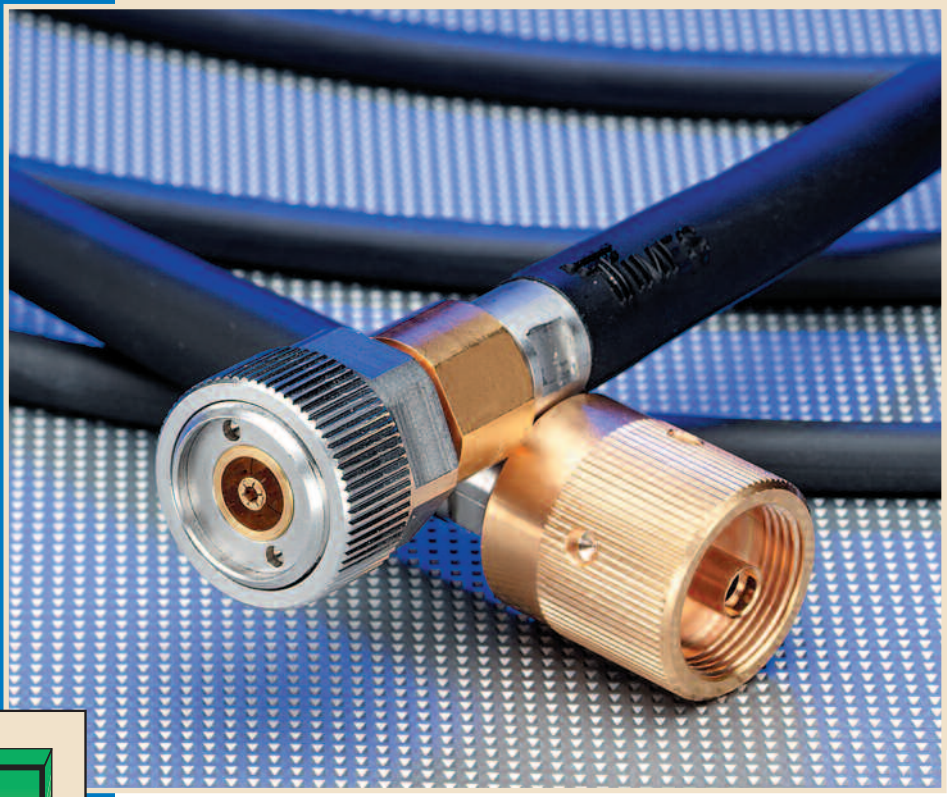
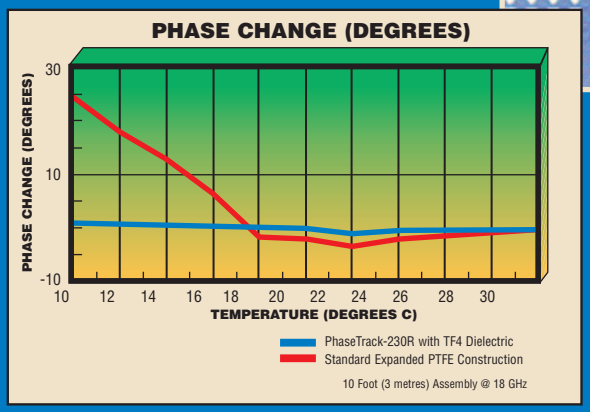
PhaseTrack-230R

with Replaceable Connectors

ISO 9001 Certified



Thermally stable test cables provide reliable electrical performance for daily dependability in test lab and production environments where changes in temperature can occur.



PhaseTrack™ test leads with proprietary TF4™ dielectric provide remarkably less phase change with temperature than existing products made with solid or tape wrap PTFE dielectrics. The result is excellent retention of test equipment calibration within a changing temperature environment. Front end connectors are removable and can be interchanged with a variety of different connector types.

Features & Benefits:

- Minimal Phase Change with Temperature
- Good Phase Stability with Bending
- Operates to 18 GHz
- Field Interchangeable Connectors
- High Performance TNC, N, SMA and 7mm Connectors
- Long Term Electrical Stability
- Rugged Construction

Applications:

- High Volume Test Lab and Production Line Test Operations
- Field Installation, Test and Verification
- Quality and Maintenance Test Programs
- Upgrade or Replacement of Damaged or Obsolete RF Test Cables
- Fixed System RF/Microwave Interconnections

TIMES MICROWAVE SYSTEMS

PhaseTrack-230R Specifications:

Assembly Specifications	
Electrical and Physical Specifications	
Tested Frequency Range	0.5 to 18 GHz
Characteristic Impedance	50 Ohms
Velocity of Propagation	84%
VSWR	1.35:1 maximum
Phase Stability with Bending	5° at 18 GHz when wrapped around an 8" diameter mandrel
Phase Change with Temperature	-55 to +85°C < 1.5 ppm/°C
Shielding Effectiveness	Better than -100dB
Insertion Loss	See chart on opposite page
Maximum Operating Voltage	2500 Volts (1000 volts with SMA)
Operating Temperature Range	-55 to +85°C
Cable Mechanical Specifications	
Outside Diameter	0.3 inch (7.6mm)
Minimum Bend Radius	2.0 inches (50.8mm)

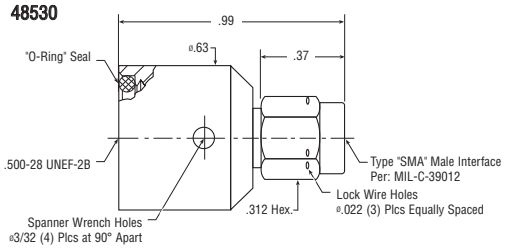
Connector Types Available

Connector Designator	Connector Type	Outline Drawing Number	Spanner Tool Part Number
48530	SMA Plug Front End	SD48530	TN3176-2
48555	TNC Plug Front End	SD48555	TN3176-2
48603-1	N Plug Front End	SD48603-1	TN3176-2
48667	N Jack Front End	SD48667	TN3176-2
48703	7mm Front End	SD48703	TN3176-2
48733	3.5mm(f) NMD	SD48733	TN3176-2
48741	7/16 DIN Plug Front End	SD48741	TN3176-2
48742	7/16 DIN Jack Front End	SD48742	TN3176-2

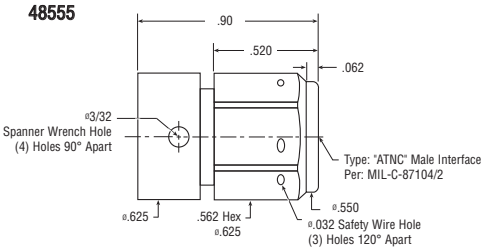
Replacing Front Ends: Requires one 7/16" wrench for the cable side along with the Spanner Tool listed above for the connector. Other types available on request.

All dimensions shown in inches.

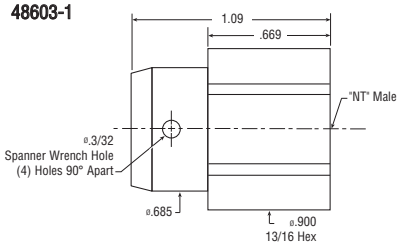
48530



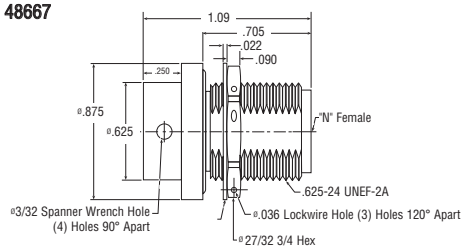
48555



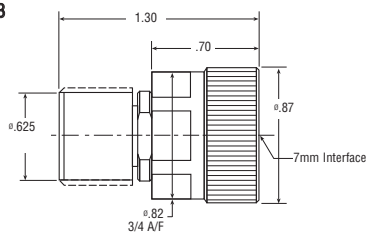
48603-1



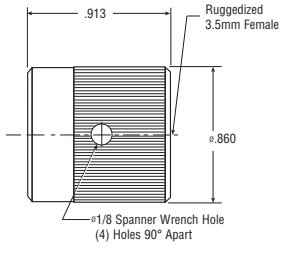
48667



48703



48733



Cable and Connector Insertion Loss vs. Frequency

Frequency (MHz)	Maximum Cable Insertion Loss @ 23°C (dB/ft)	(dB/metre)	Connector Loss (dB/pair)
500	0.06	0.20	0.075
1,000	0.09	0.30	0.10
2,000	0.14	0.45	0.15
4,000	0.21	0.70	0.20
6,000	0.28	0.91	0.22
8,000	0.34	1.10	0.25
10,000	0.39	1.29	0.27
12,000	0.45	1.46	0.28
14,000	0.50	1.63	0.30
16,000	0.55	1.79	0.31
18,000	0.59	1.95	0.33

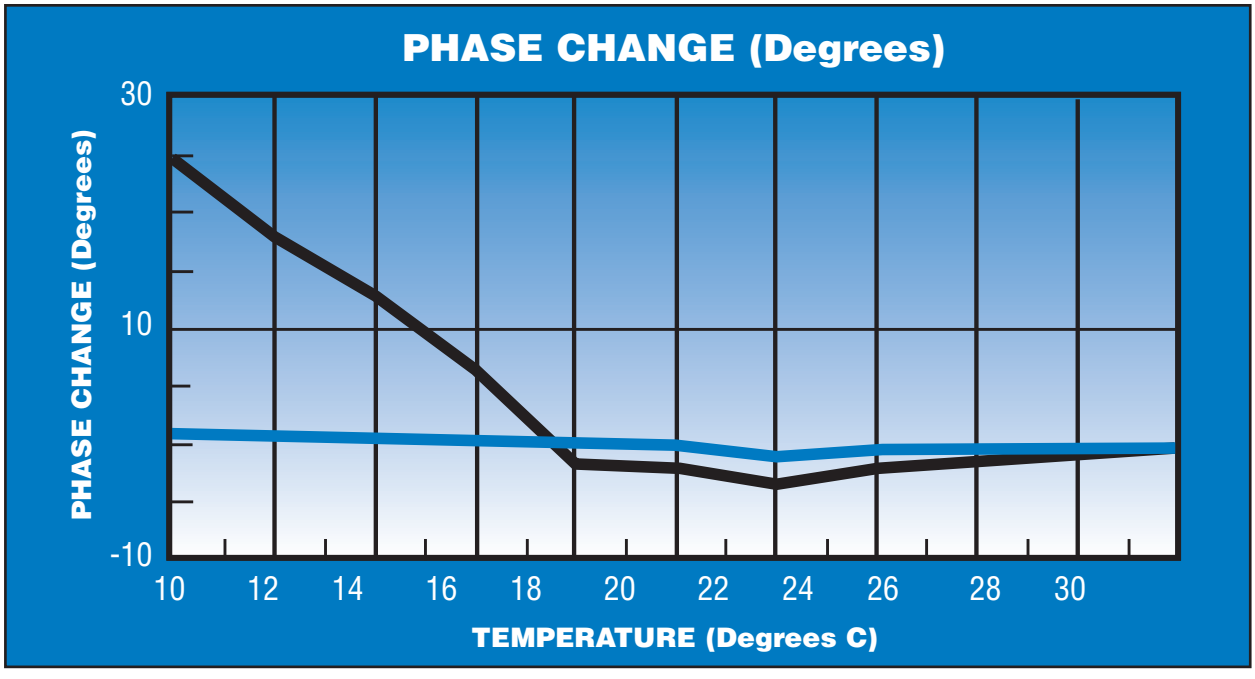
Cable Insertion Loss at Intermediate Frequencies can be Calculated as Follows:

$.24341 \times \sqrt{FMHz} + .00149 \times (FMHz)$ dB per 100 feet

or

$.79840 \times \sqrt{FMHz} + .00488 \times (FMHz)$ dB per 100 metres

(where FMHz is the frequency in MHz)



PhaseTrack 230R with TF4 Dielectric

Standard Expanded PTFE Construction

10 Foot (3 metres) Assembly @ 18 GHz

ORDERING INFORMATION

A Complete Part Number is specified as follows:

PT230R/L/C1/C2

Where
- L = Length (in inches or millimeters, see below)
- C1 = Connector 1 Designator
- C2 = Connector 2 Designator

Example 1 - a 36 inch long Cable Assembly with a Replaceable SMA male on one end and a Replaceable TNC male on the other end would have the Part Number **PT230R/in36/48530/48555**

Example 2 - a 430 millimeter long Cable Assembly with a Replaceable SMA male on one end and a Replaceable TNC male on the other end would have the Part Number **PT230R/mm430/48530/48555**

Marking:

Cable Assemblies are marked in the center or on each end, depending on cable assembly length as follows:

Times Microwave Systems
MFG: 68999
PT230R/xxx/xx/xx

Length Tolerances:

+/- .25” (6.4mm) for Cable Assemblies less than 5' (1524mm)
+/- .5” (13mm) for Cable Assemblies between 5' (1524mm) and 10' (3048mm)
+/- .5% for Cable Assemblies greater than 10' (3048mm)

Testing:

Each Cable Assembly is tested for Insertion Loss and VSWR over the Test Frequency Range.

TIMES MICROWAVE SYSTEMS
World Headquarters: 358 Hall Avenue, Wallingford, CT 06492
Tel: 203-949-8400, 1-800-867-2629 Fax: 203-949-8423
International Sales: 4 School Brae, Dysart, Kirkcaldy, Fife, Scotland KY1 2XB UK
Tel: +44(0)1592655428 Fax: +44(0)1592653162
China Sales: 16F United Plaza, 1468 West Nanjing Road, Shanghai, China 200040
Tel: 86-21-32224506 Fax: 86-21-62898980
www.timesmicrowave.com