Ham Radio Pro Cables

M&P

MESSI & PAOLONI

CE

RoHS COMPLIANT 2002/95/EG

45,3% lighter than average 10,3 mm full copper cables

19dB @ 2400 Mhz by far the most performant of its class (10,3 mm cables)

M&P AIRBORNE 10 /.400"

"Shack Master"

High resistance copper clad aluminium screen (**CCA**) made by means of **24 spools** braiding machines.(50% more crossovers if compared to traditional 16 spools machines.) This braid is **HIGHLY EFFECTIVE AGAINST LOW FREQUENCY IMPULSIVE NOISES.**

SCREENING PERCENTAGE:
78% 168 wires

Trampling-resistant, UV shielded PE jacket to be used in particular for underground and harsh environments outdoor installations.

PE Ø 10,3 mm ± 0,15
(0.405 inches ± 0.0059)

Direct Burial

High pressure physical injection foamed polyethylene
TRIPLE LAYER DIELECTRIC
FPE Ø 7,3 mm ± 0,05
(0.287 inches ± 0.0019)

DXpedition

Waterproof

Sturdy

The copper foil has an applied PE-coating, placed in order to prevent foil cracking due to short radius bends.
SCREENING PERCENTAGE 100%
CU-POL

Inner conductor: annealed copper clad aluminium
(annealed = thermal softening process)
CCA Ø 2,78 mm ± 0,05 (0.109 inches ± 0.0019)

ATTENUATION at 20°C/68°F

FREQUENCY	dB/100m	dB/100ft
1,8 MHz	0,65	0,20
3,5 MHz	0,85	0,26
7,0 MHz	1,08	0,33
10 MHz	1,20	0,37
14 MHz	1,39	0,42
21 MHz	1,75	0,53
28 MHz	1,93	0,59
50 MHz	2,45	0,75
100 MHz	3,52	1,07
144 MHz	4,20	1,28
200 MHz	5,0	1,52
400 MHz	7,2	2,19
430 MHz	7,6	2,32
800 MHz	10,4	3,17
1000 MHz	11,8	3,6
1296 MHz	13,6	4,15
2400 MHz	19,2	5,85
3000 MHz	21,6	6,58
4000 MHz	25,6	7,80
5000 MHz	29,2	8,9
6000 MHz	32,8	10,0
7000 MHz	35,6	10,85
8000 MHz	38,6	11,77
10.000 MHz	44,6	13,59
12.000 MHz	50,2	15,30

ELECTRICAL DATA

Impedance @200MHz :	50 Ohm ± 3	
Minimum bending radius:		
Multiple bends/single bend	103/65 mm	**(4.05/2.56 in)**
Temperature:	-45°C to + 70° C	**(-49°F to +158°F)**
Capacitance:	74 pF/m ± 2	**(22.6 pF/ft ± 2)**
Velocity ratio:	87 %	
Screening efficiency:		
100-2000 MHz	>105 dB	
Class	A++	
Inner conductor resistance:	4,4 Ohm/Km	**(1.3 Ohm/1000ft)**
Outer conductor resistance:	12 Ohm/Km	**(3.7 Ohm/1000ft)**
Tension test (spark test):	8 kV	
Weight (100m/100ft):	7 Kg	**(4.7 lb)**
Maximum peak power:	14500 WATT	

Connectors: C.BNC.BROAD50-M ; CO.N.10M-S ; CO.UHF.10M-S ; C.BROAD.PL259-A ; C.TNC.BROAD50-M-S

SRL

0,3-600 MHz	>30 dB
600-1200 MHz	>25 dB
1200-2000 MHz	>20 dB

POWER HANDLING (at 40°C/104°F)

FREQUENCY	MAXP	FREQUENCY	MAXP
1,8 MHz	10831 W	430 MHz	944 W
3,5 MHz	8471 W	800 MHz	692 W
7,0 MHz	6667 W	1000 MHz	610 W
10 MHz	6000 W	1296 MHz	529 W
14 MHz	5180 W	2400 MHz	375 W
21 MHz	4114 W	3000 MHz	333 W
28 MHz	3731 W	4000 MHz	281 W
50 MHz	2939 W	5000 MHz	247 W
100 MHz	2045 W	6000 MHz	220 W
144 MHz	1710 W	7000 MHz	202 W
200 MHz	1440 W	8000 MHz	187 W
400 MHz	992 W	10.000 MHz	161 W

OUR PRODUCTS ARE MANUFACTURED IN COMPLIANCE WITH: CEI 46-1 (construction parameters); EN 50117(screening efficiency); CEI EN 50289(SA test methods); CPR305/11(EN50575:2014 - DoP number: MP0096)

Given a power fed to the X value (any value expressed in Watts), the actual power output of the cable is shown in the table in the form of remaining percentage. (for example, if we use a cable such as M&P-AIRBORNE 10, entering 1000 Watts over a length of 35m, at a frequency of 144 MHz, there remains 71.2% of 1000). **For maximum applicable power, see the Power Handling of the cable concerned.** From these values, have already been deducted the SRL values, typical of each one of our models, for the respective frequencies.

REMEMBER: Make sure to match the line accurately!

M&P-AIRBORNE 10 /.400"

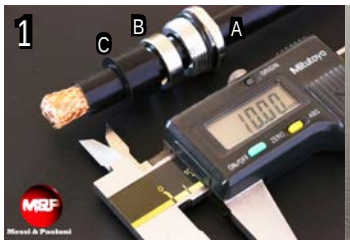
Frequencies (MHz)	length in meters													Useful signal output (residual power %)
	5	10	15	20	25	35	50	75	100	130	160	200	300	
3,5	98.9	98	97	96.1	95.2	93.3	90.6	86.4	82.2	77.6	73	67.6	55.5	
7	98.7	97.5	96.3	95.1	93.9	91.6	88.3	82.9	77.9	72.4	67.1	60.8	47.4	
14	98.4	96.8	95.3	93.7	92.4	89.3	85.1	78.6	72.6	65.9	59.9	52.7	38.2	
28	97.8	95.6	93.5	91.4	89.4	85.5	80	71.7	64	56.2	49.1	41	26.3	
50	97.2	94.5	91.8	89.3	86.8	82	75.4	65.4	56.8	48	40.5	32.3	18.4	
144	95.2	90.7	86.4	82.3	78.4	71.2	61.6	48.3	37.9	28.3	21.2	14.4	5.4	
430	91.5	83.8	76.7	70.3	64.4	54	41.5	26.8	17.2	10.1	5.9			
1200	85.4	73.3	63	54	46.4	34.2	21.5	9.8	4.2					
2400	78	61.8	48.9	38.6	30.4	18.7	8.6							
3000	75.2	57.4	43.8	33.2	25.2	14.2	5.6							
4000	71.2	51.4	37	26.5	18.9	9.2								
5000	67.2	45.9	31.1	20.9	13.8	5.6								
6000	63.4	40.9	26.2	16.4	9.9									
8000	57	33	19	10										
10.000	50	20.6	12											
12.000	45	18												

M&P-AIRBORNE 10 /.400" (Power Handling/Temperature)

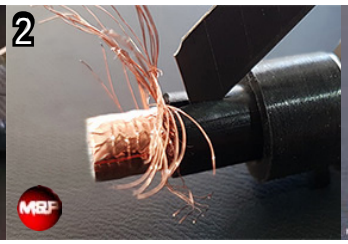
Frequencies / Frequenze (MHz)	Temperature C° / F°										WATT
	-10 / 14	-5 / 23	0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	60 / 140	70 / 158	
1,8	13300	13300	13300	13300	12900	12174	10831	9239	7647	6065	
3,5	13112	12672	12299	11520	10605	9521	8471	7225	5980	4744	
7	10320	9973	9680	9067	8347	7493	6667	5687	4707	3733	
10	9288	8976	8712	8160	7512	6744	6000	5118	4236	3360	
14	8018	7749	7521	7045	6485	5822	5180	4418	3657	2901	
21	6369	6155	5974	5595	5151	4624	4114	3509	2905	2304	
28	5775	5581	5417	5074	4671	4193	3731	3182	2634	2089	
50	4549	4396	4267	3997	3679	3303	2939	2507	2075	1646	
100	3166	3060	2970	2782	2561	2299	2045	1745	1444	1145	
144	2647	2558	2483	2326	2141	1922	1710	1459	1207	958	
200	2229	2154	2091	1958	1803	1619	1440	1228	1017	806	
400	1535	1484	1440	1349	1242	1115	992	846	700	555	
430	1461	1412	1370	1283	1181	1061	944	805	666	528	
800	1072	1036	1005	942	867	778	692	591	489	388	
1000	945	913	886	830	764	686	610	520	431	342	
1296	820	792	769	720	663	595	529	452	374	296	
2400	581	561	545	510	470	422	375	320	265	210	
3000	516	499	484	453	417	375	333	284	235	187	
4000	435	421	408	383	352	316	281	240	199	158	
5000	382	369	358	335	309	277	247	210	174	138	
6000	340	328	319	299	275	247	220	187	155	123	
7000	313	303	294	275	253	227	202	173	143	113	
8000	289	279	271	254	234	210	187	159	132	104	
9000	269	260	252	236	217	195	173	148	122	97	
10000	250	242	234	220	202	181	161	138	114	90	

Connector assembly

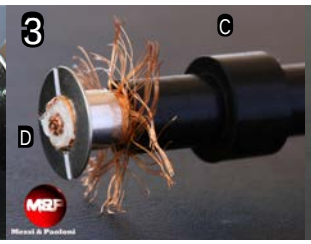
Connector “N” type : CO.N.10M-S



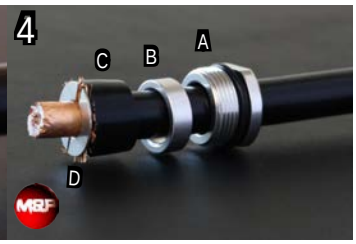
Insert in the cable components A, B, C and immediately after, make a circular cut on the black PVC jacket at the indicated length shown in the caliber (in mm). Subsequently remove it.



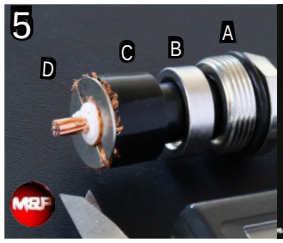
Make a cut on the jacket of 7mm, than rotate the cable of 180° and make an other equal cut.



Insert component D after having opened the braid as shown in the picture. Push component D between the foil and the braid until it stops against the black PVC jacket.

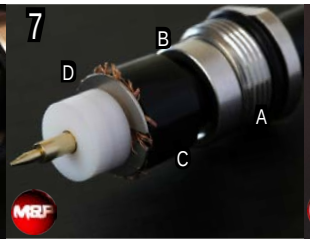


Flatten the wires as shown in the picture and cut the excess.



Cut and remove the tape and dieletric for a length as shown in the picture (6mm).

Insert one of the two teflon discs and subsequently the central pin. Solder the pin to the inner conductor, inserting tin in the provided hole. Avoid heating the pin for a too long time in order not to transfer excessive heat to the highly conductive copper underneath. Excessive heat deforms the dielectric which is made of foam PE and not in teflon!.

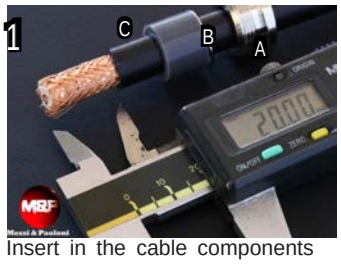


Insert the second teflon disc as shown in the picture.

Wrench 18mm (23/32”)

Insert the connector and fasten accurately until the o-ring present in component A, will be pressed against the connector body. Inside, the rubber component C (pic. 1) will expand, granting optimal sealing against moisture and a perfect contact to ground.

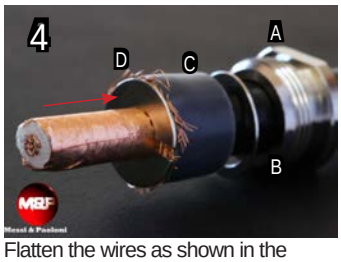
Connector “UHF” type : CO.UHF.10M-S



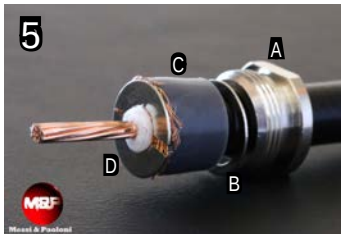
Insert in the cable components A, B, C and immediately after, make a circular cut on the black PVC jacket at the indicated length shown in the caliber (in mm). Subsequently remove it.

Make a cut on the jacket of 7mm, than rotate the cable of 180° and make an other equal cut.

Insert component D after having opened the braid as shown in the picture. Push component D between the foil and the braid until it stops against the black PVC jacket.

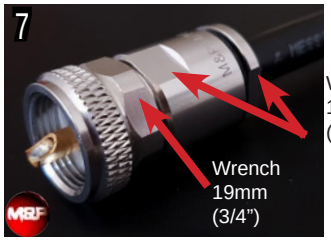


Flatten the wires as shown in the picture and cut the excess.



Cut and remove the tape and dieletric for a length as shown in the picture (6mm).

Insert the connector and solder it with tin to the inner conductor (see picture above). Avoid heating the pin for a too long time in order not to transfer excessive heat to the highly conductive copper underneath. Excessive heat deforms the dielectric which is made of foam PE and not in teflon!.



Wrench 18mm (23/32”)

Fasten together the connector and component A, until it will be pressed against the connector body. Inside, the rubber component C (pic. 1) will expand, granting optimal sealing against moisture and a perfect contact to ground.

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CONNECTORS for 10,3mm/.400” cables

N solder male

N solderless male

N solderless female

N at 90°

NO braid soldering needed!

Perfect match with M&P PRO cables! 105dB (SA)

Humidity proof compression design!

Dramatic suppression of the background noise!

N crimp male

UHF/PL solder male

UHF/PL solder female

CONNECTORS for 10,3mm/.400” cables

PL259 AMPHENOL©

BNC solder male

SMA solder male

TNC solder male

NO braid soldering needed!

Perfect match with M&P PRO cables! 105dB (SA)

Humidity proof compression design!

Dramatic suppression of the background noise!

TNC crimp male

7/16

Heat Suppressor