TIMES MICROWAVE SYSTEMS

LMR®-1700
Flexible Low Loss Communications Coax

Ideal for...

- Long Antenna Feeder runs
- Building-Top Sites
- Any application (e.g. WLL, GPS, LMR, WLAN, WISP, WiMax, SCADA, Mobile Antennas) requiring an easily routed, low loss RF cable

• **LMR®- DB** is identical to standard LMR plus has the advantage of being watertight. The addition of waterproofing compound in and around the foil/braid insures continuous reliable service should the jacket be inadvertently damaged during installation or in the future.

• **LMR®- FR** is a non-halogen (non-toxic), low smoke, fire retardant cable designed for in-building runs that can be routed anywhere except air handling plenums. LMR-FR has a UL/NEC & CSA rating of 'CMR' and 'FT4' respectively. In addition, the LMR-FR series is MSHA-P rated for mining applications.

• **Flexibility** and bendability are hallmarks of the LMR-1700 cable design. The flexible outer conductor enables the tightest bend radius available for any cable of similar size and performance.

• **Low Loss** is another hallmark feature of LMR-1700. Size for size LMR has the lowest loss of any flexible cable and comparable loss to semirigid hard-line cables.

• **RF Shielding** is 50 dB greater than typical single shielded coax (40 dB). The multi-ply bonded foil outer conductor is rated conservatively at > 90 dB (i.e. >180 dB between two adjacent cables).

• **Weatherability**: LMR-1700 cables designed for outdoor exposure incorporate the best materials for UV resistance and have life expectancy in excess of 20 years.

• **Connectors**: A selection of connectors including type-N, 7/16 DIN, and 7/8 EIA flanges are available for LMR-1700. Other interfaces are available on request. Transition to interfaces smaller than type-N is best accomplished with a short jumper cable.

• **Cable Assemblies**: All LMR-1700 cable types are available as pre-terminated cable assemblies. Refer to the section on FlexTech for further details.

Part Description

Part Number	Application	Jacket	Color	Stock Code
LMR-1700-DB	Outdoor/Watertight	PE	Black	54096
LMR-1700-FR	Indoor -Riser CMR	FRPE	Black	54035

Construction Specifications

Description	Material	In.	(mm)
Inner Conductor	BC Tube (.477" ID)	0.527	(13.39)
Dielectric	Foam PE	1.350	(34.29)
Outer Conductor	Aluminum Tape	1.356	(34.44)
Overall Braid	Tinned Copper	1.402	(35.61)
Jacket	(see table above)	1.670	(42.42)

Mechanical Specifications

Performance Property	Units	US	(metric)
Bend Radius: installation	in. (mm)	13.50	(342.9)
Bend Radius: repeated	in. (mm)	17.0	(431.8)
Bending Moment	ft-lb (N-m)	40	(54.23)
Weight	lb/ft (kg/m)	0.736	(1.10)
Tensile Strength	lb (kg)	1500	(681.0)
Flat Plate Crush	lb/in. (kg/mm)	300	(5.36)

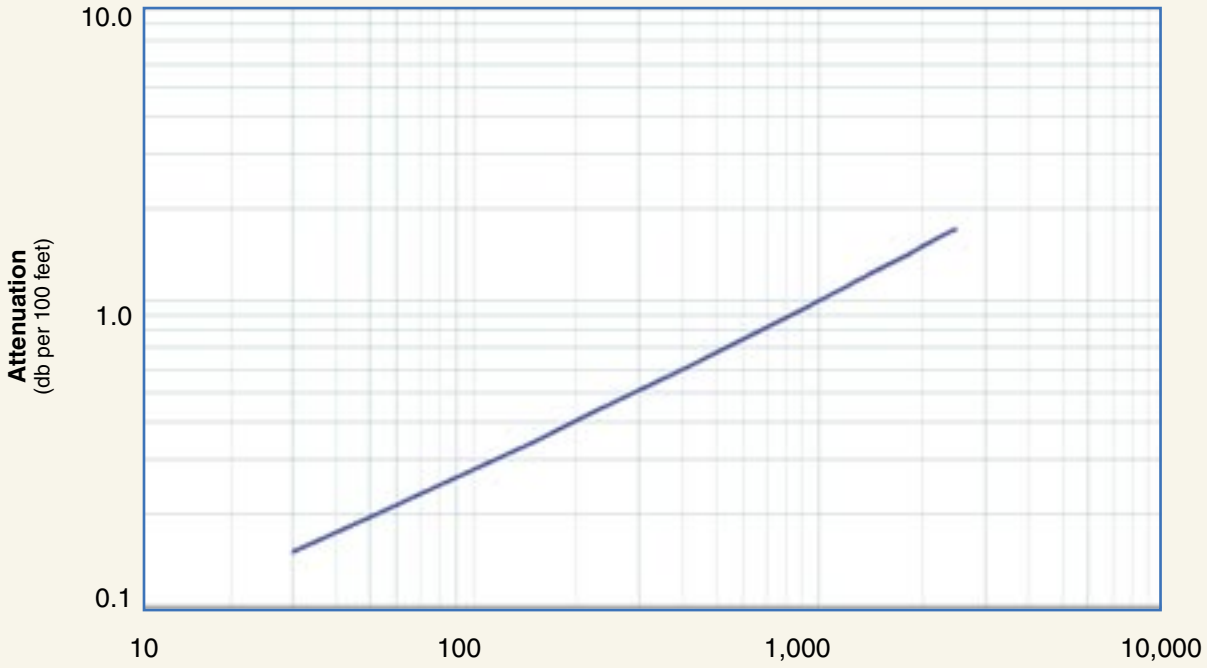
Environmental Specifications

Performance Property	°F	°C
Installation Temperature Range	-40/+185	-40/+85
Storage Temperature Range	-94/+185	-70/+85
Operating Temperature Range	-40/+185	-40/+85

Electrical Specifications

Performance Property	Units	US	(metric)
Cutoff Frequency	GHz	3.6	
Velocity of Propagation	%	89	
Dielectric Constant	NA	1.26	
Time Delay	nS/ft (nS/m)	1.14	(3.75)
Impedance	ohms	50	
Capacitance	pF/ft (pF/m)	22.8	(74.9)
Inductance	uH/ft (uH/m)	0.057	(0.19)
Shielding Effectiveness	dB	>90	
DC Resistance			
Inner Conductor	ohms/1000ft (/km)	0.21	(0.7)
Outer Conductor	ohms/1000ft (/km)	0.27	(0.9)
Voltage Withstand	Volts DC	9000	
Jacket Spark	Volts RMS	8000	
Peak Power	kW	202	

Attenuation vs. Frequency (typical)



Frequency (MHz)	30	50	150	220	450	900	1500	1800	2000	2500
Attenuation dB/100 ft	0.1	0.2	0.3	0.4	0.6	0.9	1.3	1.4	1.5	1.7
Attenuation dB/100 m	0.5	0.6	1.1	1.4	2.1	3.1	4.1	4.6	4.9	5.7
Avg. Power kW	20.27	15.55	8.72	7.09	4.79	3.23	2.40	2.15	2.02	1.76

Calculate Attenuation =
$(0.026460) \bullet \sqrt{FMHz} + (0.000160) \bullet FMHz$ (interactive calculator available at http://www.timesmicrowave.com/cable_calculators)

Attenuation:
VSWR=1.0; Ambient = +25°C (77°F)

Power:
VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F); Sea Level; dry air; atmospheric pressure; no solar loading

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EZ-1700-716FC


EZ-1700-716MC


EZ-1700-NFC


EZ-1700-NMC

Connectors

Interface	Description	Part Number	Stock Code	VSWR** Freq. (GHz)	Coupling Nut	Inner Contact Attach	Outer Contact Attach	Finish* Body /Pin	Length in (mm)	Width in (mm)	Weight lb (g)
7-16 DIN Female	Straight Jack	EZ-1700-716FC	3190-388	<1.25:1 (2.5)	NA	Press Fit	Clamp	S/S	2.17 (55)	2.2 (55.9)	1.005(455.9)
7-16 DIN Male	Straight Plug	EZ-1700-716MC	3190-387	<1.25:1 (2.5)	Hex	Press Fit	Clamp	S/S	2.17 (55)	2.2 (55.9)	1.055(478.5)
N Female	Straight Jack	EZ-1700-NFC	3190-386	<1.25:1 (2.5)	NA	Press Fit	Clamp	S/S	2.17 (55)	2.2 (55.9)	1.087(493.1)
N Male	Straight Plug	EZ-1700-NMC	3190-385	<1.25:1 (2.5)	Hex	Press Fit	Clamp	S/S	2.17 (55)	2.2 (55.9)	1.058(479.9)

* Finishes: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alballoy **VSWR spec based on 3 foot cable with a connector pair


ST-1700C


WR-1700


GST-1700A

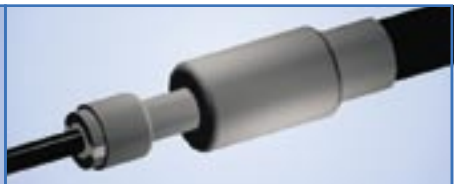

CCT-01

Install Tools

Type	Part Number	Stock Code	Description
Strip Tool	ST-1700C	3190-312	For Clamp Style Connectors
Midspan Strip Tool	GST-1700A	3190-437	For Ground Strap Attachment
Wrenches	WR-1700	3190-514	2" Box Wrench (2 required)
Cutting Tool	CCT-01	3190-1544	Cable end flush cut tool
Replacement Blade	RB-01	3190-1609	Replacement blade for cutting tool


GK-S1700TT


HG-1700T


CS-90170T, CS-60170T


SC-1700T


Standard Entry Panels


CB-1700T


Hanger Block Hardware


SH-U1700T

Hardware Accessories

Type	Part Number	Stock Code	Description
Ground Kit	GK-S1700TT	GK-S1700TT	Standard Grounding Kit (each)
Hoisting Grip	HG-1700T	HG-1700T	Split/Laced Type (each)
Cold Shrink	CS-90170T	CS-90170T	LMR-900 to -1700 Junction (each)
Cold Shrink	CS-60170T	CS-60170T	LMR-600 to -1700 Junction (each)
Standard Entry Port Cushion	SC-1700T	SC-1700T	One Cable (each)
Standard Entry Panels	Full Range of Port Styles/Combinations Available		
Hanger Blocks	CB-1700T	CB-1700T	Dual Cable Support Block (kit of 10)
Hanger Block Supporting Hardware	Complete Range of Supporting Hardware & Adapters Available		
Snap-In Hangers	SH-U1700T	SH-U1700T	Snap-In Hangers (Kit of 10)