

# MESSI & PAOLONI



**JACKET :**  
 UV-resistant black LSZH  
 overall Ø 10,3mm ± 0,15  
 (0.405 inches ± 0.0059)



**REACTIVE BRAID :**  
 71% SCREENING - 144 wires of copper  
 made with 24 spool machines (instead of 16). Thanks to 50%  
 more crossovers, grants exceptional Screening Attenuation  
 (SA) and reacts to twisting and bending like a spring

**FOIL: 100% SCREENING**  
 First screen made of copper

| ATTENUATION (20°C/68°F) |         |          |
|-------------------------|---------|----------|
| FREQUENCY               | dB/100m | dB/100ft |
| 1,8 MHz                 | 0,6     | 0,2      |
| 3,5 MHz                 | 0,8     | 0,2      |
| 7 MHz                   | 1,0     | 0,3      |
| 10 MHz                  | 1,2     | 0,3      |
| 14 MHz                  | 1,3     | 0,4      |
| 21 MHz                  | 1,7     | 0,5      |
| 28 MHz                  | 1,9     | 0,5      |
| 50 MHz                  | 2,4     | 0,7      |
| 100 MHz                 | 3,5     | 1,0      |
| 144 MHz                 | 4,2     | 1,2      |
| 200 MHz                 | 5,0     | 1,5      |
| 400 MHz                 | 7,2     | 2,1      |
| 430 MHz                 | 7,6     | 2,3      |
| 800 MHz                 | 10,4    | 3,1      |
| 1000 MHz                | 11,8    | 3,6      |
| 1296 MHz                | 13,6    | 4,1      |
| 2400 MHz                | 19,2    | 5,8      |
| 3000 MHz                | 21,6    | 6,5      |
| 4000 MHz                | 25,6    | 7,8      |
| 5000 MHz                | 29,2    | 8,9      |
| 6000 MHz                | 32,8    | 10,0     |
| 7000 MHz                | 35,6    | 10,8     |
| 8000 MHz                | 38,6    | 11,7     |
| 10.000 MHz              | 44,6    | 13,5     |
| 12.000 MHz              | 50,2    | 15,3     |

**DIELECTRIC :**  
 High pressure physical injection  
 foamed polyethylene  
**TRIPLE LAYER**  
 overall Ø 7,3 mm ± 0,05 (0.287 inch. ± 0.0019)

**INNER CONDUCTOR :**  
 made of copper clad aluminium  
 overall Ø 2,78 mm ± 0,05 (Ø 0.109 inches ± 0.0019)



## ELECTRICAL DATA

|                             |  |
|-----------------------------|--|
| Impedence @200Mhz:          | 50 Ohm ± 3   |
| Minimum bending radius:     | { up to 15 bends: 103mm (4.05 in)<br>single bend (choke): 65mm (2.56 in) |
| Temperature:                | -40°C to +60°C (-40°F to +140°F)   |
| Capacitance:                | 74 pF/m ± 2 (22.6 pF/ft ± 2)   |
| Velocity ratio:             | 87%  |
| Screening Efficiency (SA)   | 100-2000 MHz >105 dB   |
| Screening Class:            | A++  |
| Inner conductor resistance: | 4,4 Ohm/Km (0.9 Ohm/1000ft)  |
| Outer conductor resistance: | 9,2 Ohm/Km (2.8 Ohm/1000ft)  |
| Tension test (spark test):  | 8 kV   |
| Net weight (100m/100ft):    | 11 Kg (7.5 lb)   |
| Maximum peak power:         | 14.500 WATT  |
| Connectors:                 | UHF (PL), N, BNC, SMA, TNC, 7/16   |

## SRL

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

## POWER HANDLING (40°C/104°F)

| FREQUENCY | MAX P.  | FREQUENCY  | MAX P. |
|-----------|---------|------------|--------|
| 1,8 MHz   | 10831 W | 430 MHz    | 944 W  |
| 3,5 MHz   | 8471 W  | 800 MHz    | 692 W  |
| 7 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); R118 (ISO7622-1);  
 IEC 60332-1-2 (cables with PVC and LSZH jacket); CPR305/11 (EN50575:2014 - DoP number: MP00119)



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-ABOARD, 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!**

| <b>M&amp;P-ABOARD 10,3 /.400"</b> |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| length in meters                  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                                   | 5    | 10   | 15   | 20   | 25   | 35   | 50   | 75   | 100  | 130  | 160  | 200  | 300  |      |
| Frequencies (MHz)                 | 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   |      |      |      |      |      |      |      |      |      |      |      |      |

Useful signal output (residual power %)

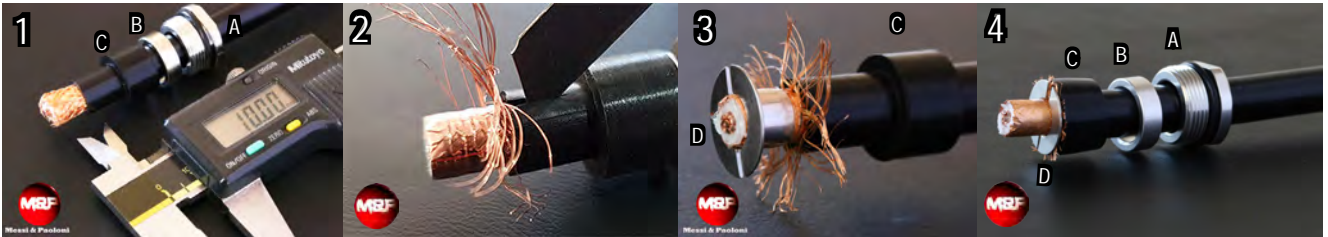
### M&P-ABOARD 10,3 /.400" (Power Handling/Temperature)

| Temperature °C / °F           |          |         |        |         |         |         |          |          |          |          |      |
|-------------------------------|----------|---------|--------|---------|---------|---------|----------|----------|----------|----------|------|
|                               | -10 / 14 | -5 / 23 | 0 / 32 | 10 / 50 | 20 / 68 | 30 / 86 | 40 / 104 | 50 / 122 | 60 / 140 | 70 / 158 |      |
| Frequencies / Frequenze (MHz) | 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       |      |

WATT

# Connector assembly

## Connector "N" type

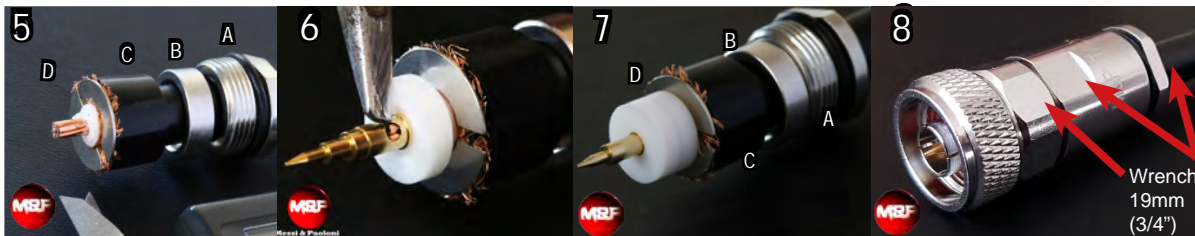


1 Insert in the cable components A, B, C and immediately after, make a circular cut on the black PVC jacket at the indicated length shown in the caliber (in mm). Subsequently remove it.

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

3 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.

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



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

6 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!.

7 Insert the second teflon disc as shown in the picture.

8 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.

Wrench 18mm (23/32")

Wrench 19mm (3/4")

## Connector "UHF" type

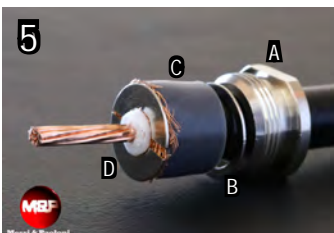


1 Insert in the cable components A, B, C and immediately after, make a circular cut on the black PVC jacket at the indicated length shown in the caliber (in mm). Subsequently remove it.

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

3 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.

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



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



6 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!.



7 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.

Wrench 18mm (23/32")

Wrench 19mm (3/4")



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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

