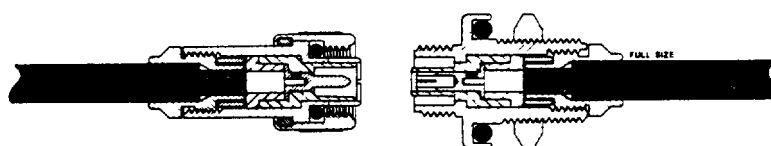


? Assembly H's - C. requires these.

310 049.
↓
062.

PET CONNECTORS SERIES 100



Precision Electronic Terminations (EMI) Ltd.

SERIES 500

For larger flexible coaxial cables e.g. URM74, this series permits use up to 50 kV D C and can be moulded directly to this type of cable for extremely reliable operation.

Three pole versions within this series have been introduced for use in electron microscope and similar applications where working voltage between poles is 2 kV and poles to shell 50 kV.

SERIES 700

Comprises a series of BNC connectors, intermateable with items manufactured to U S Mil Spec Mil-C-39012 and the relevant BS9210 specifications.

Design features include captive centre contacts and the well known P E.T. cable entry as used in the 100 and 200 series for simplicity of assembly and efficiency of electrical contact and cable retention

SERIES 900

This is the BNC Pattern 13 sealed range as listed in Defence Standard 59-35 (Part 2) Sect. 2 of which P.E.T. are the only approved manufacturers of types in this range.

PATTERN 4

Manufactured in accordance with Defence Standard 59-35 (Part 2) Sect 5 This very robust series of sealed RF connectors has no comparable replacement and is used on service equipment in very large quantities.

TELCONNECTORS

A connector series of very robust construction accommodating cables up to 1" diameter including helical membrane aluminium sheathed types.

Included are plugs, sockets, couplers etc., for weather proof and pressurised systems, plus standard 'N' and 'C' type interface outlets.

ANCILLARIES

Oscilloscope Probe Kits comprising passive network, X1 and X10 probes with crocodile clip and sprung tip accessories.

The standard kit is designed to work with oscilloscopes having an input impedance of 1 M ohm and 15-45 pf capacitance over a range of D.C. to 50MHz.

Coaxial Switches — P.E.T. standard range includes up to 6 way switching with 'N', 'C' or P E T 484 outlets, with or without auxiliary microswitches.

P.E.T. offer full facilities for the development and production of any specialised terminations or connector assemblies, and our Technical staff will be pleased to discuss customers special requirements.

Introduction

The P.E.T. series 100 Sub-miniature E.H.T. connectors offers a series of versatile interchangeable designs available either in a demountable or completely moulded form.

In demountable form, the connectors permit rapid and simple assembly for use in the laboratory, emergency field repairs or in production where design or quantity limitations preclude the use of moulded assemblies.

The moulded versions provide an improved E.H.T. rating and are generally supplied when complete connector assemblies on specified lengths of cable are required

Cable entries are available for any particular cable required up to 0.285 inch diameter. They are suitable, not only for standard coaxial cables to BS 2316 but will also accept semi-air spaced, non-microphonic and other cables

Perusal of this catalogue will show that included in the series 100 range are 2 Pole connectors, Snap-in connectors, Protective Caps, Identification sleeves and Adaptors.

Mechanical Data

Material

Shell	High tensile brass with nickel plate finish.
Insulation	Moulded connectors: Polythene. Demountable connectors: P.T.F.E. unless otherwise stated.
Centre Contacts	Female contacts: Beryllium Copper with silver plate finish Male contacts : High tensile brass with silver plate finish.
Seals	Silicone Rubber.

Sealing

Series 100 connectors are interface sealed when mated, and bulkhead types are supplied with panel seals. Moulded connector assemblies are completely sealed. Where appropriate, sealing conforms to the requirements of BS 9210 i.e. leakage rate of $1\text{cm}^3/\text{hr.}$ max with a pressure differential of 100 KN/m^2 (At ambient temperature.)

Working Temp.

Moulded Polythene insulation	-40° to +70°C.
P.T.F.E. insulation	-55° to +150°C.

Electrical Data

Impedance Matching

The series 100 range of coaxial connectors is designed to match a 50 ohm system and at 1,500 MHz the V.S.W.R. does not exceed 1.3

Working Voltage

The actual working voltage depends to a great extent upon the application, but as an indication for high voltage usage the following figures are typical

	D.C.	A.C.
Moulded Connectors	5kV	4kV pk.
Demountable Connectors	3kV	3kV pk
2 Pole Connectors (between pins)	500 V	
2 Pole Connectors (pin/shell)	1kV	

Flashover Voltage

The maximum d.c. flashover voltage between inner conductor and outer shell at 760 mm Hg. 20° C is -

Mated Coaxial Demountable Connectors	9kV
Mated Coaxial Moulded Connectors	11kV
Coaxial unmated	5kV

Inception Voltage

The inception voltage of a mated moulded connector is 3kV, R.M.S. 50 Hz

Current Rating

Coaxial connectors—2.5 Amps R.M.S.
2 Pole connectors—1.0 Amps R.M.S.

Contact Resistance

The overall contact resistance does not exceed 3 milli-ohms for the inner and outer conductor circuits.

Insulation Resistance

The insulation resistance is better than 100,000 Megohms measured at 5kV for demountable and 6kV for moulded coaxial connectors

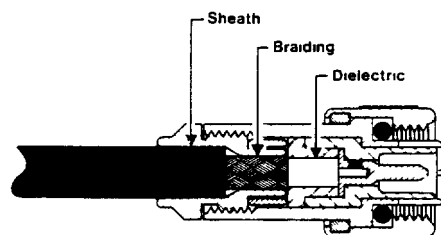
Capacitance

The capacitance of a completely mated pair of connectors is 2.8 pF

Cable Entry Codes

CODE XXX	SUITABLE CABLES (COAXIAL)	MAXIMUM DIAMETER					
		INCHES			MILLIMETRES		
		Sheath	Braid	Diel.	Sheath	Braid	Diel.
01A	UR 94 N03/50 G01122 T 3102 T 3202	.080	.060	.050	2.04	1.53	1.27
02A	G01239/45H G02232-H-3 K01292	100	070	050	2.54	1.77	1.27
03A	URM.95 RG 188/U RG 174/U G02232 T.3204	.115	.080	.070	2.92	2.04	1.77
04A	N03/75 G02123	.115	.094	.070	2.92	2.38	1.77
05A	T.3006 T(M)3008	160	.105	.090	4.06	2.67	2.29
05B	T.3187 T.3188	.160	.105	.070	4.06	2.67	1.77
06A	T(M)3171 LD0040.9 LD0050.9	.175	.125	100	4.45	3.17	2.54
06B	J02230 J02230A	175	125	090	4.45	3.17	2.29
07A	URM.43 URM 72 URM.76 URM.108 RG.58C/U	.200	.145	.120	5.08	3.68	3.05
07C	T.3250 T.3252	200	145	.100	5.08	3.68	2.54
08A	T(M)3172 LD0070.9 LD0080.9	210	160	.130	5.33	4.06	3.30
09A	UR.41 UR.56 UR.70 T.3189	.233	.170	.130	5.92	4.32	3.30
09B	UR.104 T.3235 K03293	.233	.170	.155	5.92	4.32	3.94
09C	T.3328	.233	.170	.120	5.92	4.32	3.05
11A	URM.90 UR.96 RG.59/U T.3248	.255	.178	.155	6.47	4.52	3.94
12A	T.3283	237	184	.155	6.02	4.67	3.94
*13B	T.3231	.285	.210	.180	7.24	5.33	4.57
14A	LD0100.9	.310	.230	.200	7.87	5.84	5.08
15A	UR 39 T.3251 T(M)3205 T(M)3141	.325	.250	.200	8.26	6.35	5.08
21A	RG.59.B/UH.T J04230	245	192	.155	6.22	4.87	3.94
24A	T.3174	.255	184	.155	6.48	4.67	3.94
SUITABLE CABLES (2-POLE)							
7D	PERMANOID 250	.200	.145	.090	5.08	3.68	2.29

*SPECIAL FOR SEMI-AIR SPACED CABLES ONLY



When considering the suitability of cables not listed above, the three dimensions illustrated show their relative importance from electrical and mechanical aspects

The cable dielectric must be a good fit inside the rear insulator of the connector to ensure correct matching and good insulation

Cable braiding requires to be as tight as is practical in the front portion of the body nut for efficient cable retention and electrical contact

A good dust and dirt seal is ensured by making the cable sheath a tight fit in the rear portion of the body nut

When considering these dimensions, account must be taken of cable manufacturers tolerances. Sizes shown in the table above indicate maximum diameters acceptable

Leave this page open for making quick reference to cable entry codes when selecting connectors on pages 6, 7, 15, 16.

Ordering Procedure

Demountable Connectors

- (a) Ascertain from data sheets type of connector required. Each connector has a part number comprising six plus three plus two digits. The middle three digits are variable and depend on the cable used — see (b).
- (b) Decide on suitable cable for use with the connector and determine its cable entry code from the chart on page 4. This will provide the middle three digits to the connector part number. The chart shows a comprehensive range of cables, but other cables of comparable size may also be accommodated. For cables not covered by the chart, consult P.E.T.'s technical department.
- (c) Items other than cable outlet types have a full eleven digit part number.

Example —

Type 101 connector free — Part No. 501101—XXX—01 for use with cable Uniradio M43—Cable entry code—07A.

Purchasing Description — 101/BNP/PTFE/Dem — Part No 501101-07A-01

Moulded and Demountable Connector Assemblies

These assemblies are generally restricted to cables with a polythene or P.V.C. sheath and polythene dielectric, being either solid, semi-air spaced, high Z_0 , foam or filament types.

For other types consult P.E.T. technical department.

Where voltages are not critical and quantities small, it is recommended that demountable connector assemblies be used.

- (a) Decide whether demountable or moulded connectors are to be used.
- (b) Select connector type required for one or both ends of cable. Each connector has a part number for moulded or demountable types consisting of six digits plus three variable digits [see (c)] plus two digits.
- (c) Decide which cable is suitable for the assembly and determine its cable entry code from the chart on page 4. This will provide the middle three digits to the connector part number.
- (d) Select suitable length of exposed cable. Unless otherwise specified the exposed length of cable will be subject to a ± 1 inch tolerance.

Example 1. For a moulded assembly on one end of cable

Connector selected—Type 101 moulded — Part No. 510131—XXX—01

Cable selected —Uniradio M43 — cable code 07A.

Exposed length —36 inches.

Therefore Purchasing Description=101/BNP/MLD — 36 inches UR M43

Part Number=510131 — 07A — 01/36 inches Exp. UR M43.

Example 2. For a demountable assembly on both ends of cable.

Connectors selected—Type 102 demountable Part No 501102—XXX—01.

Type 121 demountable Part No. 501121—XXX—01

Cable selected —Uniradio M43—Cable Code 07A.

Exposed length —1 metre.

Therefore Purchasing Description=102 — 121/BNP/DEM — each end 1 metre UR M43

Part Number=501102—07A—01/501121—07A—01/1 metre Exp. UR M43

Note: Any combination of connectors from pages 5 and 7 can be supplied as moulded or demountable connector cable assemblies.

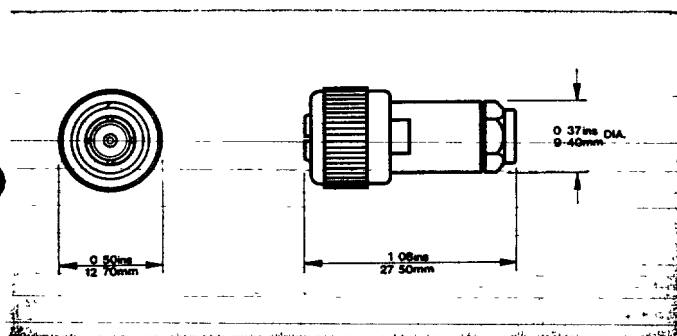
SERIES 100

Cable Outlet

COAXIAL

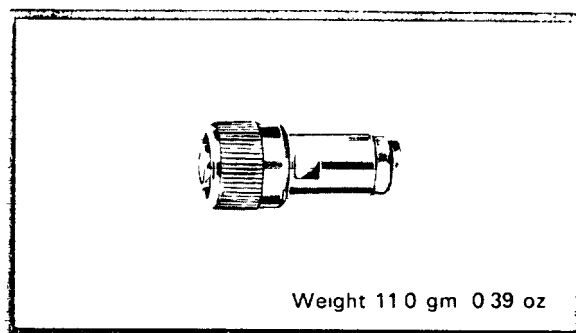
PART No	DESCRIPTION
501101-XXX-01	101/BNP/PTFE/Demountable
510131-XXX-01	101/BNP/POLY/Moulded

XXX refer to cable entry codes page 4



Type 101

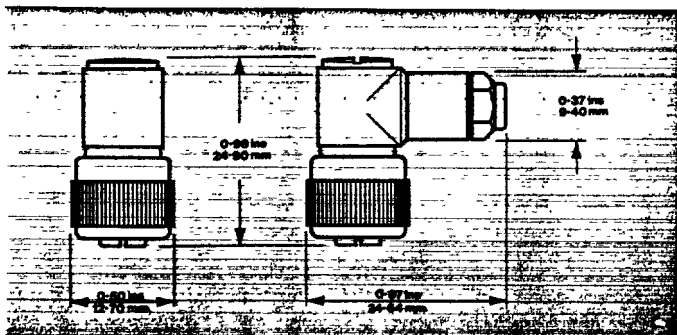
Connector Free
Straight Entry
Male Pin



Weight 11.0 gm 0.39 oz

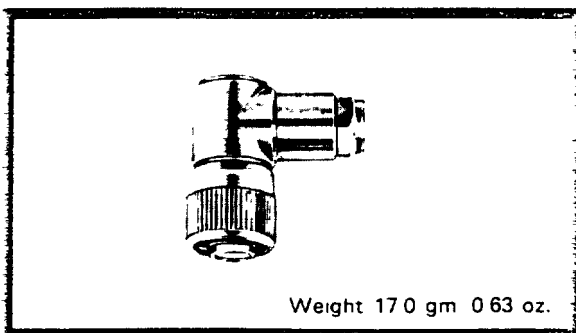
PART No.	DESCRIPTION
501102-XXX-01	102/BNP/PTFE/Demountable
510132-XXX-01	102/BNP/POLY/Moulded

XXX refer to cable entry codes page 4



Type 102

Connector Free
90° Angle Entry
Male Pin



Weight 17.0 gm 0.63 oz.

For cable assembly instructions see page 8.

SERIES 100

Cable Outlet

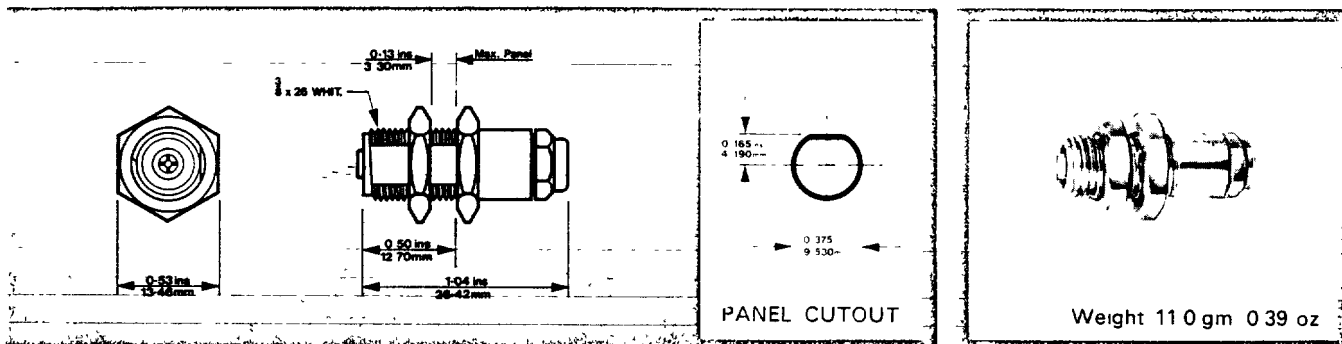
COAXIAL

PART No.	DESCRIPTION
501111-XXX-01	111/BNP/PTFE/Demountable
510133-XXX-01	111/BNP/POLY/Moulded

XXX refer to cable entry codes page 4

Type 111

Connector Fixed/Free
Straight Entry
Female Contact

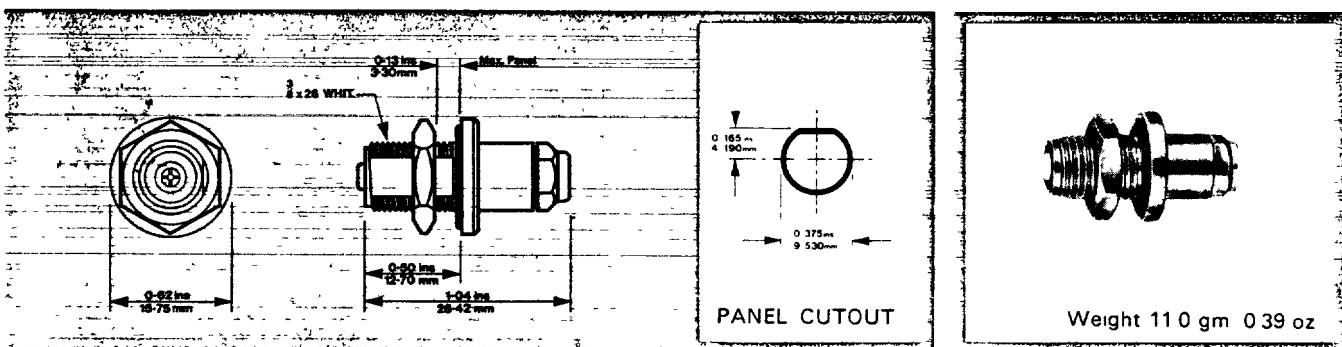


PART No.	DESCRIPTION
501121-XXX-01	121/BNP/PTFE/Demountable
510134-XXX-01	121/BNP/POLY/Moulded

XXX refer to cable entry codes page 4

Type 121

Connector Fixed (front)
Straight Entry
Female Contact

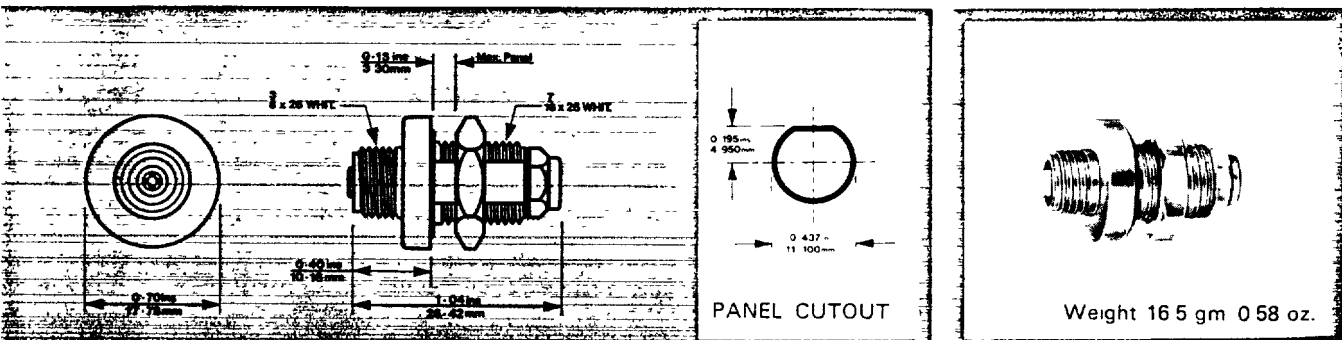


PART No.	DESCRIPTION
501122-XXX-01	122/BNP/PTFE/Demountable
510135-XXX-01	122/BNP/POLY/Moulded

XXX refer to cable entry codes page 4

Type 122

Connector Fixed (rear)
Straight Entry
Female Contact

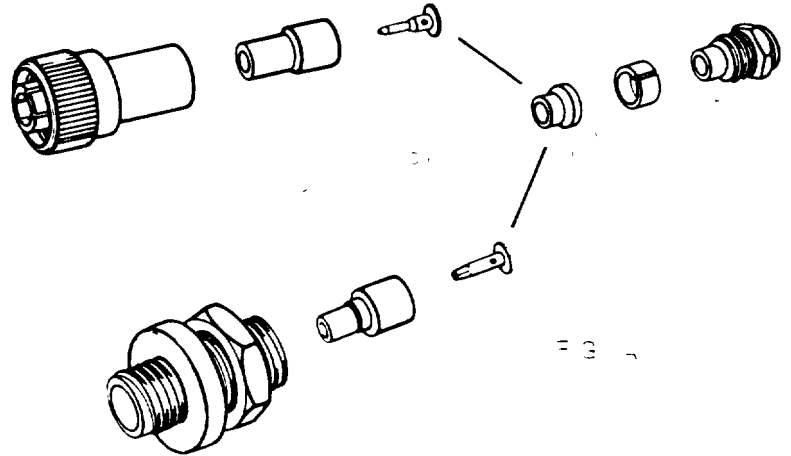


SERIES 100

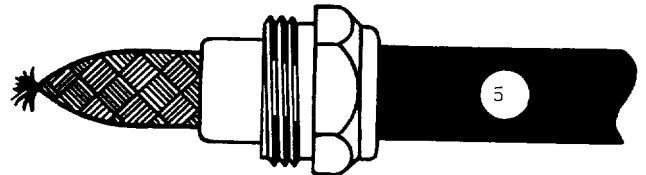
Assembly Instructions

COAXIAL

BODY ASSEMBLY
FRONT INSULATOR
BRAID CONTACT
REAR INSULATOR
BRAID RING
BODY NUT



CUT FACE OF
CABLE SQUARE

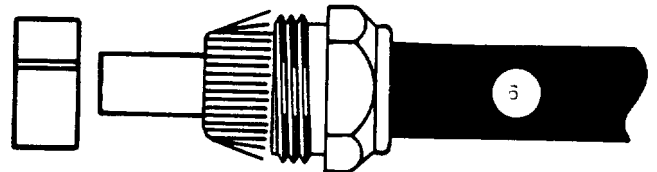


SLIDE BODY NUT
OVER BRAID UNTIL
SHEATH REACHES
INTERNAL SHOULDER



$\frac{1}{4}$

CUT BACK SHEATH
TO EXPOSE BRAIDED
SHEATH

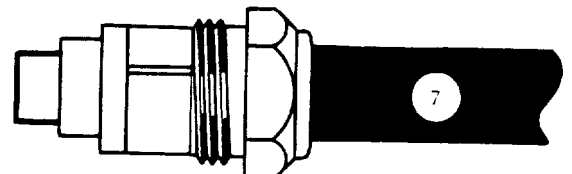


COMB BACK BRAID
OVER BODY NUT SPIGOT
AND CUT OFF SURPLUS
PUSH BRAID RING OVER
INTERNAL BRAID



$\frac{1}{4}$

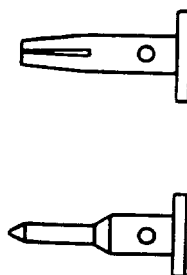
PUSH BACK BRAID
AND CUT THROUGH
ELECTRIC AND MECHANICAL
ISOLATOR



SLIDE REAR INSULATOR
OVER DIELECTRIC
AND BACK DIELECTRIC
ALONG WITH FRONT FACE
INSULATOR TO EXPOSE
REAR DIELECTRIC



CUT BACK OVER
REAR DIELECTRIC
AND CUT THROUGH
ELECTRIC AND MECHANICAL
ISOLATOR



CUT BACK OVER
REAR DIELECTRIC
AND CUT THROUGH
ELECTRIC AND MECHANICAL
ISOLATOR

ALL DIMENSIONS GIVEN IN INCHES

FINAL ASSEMBLY CAN NOW BE MADE
BY REFERRING TO FIG. A.

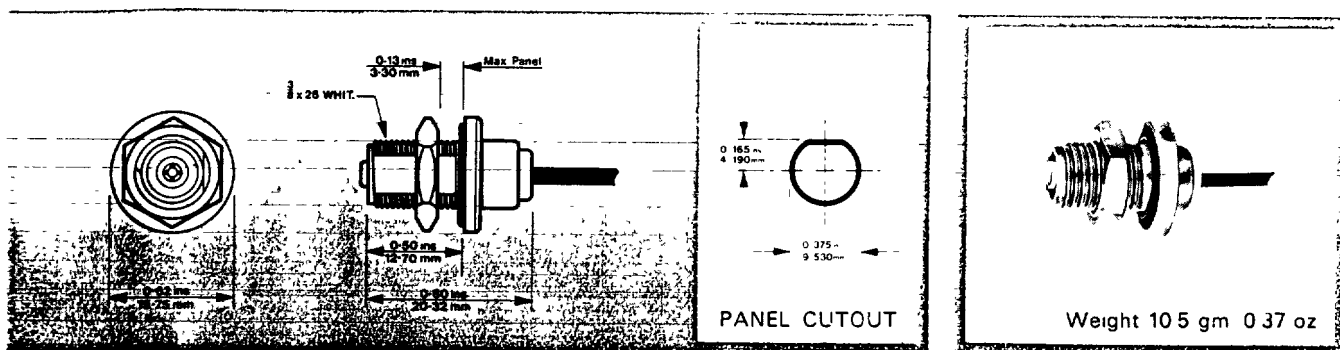
SERIES 100

Insulated Flylead COAXIAL

PART No.	DESCRIPTION
501131-000-01	131/BNP/POLY

Type 131

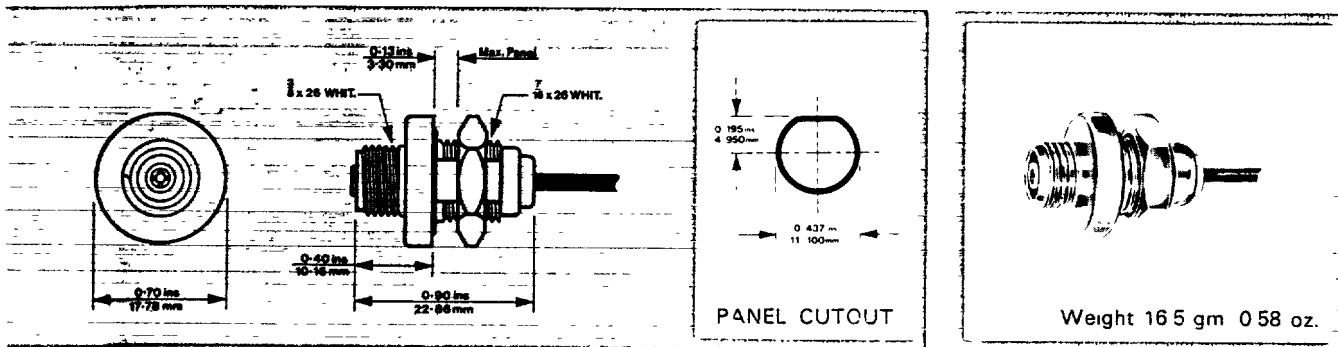
Connector Fixed (front)
Straight Entry
Female Contact



PART No.	DESCRIPTION
501132-000-01	132/BNP/POLY

Type 132

Connector Fixed (rear)
Straight Entry
Female Contact



Flylead connectors are supplied with 24 inches (610 mm.) exposed length of Type 4 equipment wire.

The Flylead forms an integral part of the moulded polythene insulator assembly.

For other flyleads, please consult PET Technical dept.

SERIES 100

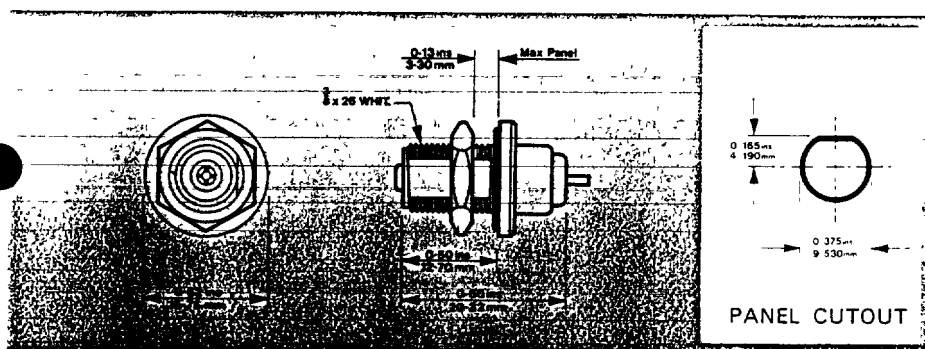
Solder Spill

COAXIAL

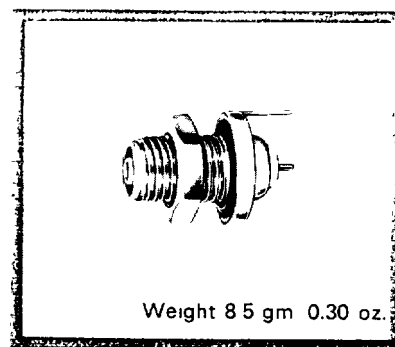
PART No.	DESCRIPTION
501141-000-01	141/BNP/PTFE

Type 141

Connector Fixed (front)
Straight Entry
Female Contact



PANEL CUTOUT

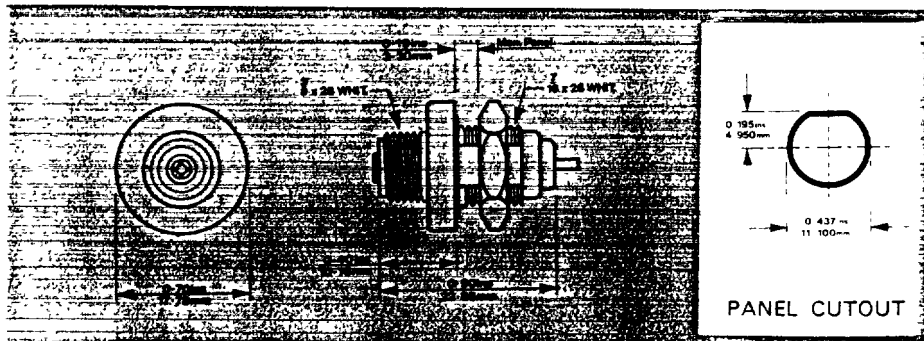


Weight 8.5 gm 0.30 oz

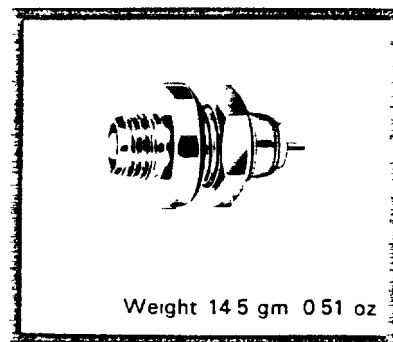
PART No.	DESCRIPTION
501142-000-01	142/BNP/PTFE

Type 142

Connector Fixed (rear)
Straight Entry
Female Contact



PANEL CUTOUT



Weight 14.5 gm 0.51 oz

Solder Spill Connectors are supplied ready tinned.

SERIES 100

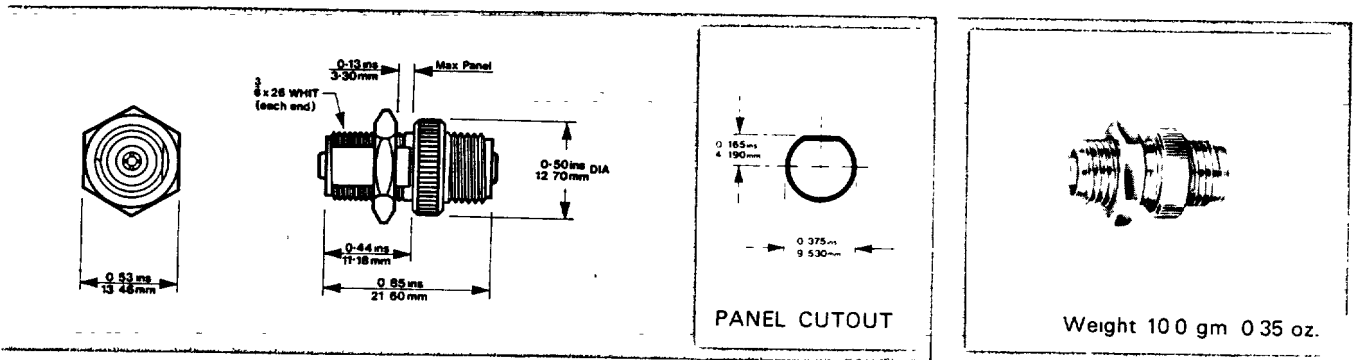
Adaptors

COAXIAL

PART No.	DESCRIPTION
501151-000-01	151/BNP/PTFE

Type 151

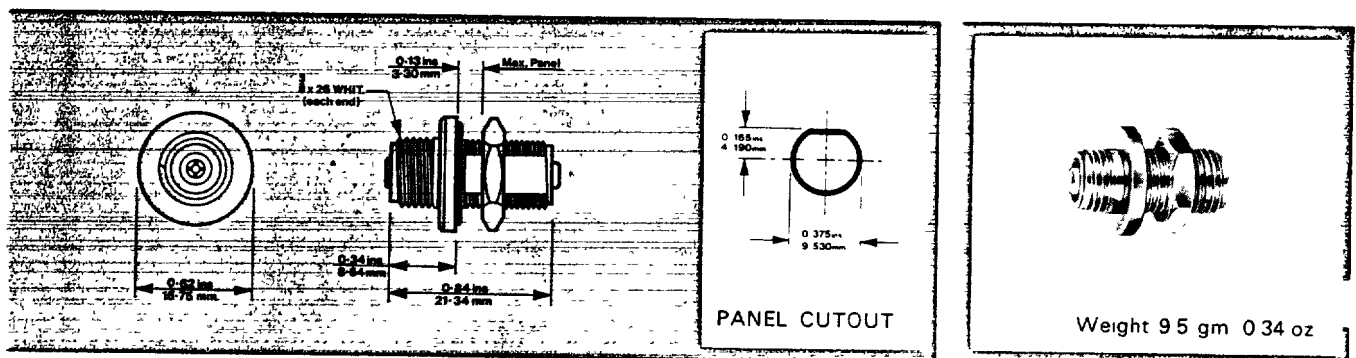
Adaptor Fixed/Free
Straight
Female/Female Contacts



PART No.	DESCRIPTION
501152-000-01	152/BNP/PTFE

Type 152

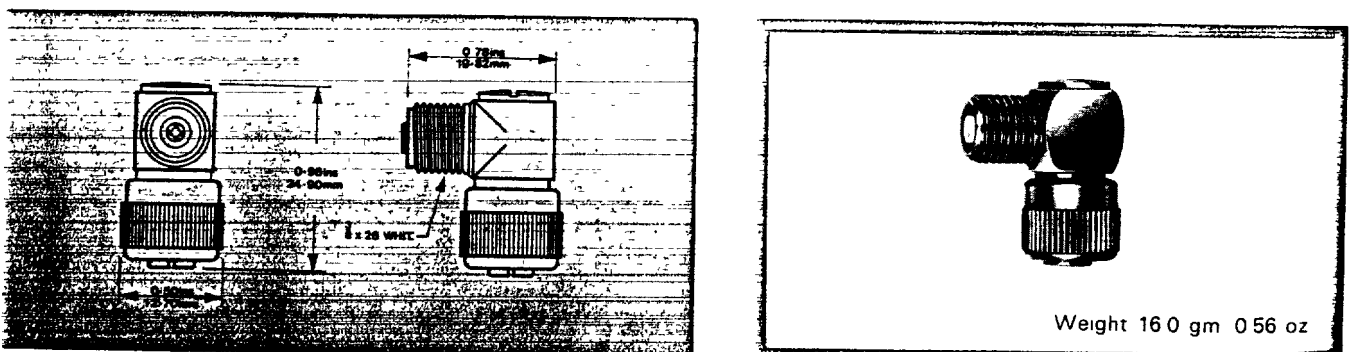
Adaptor Fixed
Straight
Female/Female Contacts



PART No.	DESCRIPTION
501393-000-01	153/BNP/PTFE

Type 153

Adaptor Free
90° Angle
Male/Female Contacts



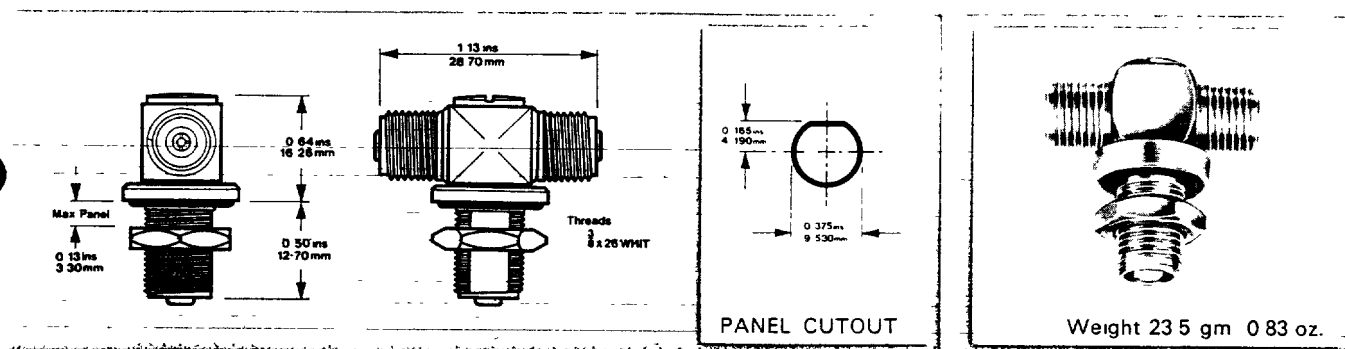
SERIES 100 Adaptors

COAXIAL

PART No.	DESCRIPTION
501155-000-01	155/BNP/POLY

Type 155

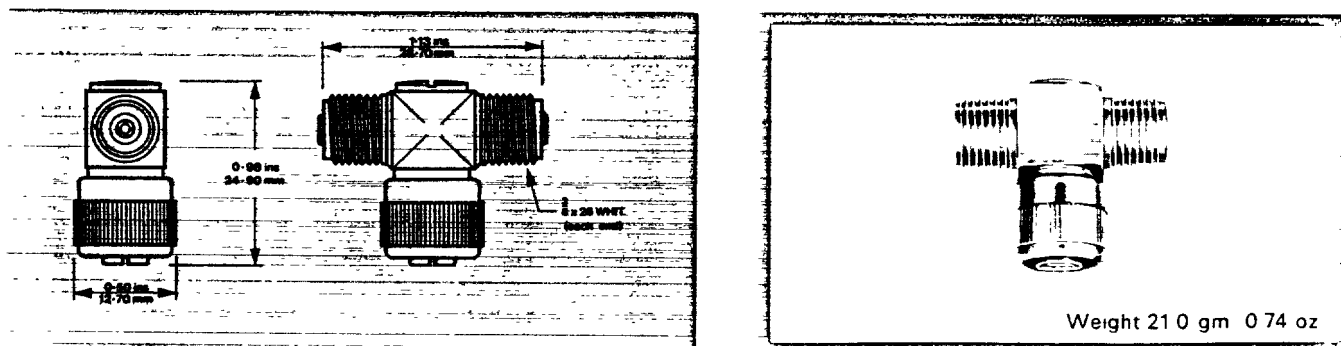
Adaptor Fixed
Tee Junction
3 Female Contacts



PART No.	DESCRIPTION
501156-000-01	156/BNP/POLY

Type 156

Adaptor Free
Tee Junction
Male/2 Female Contacts



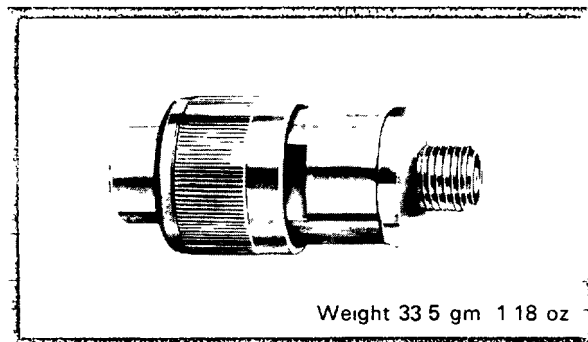
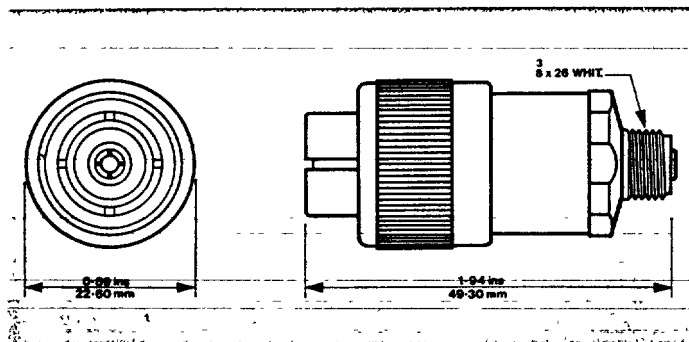
155 and 156 adaptors have completely moulded polythene insulation.

SERIES 100 Adaptors (BETWEEN SERIES)

PART No.	DESCRIPTION
501315-000-01	157/7 Adaptor

Type 157/7

P.E.T. Series 100 Female Contact
P.E.T. Series 200 Female Contact

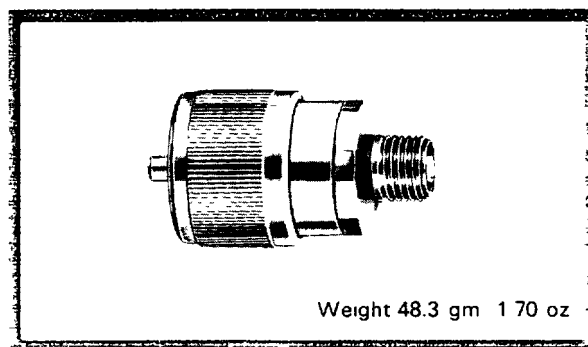
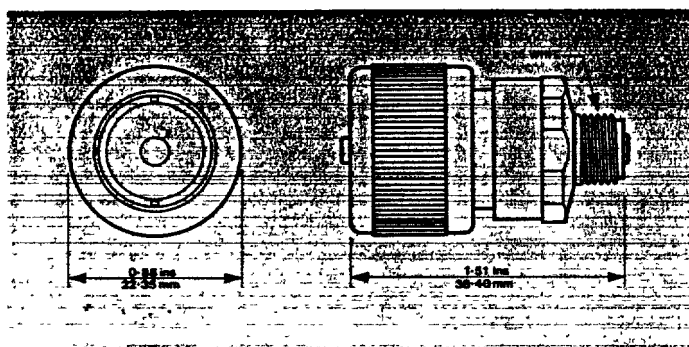


Weight 33.5 gm 1.18 oz

PART No.	DESCRIPTION
501320-000-01	157/8 Adaptor

Type 157/8

P.E.T. Series 100 Female Contact
U.H.F. 83 Male Pin

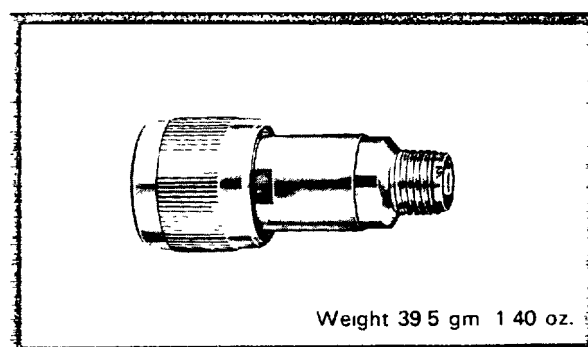
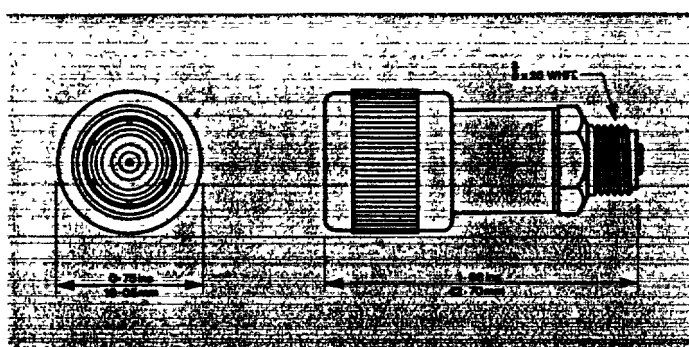


Weight 48.3 gm 1.70 oz

PART No.	DESCRIPTION
501381-000-01	157/10 50 ohm. Adaptor
50130-000-01	157/10 75 ohm. Adaptor

Type 157/10

P.E.T. Series 100 Female Contact
Type 'C' Male Pin



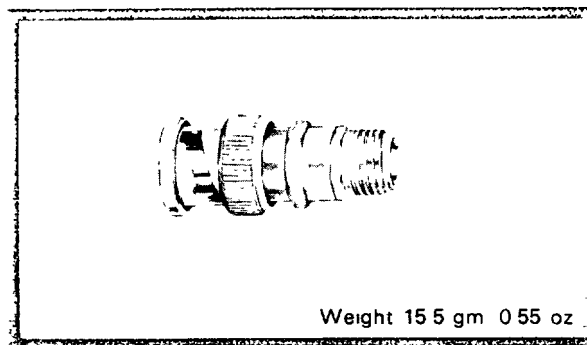
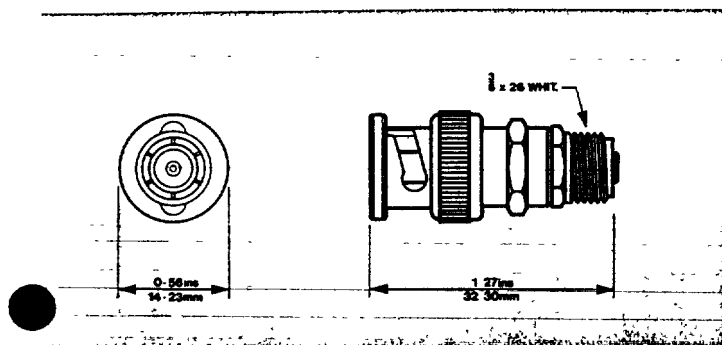
Weight 39.5 gm 1.40 oz.

SERIES 100 Adaptors (BETWEEN SERIES)

PART No	DESCRIPTION
507050-000-01	157/11 Adaptor

Type 157/11

P.E.T. Series 100 Female Contact
B.N.C. Male Pin

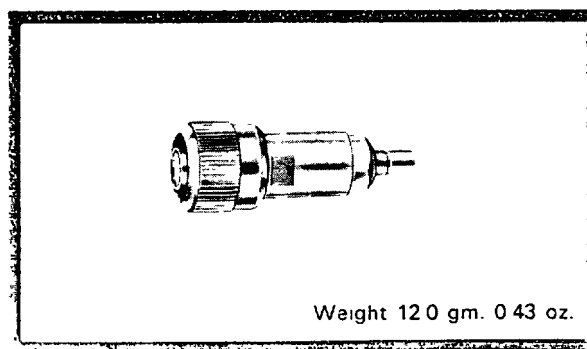
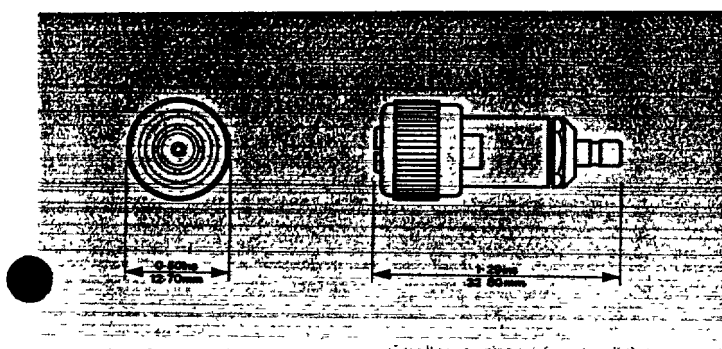


Weight 15.5 gm 0.55 oz

PART No.	DESCRIPTION
501403-000-01	157/12 Adaptor

Type 157/12

P.E.T. Series 100 Male Pin
S.M.B. Male Pin

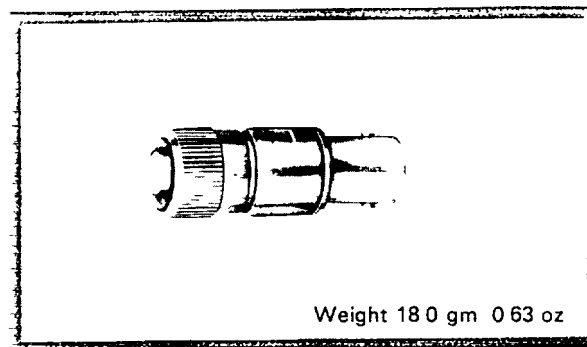
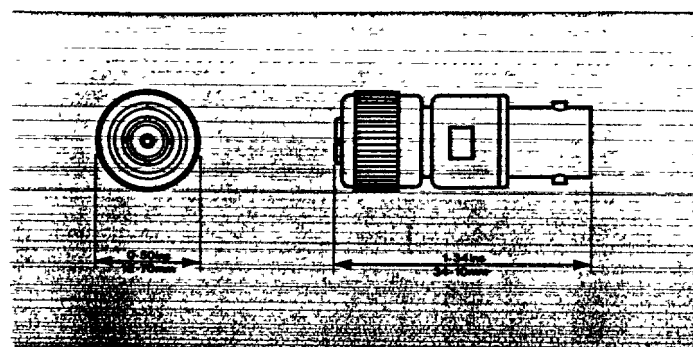


Weight 12.0 gm 0.43 oz.

PART No.	DESCRIPTION
501412-000-01	157/13 Adaptor

Type 157/13

P.E.T. Series 100 Male Pin
B.N.C. Female Contact



Weight 18.0 gm 0.63 oz

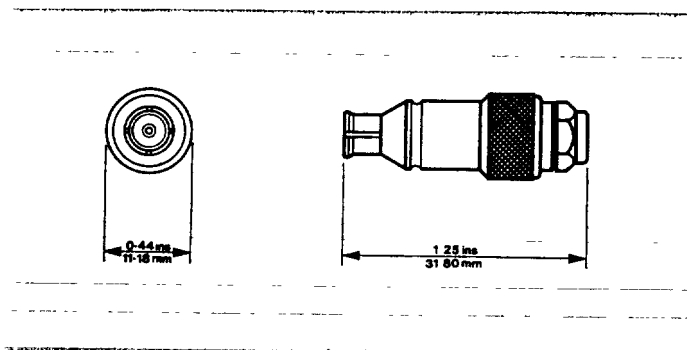
SERIES 100

“Snap-On”

COAXIAL

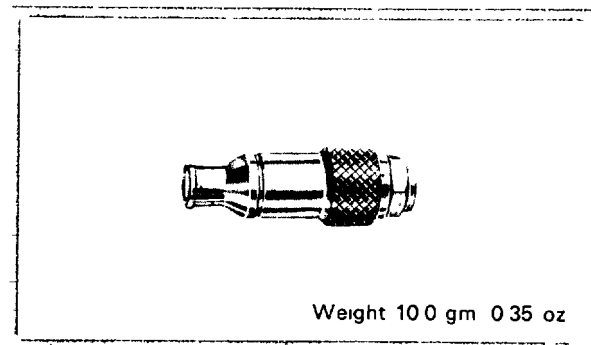
PART No.	DESCRIPTION
510139-XXX-01	103/BNP/PTFE/ Demountable

XXX refer to cable entry codes page 4



Type 103

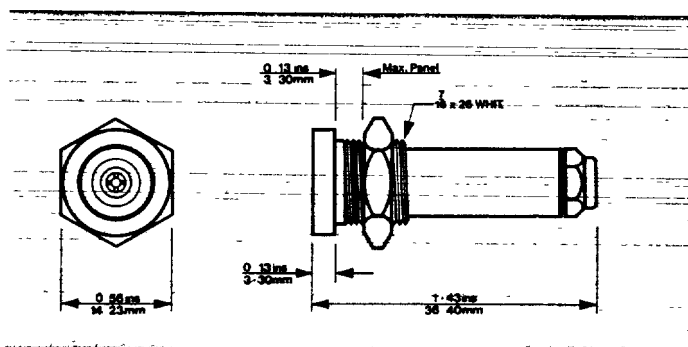
Connector Free
Cable Outlet
Male Pin



Weight 10.0 gm 0.35 oz

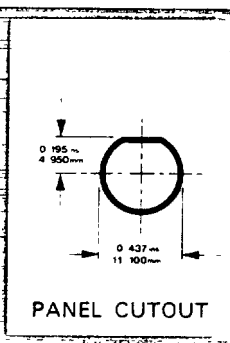
PART No.	DESCRIPTION
510140-XXX-01	123/BNP/PTFE/Demountable

XXX refer to cable entry codes page 4

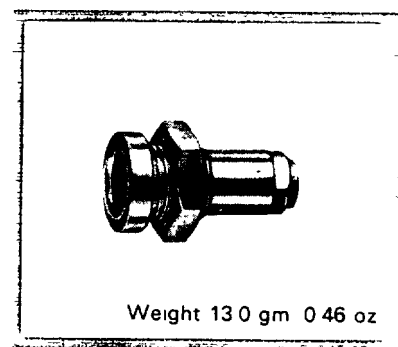


Type 123

Connector Fixed (rear)
Cable Outlet
Female Contact



PANEL CUTOUT

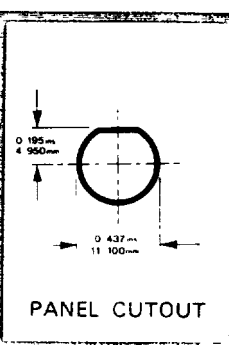
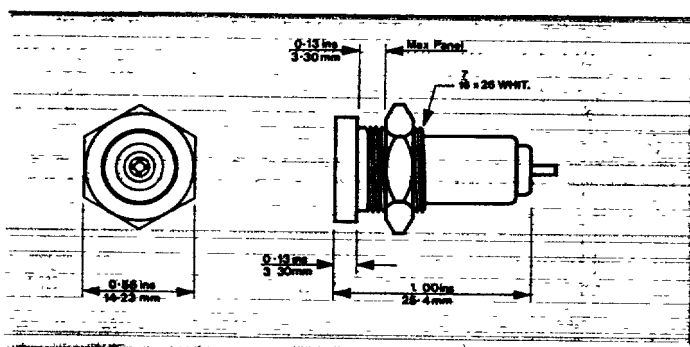


Weight 13.0 gm 0.46 oz

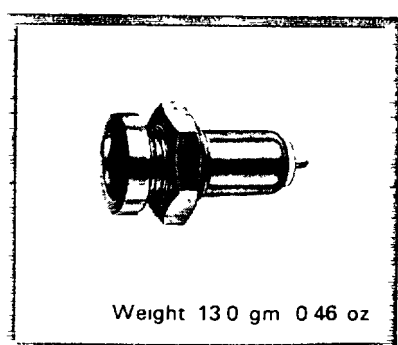
PART No.	DESCRIPTION
510141-000-01	143/BNP/PTFE

Type 143

Connector Fixed (rear)
Solder Spill Outlet
Female Contact



PANEL CUTOUT



Weight 13.0 gm 0.46 oz

2-Pole

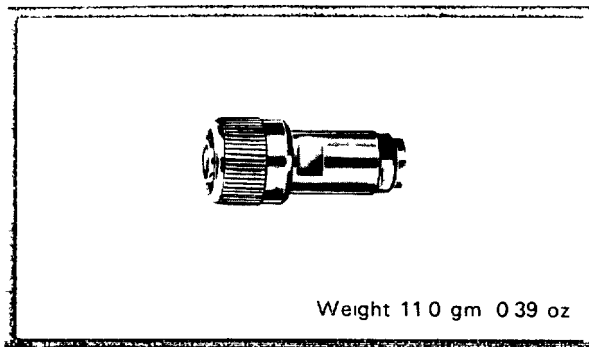
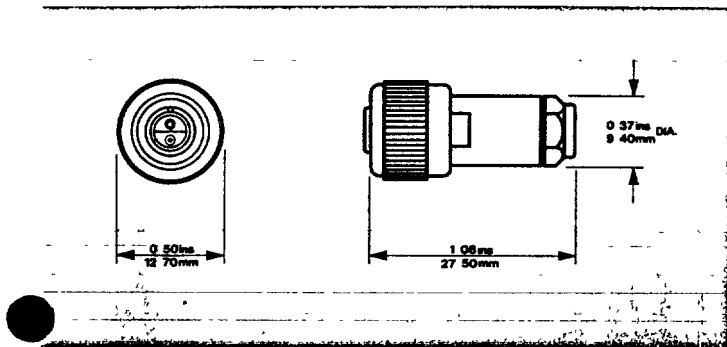
MULTIPOLE

PART No.	DESCRIPTION
510136-XXX-01	IOI/2P/BNP/POLY/Demountable

XXX refer to cable entry codes page 4



**Connector Free
Cable Outlet
Male/Female Contacts**

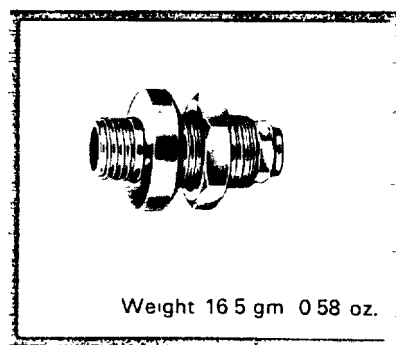
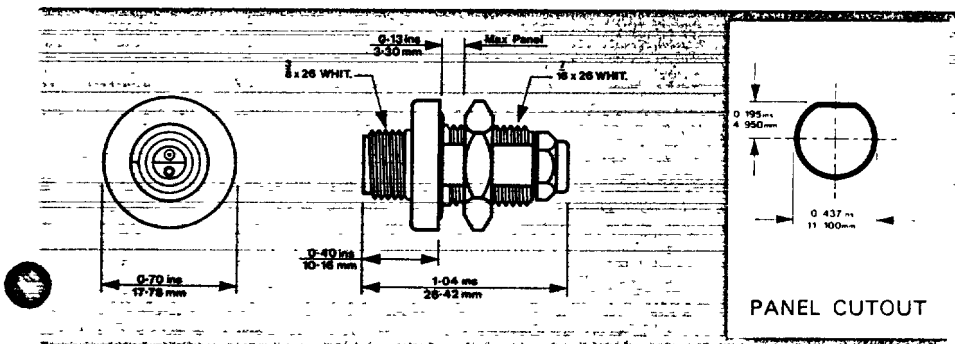


PART No.	DESCRIPTION
510137-XXX-01	122/2P/BNP/POLY/Demountable

XXX refer to cable entry codes page 4



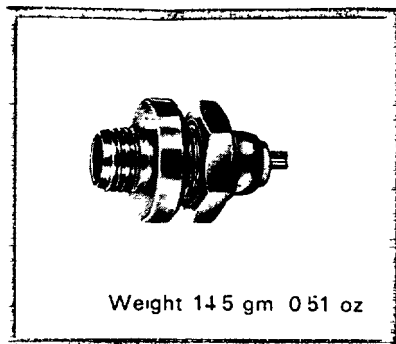
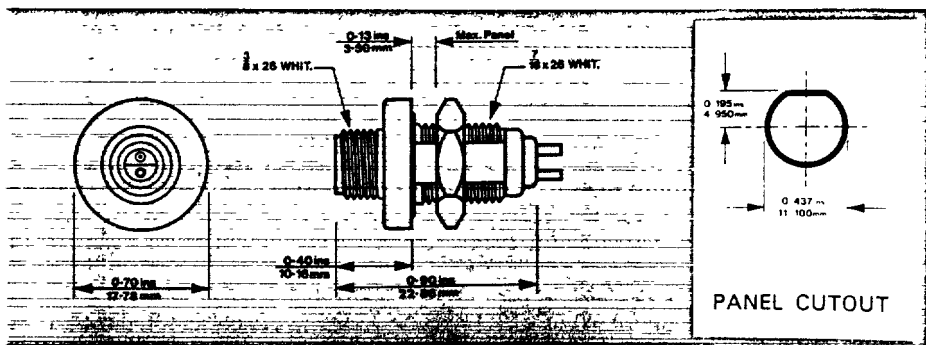
Connector Fixed (rear)
Cable Outlet
Male/Female Contacts



PART No.	DESCRIPTION
510138-000-01	142/2P/BNP/POLY



Connector Fixed (rear)
Solder Spill Outlet
Male/Female Contacts

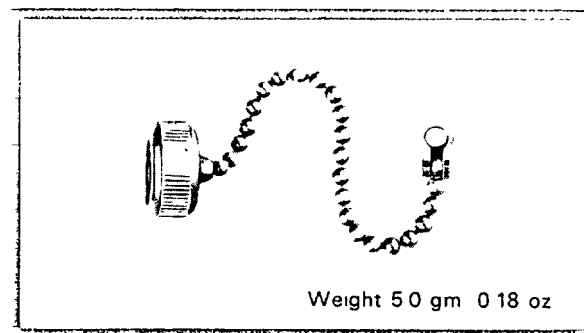
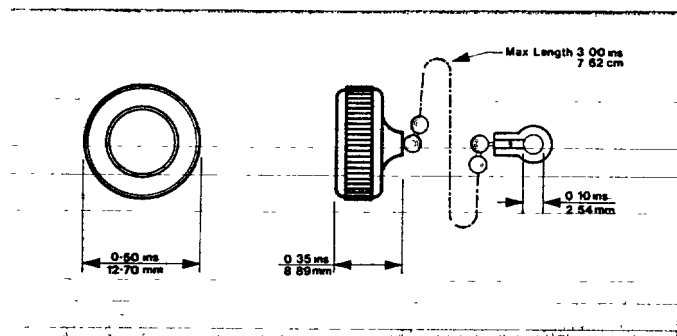


SERIES 100 Protective Caps

PART No.	DESCRIPTION
501171-000-01	171/BNP/Pro-Cap

Type 171

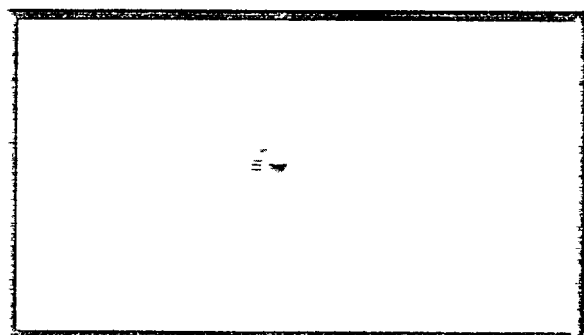
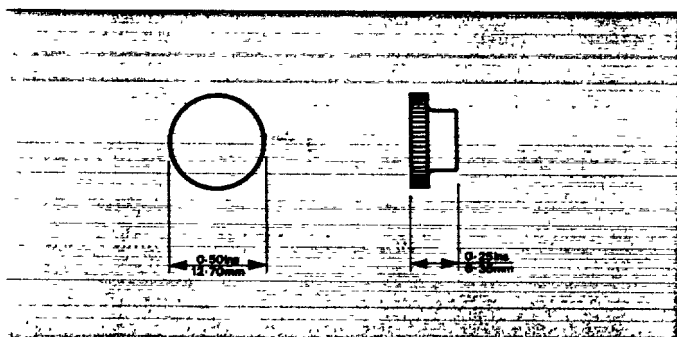
Screw On
Captive



PART No.	DESCRIPTION
301178-001	178/POLY/Pro-cap

Type 178

Push On
Non Captive



These protective caps are suitable for connector types:

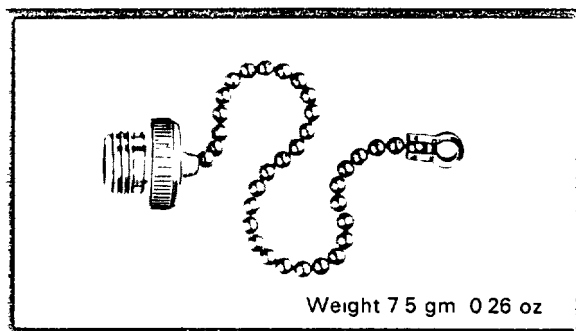
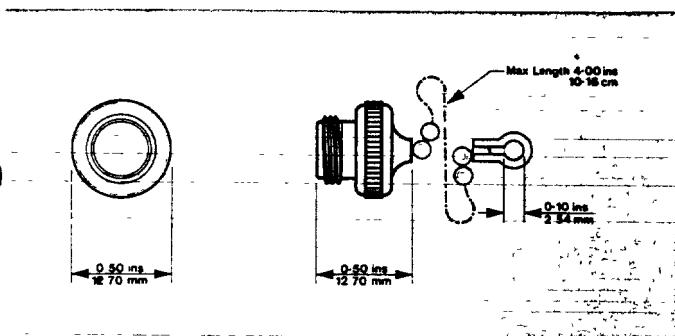
111	131	141	151	155	122/2P
121	132	142	152	156	142/2P
122			153		

SERIES 100 Protective Caps

PART No.	DESCRIPTION
501379-000-01	172/BNP/Pro-cap

Type 172

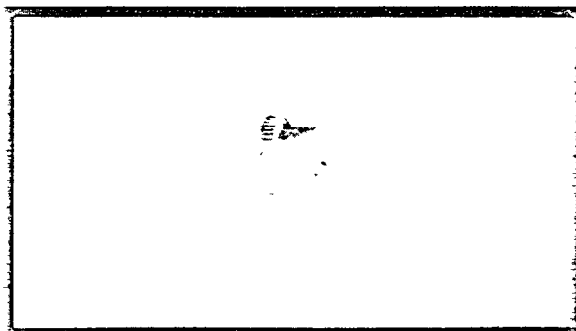
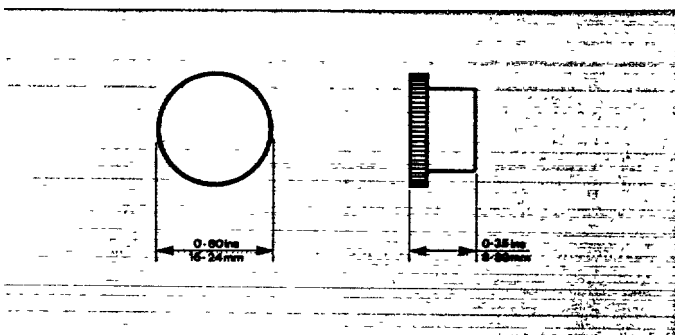
Screw On
Captive



PART No.	DESCRIPTION
301179-001	179/POLY/Pro-cap

Type 179

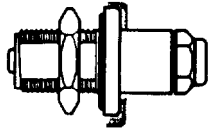
Push On
Non Captive



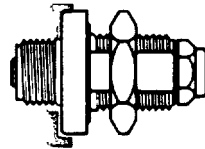
The protective caps are suitable for connector types:

101 153 101/2P
102 156

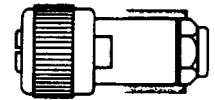
SERIES 100 Identification Sleeves



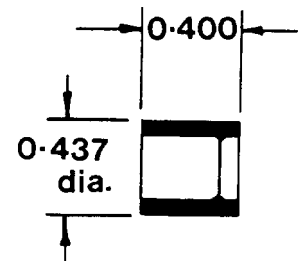
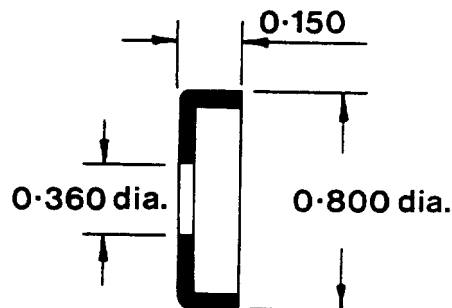
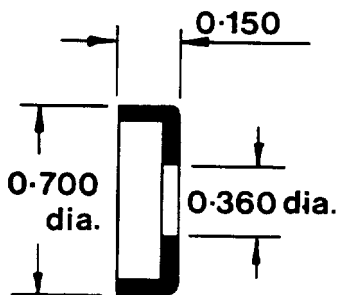
Type 191



Type 192



Type 193



ALL DIMENSIONS GIVEN IN INCHES

COLOUR	PART No. 191	PART No. 192	PART No. 193
RED	301191-001	301192-001	301193-001
BLUE	301191-002	301192-002	301193-002
LIGHT GREEN	301191-003	301192-003	301193-003
DARK GREEN	301191-004	301192-004	301193-004
BLACK	301191-005	301192-005	301193-005
YELLOW	301191-006	301192-006	301193-006
PINK	301191-007	301192-007	301193-007
WHITE	301191-008	301192-008	301193-008
BROWN	301191-009	301192-009	301193-009
VIOLET	301191-010	301192-010	301193-010
ORANGE	301191-011	301192-011	301193-011
GREY	301191-012	301192-012	301193-012

SUITABLE FOR
CONNECTOR
TYPES

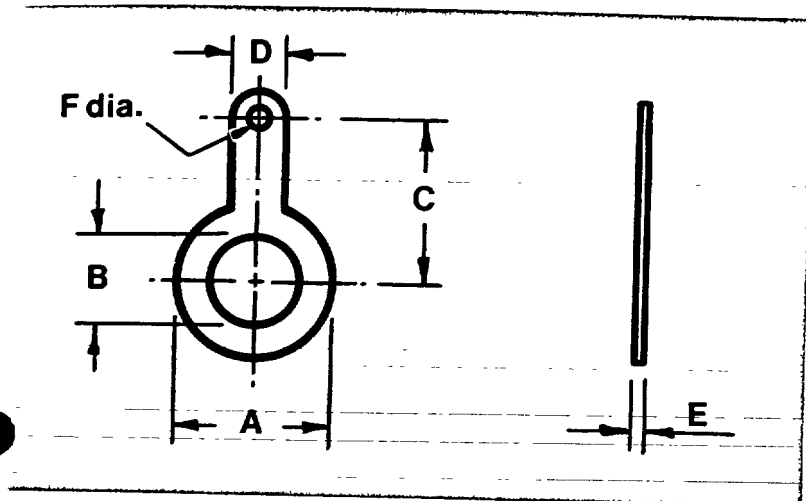
121 131 141
152

122 132 142
122/2P 142/2P

101 102
101/2P

SERIES 100

Earth Tags

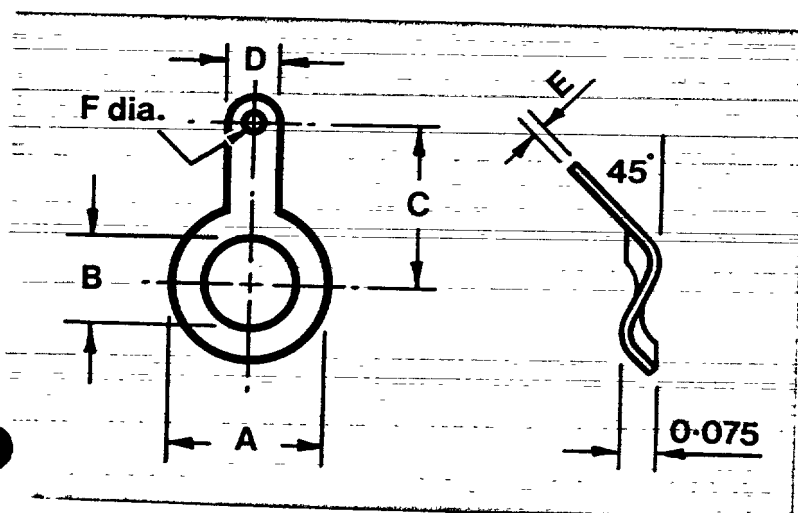


Type 1

TAG WASHER FLAT

For use with connector types:

111	121	131
141	151	152
155		



Type 2

TAG WASHER CRINKLE

For use with connector types:

122	132	142
123	143	122/2P
142/2P		

TYPE	A	B	C	D	E	F	DESCRIPTION	PART No
1a	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	22 SWG	$\frac{5}{64}$	TAG WASHER FLAT	310014-001
1b	$\frac{11}{16}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{3}{16}$	22 SWG	$\frac{5}{64}$	TAG WASHER FLAT	310016-001
2	$\frac{21}{32}$	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{5}{32}$	23 SWG	$\frac{1}{16}$	TAG WASHER CRINKLE	301263-001

ALL DIMENSIONS GIVEN IN INCHES