Our Mission

TIMES MICROWAVE SYSTEMS designs and manufactures high performance RF transmission line for the telecommunications industry. These products consist of flexible coaxial cable, connectors, accessories and cable assemblies.

We are committed to understanding the needs and requirements of our customers and providing highly engineered, cost effective products. TIMES MICROWAVE SYSTEMS is dedicated to *total* customer satisfaction and superior results for our shareholders in all we do.

TIMES MICROWAVE SYSTEMS - THE COAX LEADER

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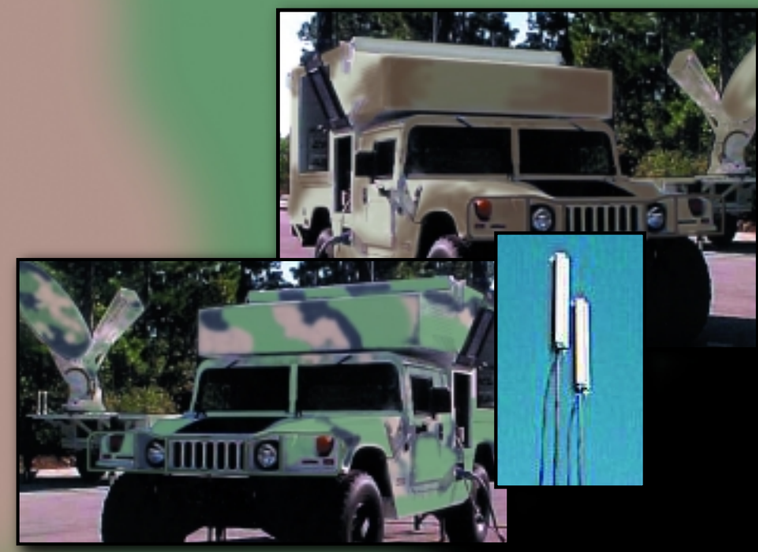
Military/Tactical Field Deployable

Antenna Feeder Cables



TIMES MICROWAVE SYSTEMS

Military/Tactical Field Deployable Antenna Feeder Cable Properties

	TCOM-400-UF	TCOM-600-UF	TCOM-600-FS	QEAM-400	QEAM-500	QEAM-810	LLSB-400 M17/223-00001	LLSB-600 M17/225-00001	LLSB-900 M17/226-00001	LLSB-1200 M17/227-00001
Loss (dB/100ft) @30 MHz	0.7	0.4	0.5	1.0	0.64	0.38	0.8	0.5	0.3	0.2
50 MHz	0.9	0.5	0.6	1.3	0.83	0.50	1.0	0.6	0.4	0.3
150 MHz	1.5	1.0	1.1	2.3	1.45	0.87	1.8	1.1	0.8	0.6
450 MHz	2.7	1.7	2.0	4.1	2.53	1.53	3.2	2.0	1.4	1.0
900 MHz	3.9	2.5	2.9	5.8	3.62	2.20	4.6	2.9	2.0	1.5
1800 MHz	5.7	3.7	4.3	8.3	5.19	3.19	6.7	4.3	2.9	2.2
2500 MHz	6.8	4.4	5.2	9.9	6.17	3.81	8.0	5.2	3.5	2.7
6000 MHz	11.0	7.4	8.8	15.6	9.86	6.20	13.0	8.7	5.9	-
10000 MHz	14.8	10.2	12.0	20.5	13.04	-	-	-	-	-
16000 MHz	19.6	-	-	26.4	-	-	-	-	-	-
18000 MHz	-	-	-	28.1	-	-	-	-	-	-
K1	0.12229	0.07555	0.08888	0.18950	0.11644	0.06926	0.14387	0.08888	0.06091	0.04396
K2	0.00026	0.00026	0.00031	0.00015	0.00014	0.00014	0.00031	0.00031	0.00019	0.00019
	Loss at other Frequencies = [K1 x $\sqrt{F}$] + [K2 x F] F = Frequency in MHz									
CW Power(kW) @30 MHz	3.0	6.0	5.0	4.0	6.0	14.0	3.0	6.0	9.0	13.0
50 MHz	2.6	4.2	3.6	2.8	4.9	11.2	2.6	4.2	6.9	9.7
150 MHz	1.5	2.4	2.0	1.6	2.8	6.4	1.5	2.4	3.9	5.5
450 MHz	0.8	1.3	1.1	0.9	1.6	3.6	0.8	1.3	2.2	3.1
900 MHz	0.58	0.93	0.8	0.7	1.1	2.5	0.6	0.9	1.5	2.1
1800 MHz	0.40	0.63	0.53	0.5	0.8	1.7	0.4	0.6	1.0	1.4
2500 MHz	0.33	0.52	0.44	0.4	0.7	1.4	0.3	0.5	0.9	1.2
6000 MHz	0.20	0.31	0.26	0.2	0.4	0.9	0.2	0.3	0.5	-
10000 MHz	0.15	0.23	0.19	0.2	0.3	-	-	-	-	-
16000 MHz	0.11	-	-	0.1	-	-	-	-	-	-
18000 MHz	-	-	-	0.1	-	-	-	-	-	-
Passive Intermod (dBc)	>-150			>-150			>-120			
Impedance (ohms)	50			50			50			
Capacitance (pF/ft)	23.9	23.4	23.4	26.4	25.4	24.7	23.9	23.4	23.4	23.1
Velocity of Propagation (%)	85	87	87	76	80	82	84	85	87	87
Dielectric Constant	1.38	1.32	1.32	1.73	1.56	1.49	1.42	1.38	1.32	1.32
DC Voltage (kV)	2.5	4	4	2	3	5	3	4	5	6
Outer Diameter (inches)	0.405	0.590	0.590	0.470	0.500	0.810	0.405	0.590	0.870	1.20
Jacket Material	PUR	PUR	PUR	PUR	PUR	PUR	XLPE	XLPE	XLPE	XLPE
Operating Temp Range (°C)	-40° to +90°			-40° to +90°			-40° to +85°			
Bend Radius (in)	4	6	6	5	5	8	4	6	9	11
Bending Moment (ft/lb)	0.5	9	9	1	1.3	6	1.75	2.75	9	15
Weight (lb/ft)	0.089	0.160	0.220	0.152	0.193	0.442	0.068	0.131	0.266	0.448
Connectors: field installable	Yes			No			Yes			
: factory installed	Yes			Yes			Yes			

Feeder cables for military/defense field deployable antennas need to be rugged enough to withstand the rigors of repeated reeling, while still providing good electrical performance and resistance to a variety of harsh environments. While corrugated copper cables and other cables designed for fixed installations are frequently used for these applications, they generally do not provide reliable long term performance, due to their inability to withstand repeat bending. Times Microwave Systems manufactures several families of cables that provide superior flexing, while still providing excellent electrical performance.

LLSB™ *This LLSB family is the most cost effective choice for field deployable applications. Although primarily recommended for fixed interconnects and other non-flexing applications, LLSB cables may be suitable for less demanding retractable antenna feeder applications. When LLSB cables are reeled on a diameter at least 20 times their cable diameter, they will withstand a few hundred reelings — an order of magnitude more than is typical for corrugated copper cable. LLSB cables are much easier to terminate and have loss similar to comparable sized corrugated copper cables. LLSB cables may be purchased either as bulk cable to be terminated by the user or as finished assemblies to meet required specifications. LLSB cables are qualified under Military Specification MIL-C-17 and a wide variety of connectors complying with the requirements of MIL-C-39012 is available.*

T-COM® *The T-COM family incorporates an outer conductor fabricated from a silver plated copper strip braid. This allows these cables to withstand several thousand reelings on a diameter at least 20 times the cable diameter. The flexstrand versions with a stranded center conductor have a lower bending moment and will have a somewhat longer bend life. These cables are also available either as assemblies or as bulk cable.*

QEAM™ *The ultimate cable design for field deployable applications is the QEAM cable. The use of a taped PTFE dielectric results in even lower bending moment and longer bend life. These cables are based on our MilTech aerospace cable assemblies. Qeam cables are sold only as finished and tested cable assemblies and provide the ultimate in reliability and performance.*

Our proven track record in providing cables for both military and commercial field deployable antenna systems includes the military's MSE (Mobile Subscriber Equipment) program, various missile launching platforms and other mission critical systems for ground based military communications and control. Although these are the products that are most commonly used for field deployable antenna feeders, they represent only a small portion of our total product line. Our sales engineers can help you determine which of our products will best fit your requirements.

Chart Notes:

1) power based on 1:1 vswr, sea level and +40°C ambient
2) power values are approximations, generally conservative and based on the cable's heat transfer properties
3) PUR = polyurethane
   XLPE = cross-linked polyethylene
4) All standard connector interface types available