified to launch directly on microstrip or suspended stripline substrates.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web: www.weinschel.com • email: sales@weinschel.com

# Model 7010
# PLANAR BULKHEAD with DC Block

**10 MHz to 26.5 GHz**

### *2.92mm Connectors to Planar Interface*

## Features

- **Usable to 40 GHz.**
- **Eliminates the requirement for a separate dc Block to protect instrument front ends.**
- **Offers the user multiple connector options and quick replacement of damaged connectors.**
- **Provides all the features and versatility of the PLANAR CROWN® Connector System.**

## Specifications

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** 10 MHz to 26.5 GHz

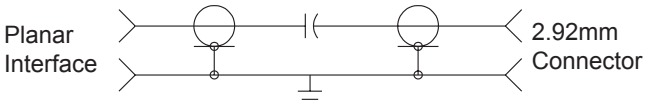
| MAXIMUM SWR: | |
|---|---|
| Frequency (GHz) | SWR |
| 10 MHz - 18 | 1.20 |
| 18 - 26.5 | 1.25 |

| INSERTION LOSS & REPEATABILITY (dB): | |
|---|---|
| Frequency (GHz) | Loss |
| 10 MHz - 18 | 0.6 |
| 18 - 26.5 | 0.9 |

**Note:** SWR and Insertion Loss specifications are based on a mated pair of Models 7010-X and 7005A-XX PLANAR CROWN® connector types.

**DC BLOCK CAPACITOR RATING:** 1,700 pf minimum; + 50 Vdc working voltage

**SCHEMATIC DIAGRAM:**



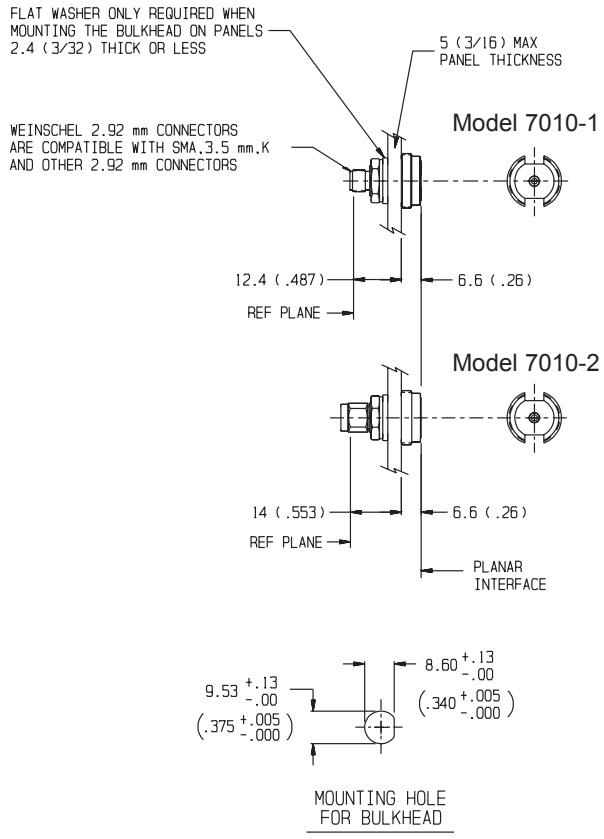

**TEMPERATURE RANGE:** 0 °C to +60 °C (operating)-40 °C to +70 °C (nonoperating)

**CONNECTORS:** Primary connector is 2.92 mm female or male connector, with a PLANAR INTERFACE on opposite end. Contact Pin Recession of 2.92mm is 0 to 0.076 mm (0 to 0.003 in) for reference plane. Add -1 for female 2.92 mm connector or -2 for 2.92mm male connector

**CONSTRUCTION:** Passivated Stainless steel body and connectors; gold plated beryllium copper contacts

**WEIGHT:** Net: 20 g (0.7 oz)

**PHYSICAL DIMENSIONS:**




NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.



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# Models 7003 & 7006
# Inside DC Block

## 10 kHz to 18.0 GHz

***Choice of Type N or SMA Connectors***

EXPRESS 800-542-4457

## *Features*

Weinschel Corporation Inside dc Block contains capacitance in-series with the center conductor to prevent the flow of dc current, while permitting RF power to flow without interruption.

- **Low SWR -** Maximum SWR remains low through full frequency and power range.
- **Rugged Construction -** Weinschel semi-precision Type N and SMA stainless steel connectors. Molded captive inner contact/bead assembly provides controlled and stable interface dimensions.
- **Usable to 22 GHz.**

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** 10 kHz to 18.0 GHz

| MAXIMUM SWR: | |
|---|---|
| Frequency (GHz) | SWR* |
| 10 kHz - 14 | 1.35 |
| 14 - 18 | 1.50 |

| INSERTION LOSS & REPEATABILITY (dB): | |
|---|---|
| Frequency (GHz) | Loss |
| 10 kHz - 18 | 0.8 |

* Source & load SWR of test system is <1.2.

**VOLTAGE RATING:** + 50 Vdc maximum

**CALIBRATION:** Test data is available at additional cost.

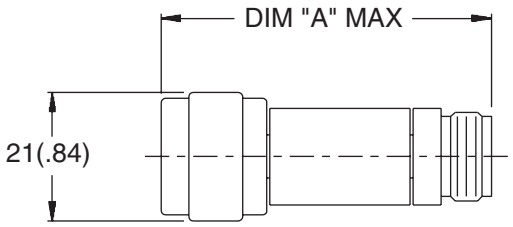
**CONNECTORS:** Type N (Model 7003) or SMA (Model 7006) connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors. Standard unit has one male and one female connector. Add Prefix M for double male and F for double female connectors.

**CONSTRUCTION:** Stainless steel body and connectors; gold plated beryllium copper contacts

**WEIGHT:** Model 7003: Net: 67 g (2.4 oz)
Model 7006: Net:: 4g (0.14 oz)

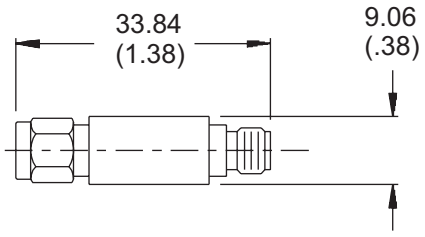
**PHYSICAL DIMENSIONS:**

**Model 7003:**



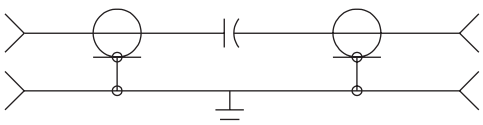

| Model # | DIM A | Connector Type |
|---|---|---|
| 7003 | 54.61 (2.15) | male-female |
| F7003 | 50.80 (2.00) | female-female |
| M7003 | 58.67 (2.31) | male-male |

**Model 7006:**




NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

**SCHEMATIC DIAGRAM:**





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MCE WEINSCHEL

# Model 7012
# Inside/Outside DC Block

## 500 MHz to 8.6 GHz

NEW

***Rugged SMA Connectors***

## *Features*

Weinschel Corporation Inside/Outside dc Block contains capacitance in-series with the center conductor to prevent the flow of dc current, while permitting RF power to flow without interruption.

- **Low SWR -** Maximum SWR remains low through full frequency and power range.
- **Rugged Construction -** MCE/Weinschel semi-precision SMA stainless steel connectors.

## *Specifications*

**NOMINAL IMPEDANCE:** 50 Ω

**FREQUENCY RANGE:** 500 MHz to 8.6 GHz

| MAXIMUM SWR: | |
|---|---|
| Frequency (GHz) | SWR |
| 500 MHz - 8.6 GHz | 1.25 |

| INSERTION LOSS (dB maximum): | |
|---|---|
| Frequency (GHz) | Loss |
| 500 MHz - 8.6 GHz | 0.4 |

**BREAKDOWN VOLTAGE:** + 200 Vdc between any of the four connectors

**DC RESISTANCE:** 20 MΩ minimum between any four connectors

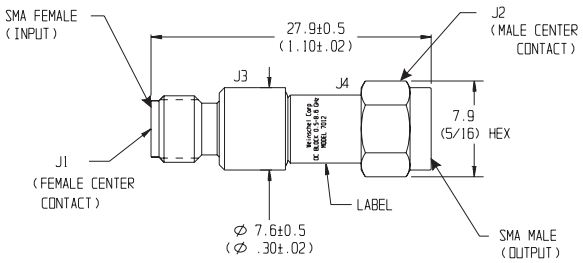
**POWER RATING:** 10 Watts peak or CW

**CONNECTORS:** SMA connectors per MIL-STD-348 interface dimensions - mate nondestructively with MIL-C-39012 connectors. Standard unit has one male and one female connector.

**CONSTRUCTION:** Stainless steel body and connectors; gold plated beryllium copper contacts

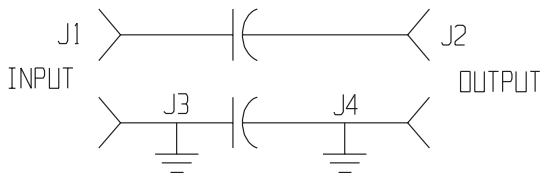
**WEIGHT:** Net: 4.6 g (0.16 oz)

**PHYSICAL DIMENSIONS:**




NOTE: All dimensions are given in mm (inches) and are maximum, unless otherwise specified.

**SCHEMATIC DIAGRAM:**



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# Models 7065, 7066 & 7067 — 100-200 Watts
# High Power Amplifiers for Intermodulation Testing

## General Information

The new lower cost MCE / DML Microwave High Power Amplifiers are specifically designed for intermodulation testing of Filters, Combiners and Connectors at 917-960 MHz, 1800-1990 MHz and 2110-2170 MHZ frequency bands. The Amplifiers are available in Modular or Rack Mounted versions for field or production use.

## Features

- 100 / 150 / 200 Watt Output Power
- Ideal for IMD Test Applications
- High Reliability
- Integral Output Protection
- Rack Mounted or Modular
- Integral Universal Voltage Power Supply

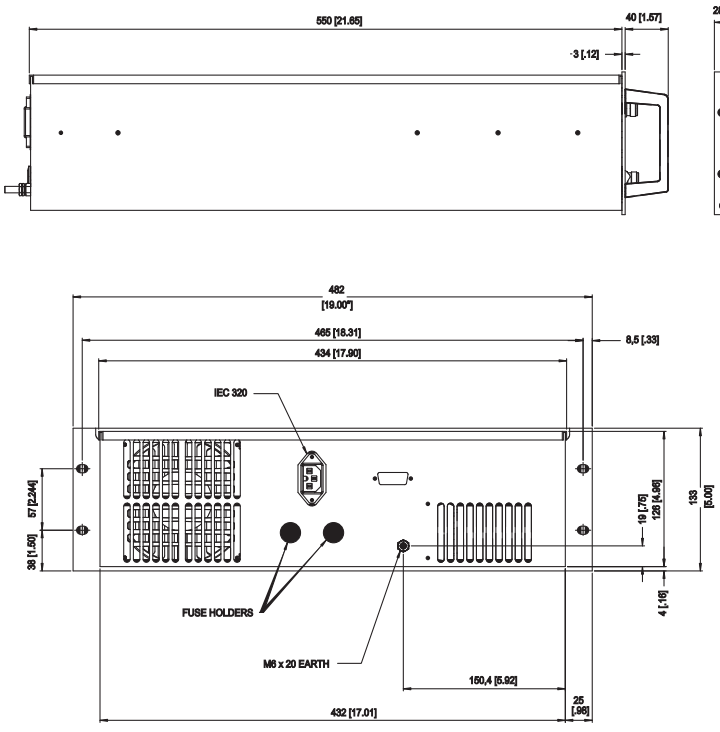
## Specifications

**Operating Frequency Ranges:**

917 – 960 MHz (Model No. DMS 7065)
1800 – 1990 MHz (Model No. DMS 7066)
2110 – 2170 MHz (Model No. DMS 7067)

**Small Signal Gain:** 50 dB Min (52 dB typ.)
**Saturated Output Power:** +50 dBm min
**Noise Figure:** 10 dB max
**Non Harmonics Spurious Outputs**: - 60 dBc max
**Input Return Loss:** 17 dB min
**Output Return Loss:** 17 dB min
**Supply Voltage:** 85-264 Volts AC (47-65Hz) with Power Factor Correction
**Temperature Range:** +10°C to +30°C (operating)
-25°C to +85°C (storage)
**Nominal RF Drive Level:** 0 dBm
**Gain Variation with Frequency:** ±1.0 dB max over 43 MHz
**Group Delay Variation:** 2.0 nS max. / 100 MHz
**RF Input Interface:** N Type Female (Front Panel)
**RF output Interface:** N Type Female (Front Panel)
**Power Consumption at rated Output:** 850 Watts max (For 100W version)

## Physical Dimensions




**Power Supply Connector:** Filtered IEC 320 Plug
**Cooling System:** Integral Heatsink and Fan
**Dimensions:** 19" wide, 3U Tall, Rack Mounting assembly with integral Power Supply, Fan, and Over-Temperature cut-out circuitry for Amplifier case Temperatures of > +75°C

Notes:
1. All dimension are in mm [inches] and are nominal.



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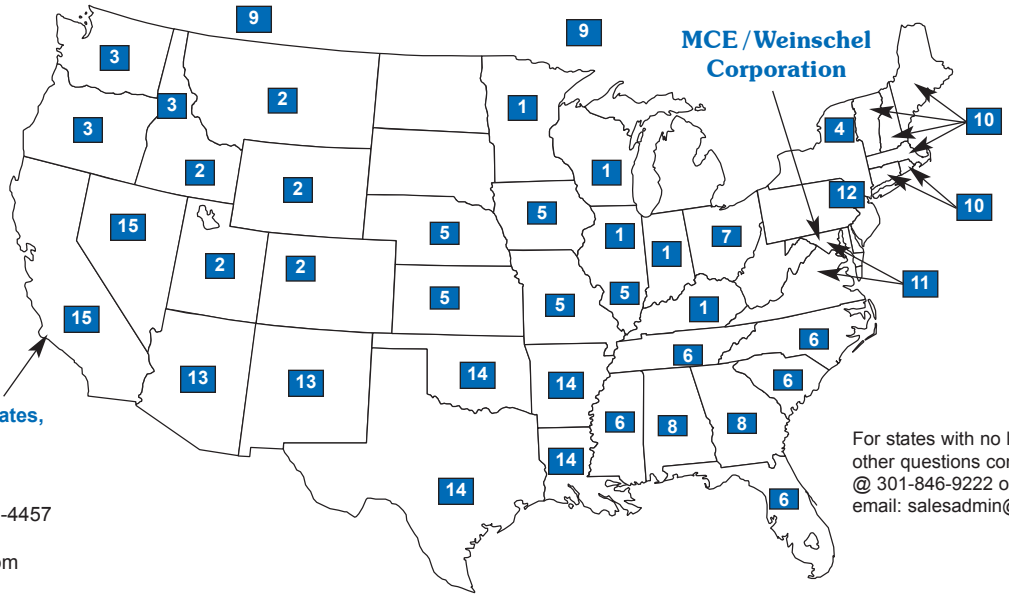
# US Sales Representatives....

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email: salesadmin@weinschel.com

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**3**. **Cain-Sweet Co.**, 20595 S. W. T. V. Highway, Suite 103 B, Aloha, OR 97006, Tel: 503-591-0647, Fax: 503-591-0856, web: www.cainsweet.com, email: robv@ix.netcom.com
1409 140th Place, N. E., Suite 105, Bellevue, WA 98007-3963, Tel: 425-562-6028, Fax: 425-562-2680, email: sales@cainsweet.com

**4**. **DFS Associates**, 405 Broadmoor Road, Camillus, Ny 13031, Tel: 315-487-2116, Fax: 315-488-9953, email: dscaia@aol.com

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620 E Avenue Ne, Cedar Rapids, IA 52402, Tel: 319-221-1515, Fax: 319-221-1516, email: crdti@ia.net

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4524 Curry Ford Road, Suite 537, Orlando, FL 32812, Tel: 813-888-9218, Fax: 813-884-1764, email: bobduke@egholmes.com
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9072 Sewell Avenue, Spring Hill, FL 34608, Tel: 352-683-6146, Fax: 352-683-9896, email: dean@egholmes.com

**7**. **Electronic Distributors, Inc.**, 1458 Yankee Park Place, Centerville, OH 45458, Tel: 937-436-1888, Fax: 937-436-2131, email: denebel@aol.com

**8**. **Gruber & Associates**, 241 Powers Cove, GA 30067, Tel: 770-321-2495, Fax: 770-321-2497, email: gruberassoc@msn.com

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6695 Millcreek Dr., Unit # 8, Mississauga, Ontario, L5N 5R8, Tel: 905-363-1012, Fax: 905-363-1018

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**12**. **Technical Marketing Associates**, 161 Eagle Rock Avenue, Roseland, NJ 07068, Tel: 973-228-7800, Fax: 973-228-6686, web: www.tma-rf.com, email: info@tma-rf.com

**13**. **Technical Marketing Specialists,** 7860 E. Berry Place, Suite 110, Greenwood Village, CO 80111, Tel: 303-488-0220, Fax: 303-488-0080, web: www.tmssales.com, email: cbadzik@tmssales.com
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South, 2623 Manhattan Beach Blvd., Redondo Beach, CA 90278-9981, Tel: 310-643-6977, Fax: 310-643-6035

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6695 Millcreek Dr., Unit # 8, Mississauga, Ontario, L5N 5R8, Tel: 905-363-1012, Fax: 905-363-1018

**Chile:** mmWave - Shikatronics S A De C V, M. Felix Cabrera No. 59, Ofic. 203, Providencia, Santiago, , Tel: (56)2-231-1454, Fax: (56)2-231-2782

**China (Hong Kong):** Corad Technology Ltd., Unit 1306, 13 Floor, Nanyang Plaza, 57 Hung To Road, Kwun Tong, Kowloon, Tel: (852)2793-0330, Fax: (852)2793-0606, web: www.corad.com, email: info@tnm-corad.com

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**Finland:** Compomill Nordic Components Ab, Renbackavagen 1 C 9, , , Esbo, 02750, Tel: (358)9-586-4470, Fax: (358)9-505-1832, web: www.compomill.se, email: is@kolumbus.fi

**France:** B.F.I. Optilas, S.A, 4, Allee Du Cantal, Z L De La Petite Montagne Sud, C E 1834, E V R Y Cedex, 91018, Tel: (33)1-6079-5900, Fax: (33)1-6079-8901, web: www.bfi.avnet.com/spain/index.html, email: bfifrrf@bfi.avnet.com

**Germany:** MRC Components Gbr, Angerbrunnenstr. 12, D-85356, Freising, Tel: (498161-9848-0, Fax: (49)8161-9848-20, web: www.mrc-comp.com, email: flauber@mrc-comp.com

**Greece:** American Technical Enterprises, S A, Agou Konstantinou 39, Athens, Tel: (30)1-524-0620, Fax: (30)1-524-9995, email: ate2000@otenet.gr

**Hungary:** Amtest Associates, 126-128 Besci Ut, Budapest 3, Tel: (36)1436-0937, Fax: (36)1368-9642, email: amtestaew@compuserve.com

**India:** Aimil, Ltd., Naimax House A8, Mohan Cooperative, Industrial Estate, Mathura Road, New Delhi, 110 044, Tel: (91)11-695-0001, Fax: (91)11-695-0011, email: aimil@del2.vsnl.net.in

**Israel:** Ormic Components Ltd, "Bnei-Dror" South Industrial Zone, Bldg. # 1, P.O.B. 54 Tel-Mond, 40600, Tel: (972)9-7966888, Fax: (972)3-5488660, web: www.ormic.com, email: mron@ormic.co.il

**Italy:** Sematron Italia S.R.L., Via Mazzini 46, Trezzo Sull'adda Mi, 20056, Tel: (39)0290929158, Fax: (39)0290929166, web: www.sematronitalia.it, email: sematronitalia@flashnet.it

**Japan**: Seki Technotron Corp., 5-6-35, Kiba, Koto - Ku, , Tokyo, 135, Tel: (81)3-3820-1716, Fax: (81)3-3820-1733, web: www.sekitech.com, email: mnishihata@stc.sekitech.co.jp

**Korea:** Chang Woo Inc., Keum Young Bldg., 15-11 Yeo Eui Do - Dong, Young Deung Po - Ku, Seoul, 150-010, Tel: (82)2-782-9056, Fax: (82)2-782-9058, Email: Salescwinc@Hananet.Net

**Germany:** MRC Components GBR, Angerbrunnenstr. 12, D-85356, Freising, Tel: (49)8161-9848-0, Fax: (49)8161-9848-20, web: www.mrc-comp.com, email: flauber@mrc-comp.com

**Malaysia:** Test Measurement & Engineering Sdn. Bhd., 39 B, Jalan S S 15/4, Subang Jaya, 47500 Petaling Jaya, Selangor Darul Ehsan, Tel: (60)3-734-1017, Fax: (60)3-734-8532, web: www.tmesystems.com.sg, email: tmekl@tm.net.my

**Mexico:** Shikatronics-Mmwave S.A De C.V., Luz Saviñon No. 9-602, Col. Del Valle., México, D.F, 03100, Tel: (52)5 543 7313, Fax: (52)5 543 7317, web: www.mmwt.com, email: emorales@shikatronics.com

**Netherlands:** Heynen B.V., De Groote Heeze 11, N L 6598 A V Heijnen, Gennep, 6590 A A, Tel: (31)485-550 909, Fax: (31)485-550 900, web: www.heynen.com, email: heynen@heynen.nl

**New Zealand:** Nilsen Technologies Ltd., 1 Porters Avenue, Unit 4, Ambury Ct., Eden Terrace, Auckland, Tel: (64)9-309-2464, Fax: (64)9-309-2968, email: admin@nilsentech.co.nz

**Poland:** Amtest-PL, 60-480 Poznan, ul.Chojnicka 57-1, Dariusz Koziello Tel/fax 48 61 842 81 71, mobile 48 501 602 458, email: amtestpl@wp.pl

**Saudi Arabia:** Eemco, P. O. Box 3750, 28 Baroudi Lane, Sulaymaniah, Riyadh, 11481, Tel: (966)1-477-1650, Fax: (966)1-478-5140, email: eemco@nesma.net.sa

**Singapore:** P.T. Tme, Blk 3014 A, Ubi Road 1, #05-12, , 408703, Tel: (65)747-7234, Fax: (65)747-7132, Web: Www.Tmesystems.Com.Sg, email: tmesys@singnet.com.sg

Slovakia: Amtest Associates, Halov 7, Bratislava, 851 01, Tel: (42)07-842691, Fax: (42)07-842691, email: amtestaew@compuserve.com

**South Africa:** Measuretest C C, Unit 2, Bartlett Lake Office Park, CNR Trichardt & Dr. Vosloo Rds, Bartlett, Boksburg, Republic Of, 1459, Tel: (27)11-918-3805, Fax: (27)11-918-5176, web: www.measuretest.co.za, email: sales@measuretest.co.za

**Spain:** BFI Optilas Spain, C/ Isabel Colbrand, 6 - 4º, Madrid, 28050, Tel: (34)91-358.86.11, Fax: (34)91-358.92.71, Web: bfioptilas.avnet.com, email: africa.fernandez@bfioptilas.avnet.com

**Sweden:** Compomill Nordic Components Ab, Box 4, Se-194 21 Upplands, Vasby, Tel: (46)8-594 111 50, Fax: (46)8-594 211 60, web: www.compomill.se, email: info@compomill.se

**Sweden:** Compomill Nordic Components Ab, Box 4, Se-194 21 Upplands, Vasby, , Tel: (46)8-594 111 50, Fax: (46)8-594 211 60, web: www.compomill.se, email: info@compomill.se

**Taiwan:** Schmidt Scientific Taiwan, Ltd., 6 Fl, No. 6, Alley 6, Lane 45, Pao-Hsin Rd, Hsin Tien, Taipei, 231, Tel: (886)2-2913-1326, Fax: (886)2-2913-1329, web: www.schmidt.com.tw, email: leochang@schmidt.com.tw

**Thailand:** Aerocomm Company Ltd., 89 & 89\1 Intamara 41, Sutthisarn Rd., Dindang, Bangkok, 10400, Tel: (66)2-693-8300, Fax: (66)2-693-8304, web: www.aerocommthailand.com, email: aerocomm@ksc.th.com

**Turkey:** Türkelek Elektronik Vertriebs Gmbh, Hatay Sokak 8, TR-06650, Ankara, Tel: (90)312 418 9483, Fax: (90)312 417 5529, email: bg.trkl.mch@t-online.de

**Peoples Republic of China:** Corad Technology Ltd., Room 901, Kuen Yang International Business Plaza, No.798, Zhao Jia Bang Road, Shanghai Prc., 200030, Tel: (852)21-64669185, Fax: (852)21-64736398, web: www.corad.com, email: info@tnm-corad.com

NOTE: For Countries NOT listed contact the Sales Department at Weinschel Corporation @ salesadmin@weinschel.com or 301-846-9222.

*Authorized MCE/Weinschel Corporation Repair Facility.

**Eastern Eroupe Countires, Alterative contact Amtest Associates, Amtest House, 75-79 Guildford Street, Chertsey, Surrey, KT16 9AS, England, Tel: (44)19325-68355, Fax: (44)19325-61919, email: amtestaew@compuserve.com

*For up to date sales & distributor listings & Information visit our website @ www.weinschel.com/reps.cfm*



5305 Spectrum Drive, Frederick, MD 21703-7362 • TEL: 301-846-9222, 800-638-2048 • Fax: 301-846-9116
web: www.weinschel.com • email: sales@weinschel.com

# Ordering & Service Information...

**HOW TO ORDER:** Please order by both catalog model number and description of the component to avoid any misunderstanding (e.g., Model 1506A Broadband Coaxial Power Divider). Special features and modifications not listed in the specifications may be available at extra cost. Please contact the factory regarding any nonstandard features.

**WHERE TO ORDER:** Address all purchase orders and other communications to:

MCE / Weinschel Corporation
5305 Spectrum Drive Frederick, MD 21703-7362
Phone #: 301-846-9222
Fax: 301-846-9116
email: salesadmin@weinschel.com
Toll Free: 800-638-2048
Express: 800-542-4457 (Sickles Distribution Sales)

or contact your nearest MCE / Weinschel Sales Representative.

Purchase orders will be accepted via phone, fax or email pending confirmation of your standard purchase order form. Determination of prices, terms and conditions of sale and final acceptance of orders are made only at Weinschel Corporation.

**DOMESTIC TERMS:** Formal price quotations remain in effect for 60 days. Terms of payment are net 30 days for established accounts; new accounts are also net 30 days subject to credit approval. If credit has not been established, payment must be received before shipment or shipment will be made C.O.D. to avoid delay. All prices are F.O.B. Frederick, Maryland and include commercial inspection and packing for shipment within the continental United States.

**EXPORT TERMS:** Export prices including the cost of packing are available from MCE / Weinschel or from the export representatives. On orders placed directly with Weinschel, payment terms are Cash-in-Advance or Irrevocable Letter of Credit payable through a US Bank against presentation of our draft and corresponding documents. All prices are F.O.B. Frederick, Maryland.

**SHIPPING INSTRUCTIONS:** Unless specific instructions accompany the order, we shall use our judgment as to the best method of shipment. Shipments can be made by either air or surface transportation.

**MINIMUM BILLING:** Purchase orders amounting to $250.00 net or less, will be billed at $250.00 plus shipping costs.

**SOURCE INSPECTION SURCHARGE:** If customer or Government Source inspection is required, add $100 or 2% of purchase order value, whichever is greater.

**CERTIFICATE OF COMPLIANCE:** A Certificate of Compliance is shipped with every order along with the packing slip. Extra copies are available upon request at any time. The certificate states:

> MCE / Weinschel certifies that all items/materials are inspected and tested as applicable, and are in accordance with the purchase agreement, drawings, OEM specifications, and other applicable documentation. Calibration and equipment standards as applicable are traceable to the National Institute of Standards and Technology. Supporting documentation is on file at this facility.

**WARRANTY:** MCE / Weinschel Corporation warrants each product it manufactures to be free from defects in material and workmanship under normal use and service anywhere in the world. Weinschel Corporation's only obligation under this Warranty is to repair or replace, at its plant, any product or part thereof that is returned with transportation charges prepaid to MCE / Weinschel Corporation by the original purchaser within ONE YEAR from the date of shipment.

The foregoing Warranty does not apply to, and in MCE / Weinschel Corporation's sole opinion, products that have been subject to improper or inadequate maintenance, unauthorized modifications, misuse, or operation outside the environmental specifications for the product.

MCE / Weinschel Corporation software products are supplied without representation or Warranty of any kind. MCE / Weinschel Corporation, therefore, assumes no responsibility and will not accept liability (consequential or otherwise) arising from the use of program materials, disk, or tape.

**IN-WARRANTY REPAIRS**: When returning a component back to our factory, a Return Materials Authorization (RMA) number must be obtained from MCE / Weinschel. When contacting us for an RMA number, please indicate the model number, serial number, and date of the original purchase order. Also include as much information as possible pertaining to nature of the malfunction or reason for return. The items returned should be accompanied with this information and include your company name, your name, and a phone number where you can be reached.

**OUT-OF-WARRANTY REPAIR**: Should it become necessary to return a component for repair, follow the procedure described in the preceding paragraph prior to shipping. Within one week after receipt at the factory, the unit will be evaluated and a formal quotation will be supplied. Repair will begin when authorization is received in the form of a Purchase Order. Weinschel gives a 90-day warranty on all out-of-warranty repairs.

**CANCELLATION AND RETURNS:** Orders placed with MCE / Weinschel may be cancelled only after authorization by Weinschel. Any authorized cancellation is subject to cancellation charges as determined by Weinschel. A component returned for credit will be subject to a restocking charge. If more than 6 months has elapsed since original purchase, the item may not be accepted for credit. Nonstandard components cannot be returned for credit.

**TEST & SERVICE:** MCE / Weinschel is committed to providing fast, professional customer service and support worldwide. You have the assurance of knowing our staff of highly trained professionals is available using approved procedures and instrumentation. MCE / Weinschel Test and Service is always committed to quality as defined by the customer. Full lines of repair and test services are available.

MCE / Weinschel does not provide calibration for any product or provide Certificates of Calibration in accordance will the requirements of Mil-Std 45662, ISO 9001, ISO 9002, ISO 10012-1, ANSI/NCSL-Z540, or ANSI/ISO/IEC 17025-2000 requirements. MCE / Weinschel will assist our customers as following in obtaining Calibration of Product in accordance with the requirements of Mil-Std 45662, ISO 9001, ISO 9002, ISO 10012-1, ANSI/NCSL-Z540, or ANSI/ISO/IEC 17025-2000.

MCE / Weinschel will provide Certificates of Conformance, Certificates of Test and Test Data Reports for products as required or as requested by a customer. These forms state that product has been tested to published specifications using equipment whose accuracies are traceable to the National Institute of Standards and Technology (NIST).

Test Data: Special and/or additional test data is available at a nominal charge.

Repair work: Accomplished repairs will return the item to its published specification. MCE / Weinschel provides a 90-day warranty on repair services performed, with fixed price repairs on most products.

Telephone/E-mail Consultations: Our test and Service Department will gladly provide informal consultation over the telephone or through e-mail (service@weinschel.com) with testing and or service questions.

# Alphabetical Index...





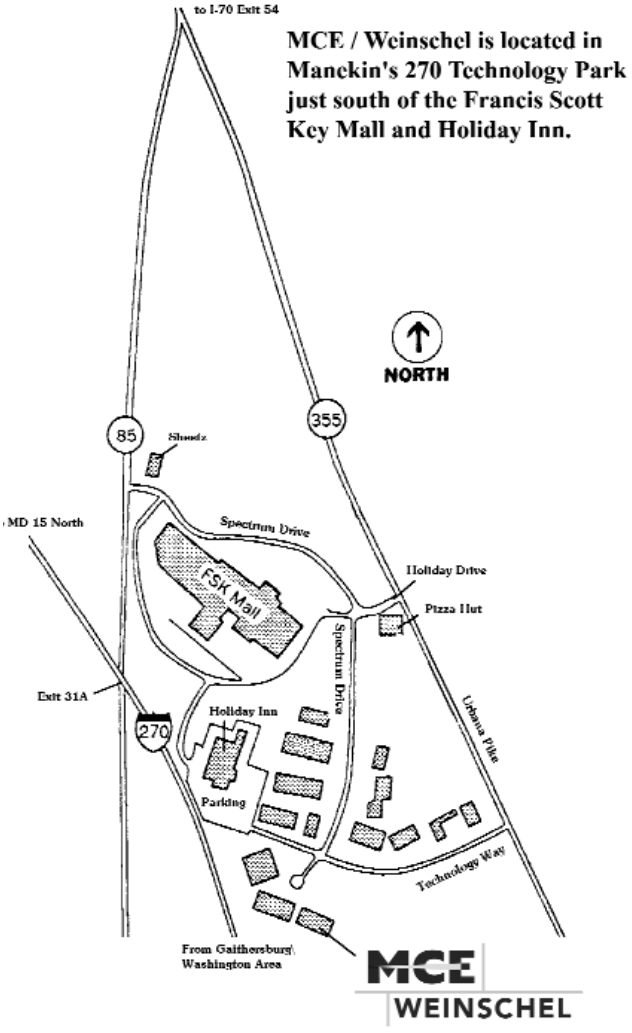

5305 Spectrum Drive, Frederick, MD 21703-7362 • TEL: 301-846-9222, 800-638-2048 • Fax: 301-846-9116
web: www.weinschel.com • email: sales@weinschel.com

# Directions to MCE/Weinschel....

**FROM DULLES/NATIONAL AIRPORTS: DULLES:** Take Dulles Access Road to Capitol Beltway/Route 495. Continue to exit for Route 270 North toward Frederick, Maryland. Travel approximately 37 miles on Rt 270, and you will get off at Exit 31A--Route 85/North. Proceed to stoplight and turn right into Francis Scott Key Mall entrance. Stay in left lane, going past the mall on right, various restaurants on left (Pargo's, Golden Corral--caution just past here for three-way stop signs!--continue past Pizza Hut). You are now on Spectrum Drive; you will see a cul-de-sac area with mailboxes on right; bear left into "Spectrum Plaza." Weinschel building, 5305, is to the right. Visitor parking in front of building. NATIONAL: Take George Washington Memorial Parkway North to Beltway/Rte 495. Continue on Rte 495 toward Maryland, then same as above.

**FROM BALTIMORE/BWI AIRPORT:** Take 195 East out of airport, to 95 North (695 Exit)*; get on 95 North and move to far left lane. Exit onto 695 North (towards Catonsville/Towson). Stay on 695N until signs show 70 West/Frederick (~ 8-10 mls). Exit onto 70 West, and stay on 70W for ~55 mls; you will get off at Exit 54/Market Street/Rte 355. At top of exit ramp, turn right at traffic light and merge to left lanes. Go through three traffic lights on Rte 355 South, past Wickes Lumber on left, and turn right onto New Technology Way. Proceed to stop sign and turn left; come to cul-de-sac and turn left. Weinschel building, 5305, is on right. Visitor parking in front.*NOTE: Do not take 95 North (Harbor Tunnel) exit; proceed to second 95 North entrance.

**FROM NEW YORK/NEW JERSEY:** Take I-95 toward Baltimore; Exit onto Baltimore Beltway, Rt 695 West towards Towson; Exit from the Beltway onto I-70 toward Frederick. You will travel approximately 55 miles and come off at Exit 54 (Market Street). Bear right at light coming off ramp, and quickly move over into two left lanes for Route 355 South. Continue on Rt 355 for 1.5 miles; you will pass large Lowes Lumber, Golden Corral, Pizza Hut, and then large red brick Norwest building on right. Immediately thereafter is entrance to 270 Tech Park on right; follow this street to stop sign, turn left on Spectrum Drive and left again into "Spectrum Plaza." Weinschel building, 5305, is to the right. Visitor parking in front.



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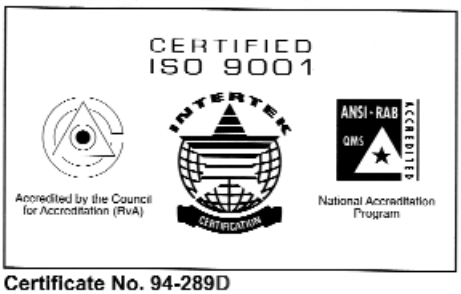


**Certificate No. 94-289D**

MCE WEINSCHEL

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