WELLINGTON

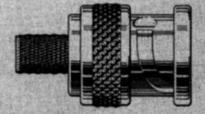
MELLINGTON

MEC. 09 MAR 1987

ANDRO

MAR 1787





r.f. connectors

the company

The leading UK manufacturer of co-axial connectors and components for r.f. applications, Greenpar has, since 1972, been part of the highly successful Dubilier plc group, which includes other connector and component manufacturing companies. Greenpar's expansion over the last decade has been rapid – and this growth is planned to continue in line with market demands for existing products and through the introduction of new ranges currently under development and planned for the future.

design

In order to provide connector designs of precise specification, the design & development team uses the latest test and evaluation equipment. Such investments keep Greenpar in the forefront of connector development for the most demanding high frequency applications in satellites, telecomms and avionics.

quality

Greenpar maintains vigorous quality control of all aspects of product manufacture. The quality assurance function monitors each stage of production, from receipt of raw material through to final assembly, with well equipped test and inspection facilities.

Greenpar is an approved source of supply for military applications and holds approval under MOD, DEF-STAN 05-21 requirements for the design and manufacture of co-axial connectors and r.f. components. In addition, British Telecom, the Civil Aviation Authority and many major company approval certificates are held. These, together with BS 9000 approval, enable Greenpar to offer its range of products to the widest possible market.

production

In all areas of production, great importance is given to the use of the most up to date manufacturing technologies. Automation is used extensively in production, from the fully automatic and computer controlled machining of piece parts, through plating and assembly to the final packaging of the products.

the future

The success of the Company has been built on a programme of expansion to support increased market penetration, combined with improved manufacturing methods. The policy is to maintain this approach, by advancing into new product areas and other high technology connector products, based on the continual development of the design and manufacturing facilities within the Company. Parallel with this activity, the development of export markets is being increased with exports now a major proportion of company turnover.

location

On the east side of Harlow on the A1184 (formerly A11), 100 yards north of the round-about at Gates (Ford) garage, across the line from Harlow Mill B.R. Station. Good communication links provide easy access to London, by rail direct to Liverpool Street Station, or by road via the M11 Motorway, 20 minutes from the M25 junction.

mercury ...

metallic, attractive and intriguing, used as the backdrop to the representative connector drawing for each section cover in the multi-part catalogue from Greenpar. The image has been chosen for its unique qualities and associations of precision, to provide a unifying theme, distinctive through its individuality.

contents

The Greenpar Connectors catalogue is divided into sections according to the different connector series and product types for clarity. Page 43 gives a brief description of some of the other ranges of product manufactured by Greenpar Connectors, whilst the supplementary shortform catalogue includes photographs of typical connectors from each range.

This section of the catalogue lists all BNC products and related accessories. Photographs of typical examples of each style can be seen on page 4. 'BNC' stands for 'a bayonet coupled connector' although the abbreviation evolved when the range was developed from the existing B series, the N series designed by Neill and the C series which was designed by Carl Concelman. The two designers worked together to produce the derivitive BNC series for smaller cables for which demand was increasing at the time.

The inside rear cover shows a listing of those cables which are commonly used with BNC connectors, divided into groups each with its own three digit reference. Throughout this catalogue there are products which have been designed with several variants to allow for the different physical characteristics of different cables. The essential features of the product are the same for each variant, hence the basic elements of the part number remain the same and only the three digits for the cable group would change. A product listed thus: B35 A41 E010 X99

007

022

A25

060 (a crimped free plug) can be specified for any of the cables in the five different groups and have further variations of finish and of the manner by which it is packed and marked. See page 5 for a full explanation of the part number.

On the following pages are notes which are intended to guide you through some of the complexities inherent in a product range which has developed over many years and applies to so many different applications. Check the contents page to select the information which you require, for background or specific product detail. If your requirements are not met by this catalogue, please remember that the sales office is available for technical advice regarding applications, variations and availability.

The Greenpar range of BNC connectors is particularly extensive, covering many US MIL specification types, British Telecom and Greenpar proprietary designs. These products are manufactured to ensure compatibility with the latest British Standard BS9000 and IEC mating face requirements and are therefore fully intermatable with connectors manufactured to both these specifications and to the US specification MIL-C-39012

Connectors are available in both 500hm and 750hm intermatable versions for use with cables up to 10mm (approx) diameter.

standard performance for BNC VSWR (typical) less than 1.2, up to 4 GHz working voltage: 500V peak proof voltage: 2000V peak ambient temperature range: -55°C to +150°C

glossary of terms

plug a connector for fitting to the free end of a coaxial cable and incorporating the coupling nut, ring or sleeve. With the exception of certain miniature connectors, it also has a male centre contact.

jack a connector for fitting to the free end of a coaxial cable, suitable for mating with the appropriate plug. It generally has a female centre contact

socket a connector for panel or bulkhead mounting, suitable for mating with the appropriate plug and having a solder spill for attachment of equipment wire.

panel socket a socket with a square or lozenge-shaped flange, drilled or tapped with 2 or 4 holes for fixing to the panel.

bulkhead socket a socket designed for single hole fixing in the panel or bulkhead, retained by a single fixing nut.

panel jack a jack which accepts coaxial cable and which is suitable for panel mounting with 2 or 4 fixing holes.

bulkhead jack a jack which accepts coaxial cable and which is suitable for single-hole fixing in the panel or bulkhead.

elbow a prefix used to indicate a 90° relationship between the mating face axis and the mounting or cable entry axis.

m or f a suffix indicating the gender of a centre contact: m for male, f for female (note: the IEC specifications apply the term 'socket' to items designated "jack" and "socket" above. The separate terms are retained in this catalogue for consistency with earlier publications and for clarity.

| | _ |
|---|---|
| e following factors should be considered when selecting a connector | |
| eries | |
| pedence | |
| yle | |
| nish | |
| able | |
| acking | |

(application and compatibility) (50 or 75 ohms) (plug, jack, adaptor etc.) (various plating finishes are available) (which cable, to solder or crimp)

| straight plugs | à d'alain | crimp or clamp cable entry crimp or solder centre contact for cables up to approx 10mm diameter |
|---------------------------|-----------|--|
| elbow plugs | 130036 | crimp or clamp cable entry crimp or solder centre contact cables up to approx 10mm diameter |
| free jacks | | crimp or clamp cable entry crimp or solder centre contact panel items have plain or tapped holes cables up to approx 10mm diameter |
| bulkhead & panel jacks | | crimped cable entry or solder spill panel items have plain or tapped holes |
| bulkhead sockets | 2000 | many sizes to suit different panel cut-outs sealed or unsealed panel insulated and elbow styles are available |
| panel sockets | | straight or elbow enlarged flange or 2 hole variants |
| PCB sockets | | straight and elbow 'stepped' legs prevent build up of flux insulated body '2 option mounting' versions |
| caps & terminations | C SGS | plain caps, with or without chains resistor plugs with or without chains terminations with resistor |
| adaptors | Custo | straight and elbow styles T adaptors male/male & female/female styles straight panel and bulkhead styles BNC 'banana' adaptors |

The Greenpar part numbering system uses 13 digits and is designed to accommodate all aspects of the product. The number has been adapted for use on as wide a variety of computers as possible and although it is entered as a continuous string, it can be broken by spaces for easier use and recollection. Specifying the full part number is the best way of ordering, but clearly it is important to have the correct combination. Our Sales office can help in case of doubt regarding the variants available for any given connector and therefore the correct number to use.

Each part of the number has its own meaning according to the listing shown below. The number is analysed as follows.

All the connectors in this catalogue will begin with B3, i.e. BNC. Here are some examples of other series. MCX = M6BNC = B3UHF = U4SMB = B6TNC = T3TNO = T7SMC = C6SHV = S3series SMD = D6-N1SMA = A6ISA = A5three numbers are in general use: impedance 5 = 50 ohms, 7 = 75 ohms, 0 =no significant impedance adaptor=R plug - Ajack - E panel skt - K elbow plug = B panel plug = C b/head plug = D elbow jack - F b/head skt = Mpanel jack - G PB skt = Nstyle b/head jack = H adaptor - P These two digits are given to each connector at the time it is drawn and are purely sequential. Note: there is no correlation between items from different ranges which have the same number: e.g. plug 12 (BNC) is not necessarily related to plug 12 (TNC) number The number is allocated on the basis of 'first drawn, first numbered'. There are three finishes in frequent use with BNC connectors, but any other finish can be considered. Code E: silver plated body and inner contact. Code H: nickel plated body and silver plated inner contact. finish Code J: nickel plated body and gold plated inner contact. Owing to the enormous range of cable for which connectors are made: Greenpar classifies them into groups. All connectors made for a particular cable group will fit all the cables in that group. See inside the rear cover of the catalogue for For example: cable group 010 includes the following cables: RG-58/U, RG-58C/U, RG-141 A/U, RG-142B/U cable URM43, URM76, group **BICC T3010** This digit is only used for items which can be fitted into or onto a panel. The letter 'X' is used for all others and serves as a 'filler' fixing For example: A = 2.6mm holes in a 12.5mm flange. (see page 6) Standard items are usually identified with Greenpar part numbers and marking individually packed in Greenpar bags. Other options are possible by & packing arrangement.

Certain accessory parts eg. moulded sleeves, do not carry connector part numbers. They are identified by numbers beginning ST.

plating finishes

code E

Silver plated and passivated body and inner contact.

Silver provides low contact resistance, mechanical endurance and good r.f. performance. Some visual deterioration of the finish may occur in storage and service, but this is minimised by passivation processes which maintain good appearance and 'solderability'.

code H

Bright nickel plated body and silver plated inner contact.

The use of bright nickel as a body finish produces a connector of an attractive appearance which will endure for longer periods than silver. It is also preferred for its compatibility with instrument front panels. Nickel is marginally inferior to silver in r.f. terms.

codeJ

Bright nickel plated body and gold plated inner contact.

Gold is an alternative finish for inner contacts, preferred for some applications in some market areas. The combination of nickel plated body and gold plated contact is standard. In most applications there is little difference between silver and gold in performance, although the improved corrosion resistance of gold may be valuable in harsh environments.

other finishes

Other combinations of finishes can be considered for special applications. Standard finishes for other connector ranges are described in the relevant catalogue sections.

panel fixing

These codes denote the size and threads of the fixing holes in the flange of panel mounted items, when appropriate. The default letter is X, which means that the item, eg. a free plug, has no fixing holes.

A = 2.6mm holes in 12.5mm flange

B = no holes

D = M2.5

E = No. 3-56 UNF-2B

F = No. 4-40 UNC-2B

G = No. 6 BA

H = 0.120 dia holes in 11/16 flange

J = No. 6-32 UNC-2B

 $K = 0.110 \, dia$

L = 0.087 dia

 $M = 0.089 \, dia$

N = No.8BA

 $Q = 0.147 \, dia$

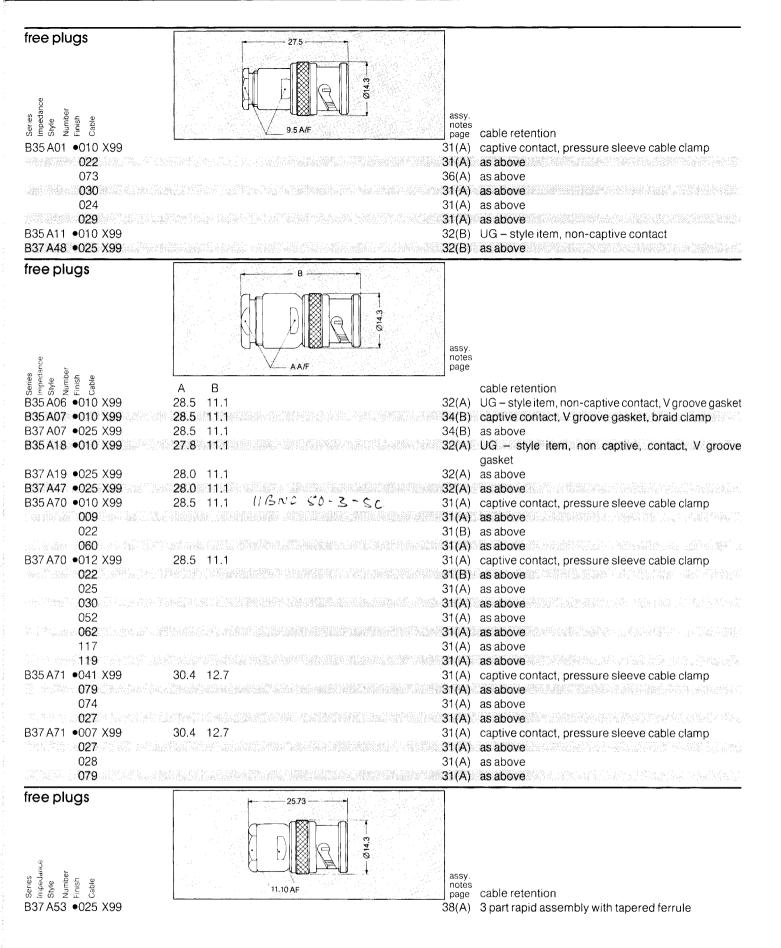
S = Accessories

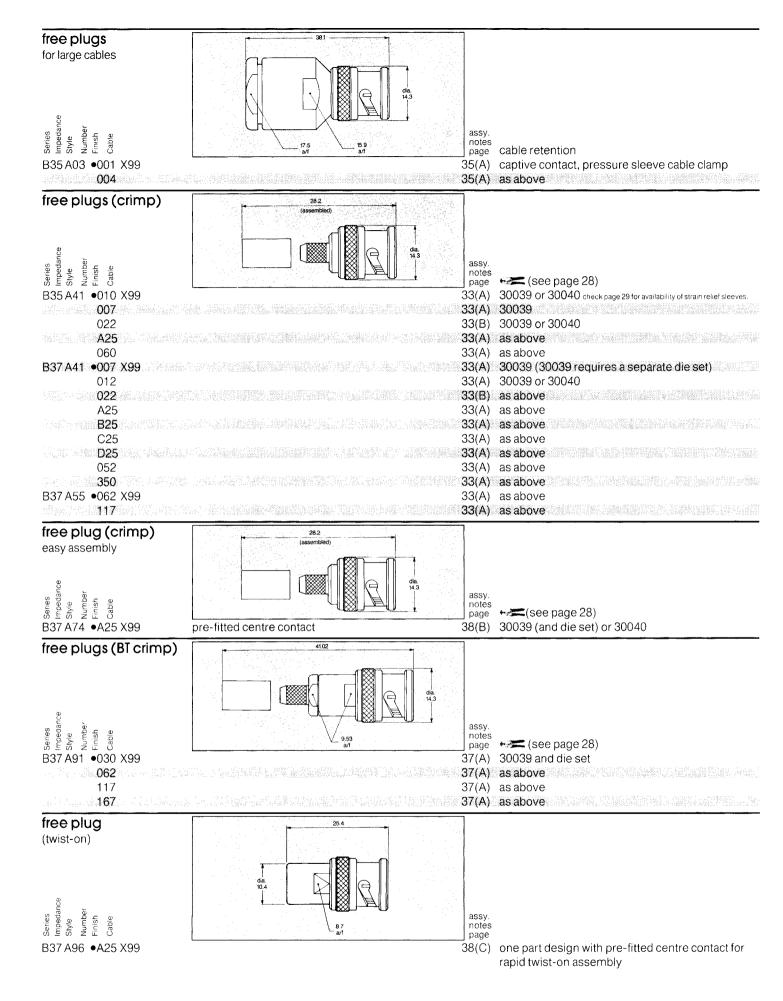
W = Wire locking

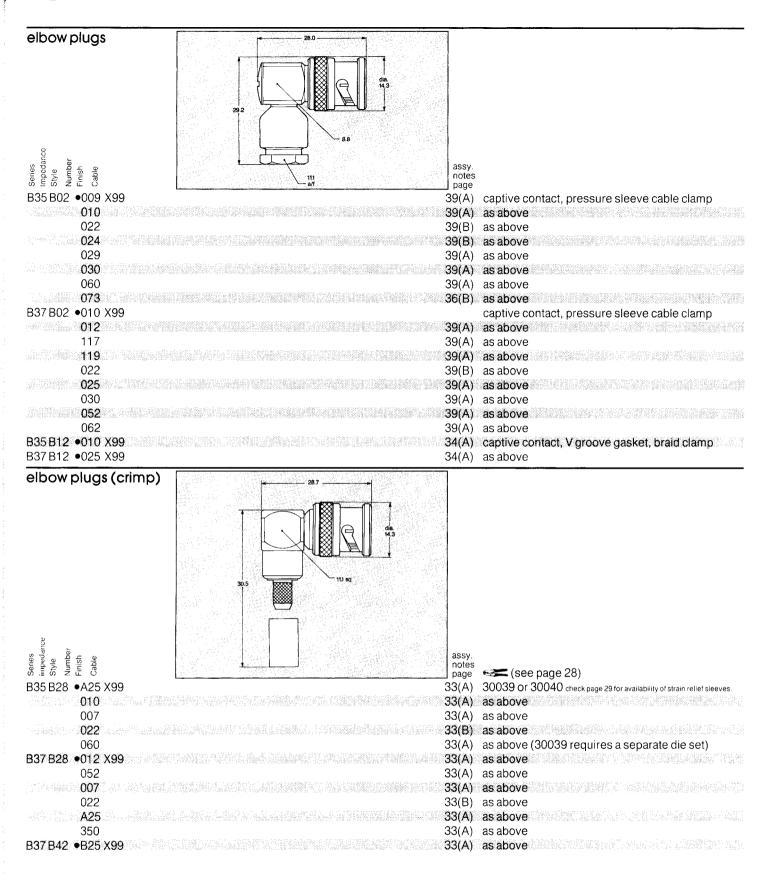
X = Default/filler code

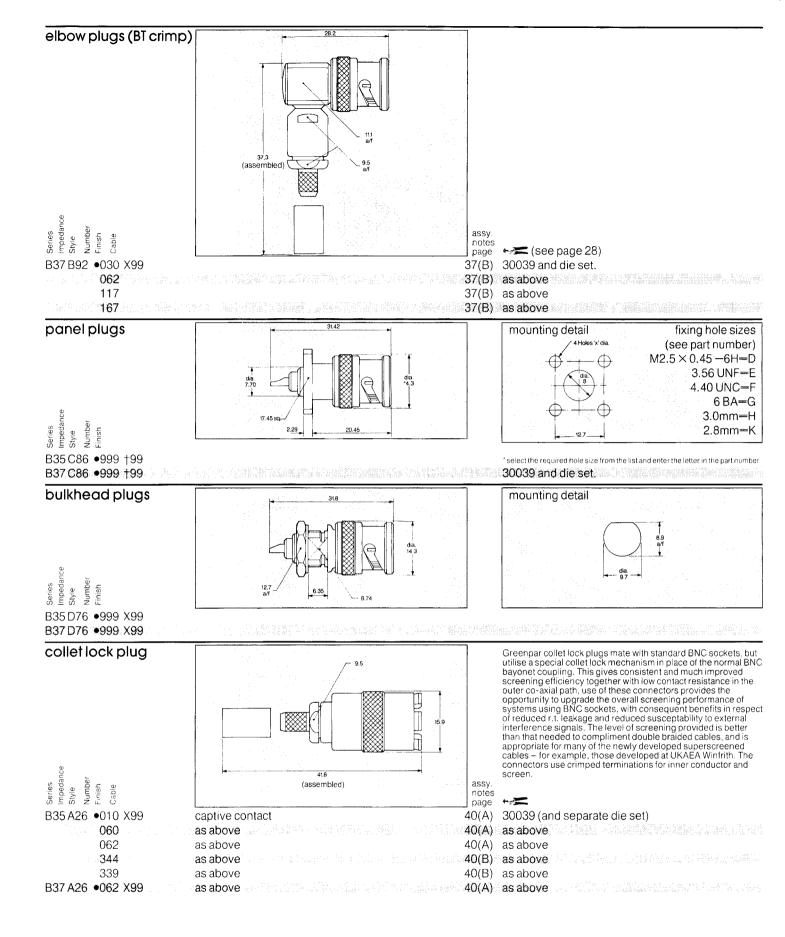
packing

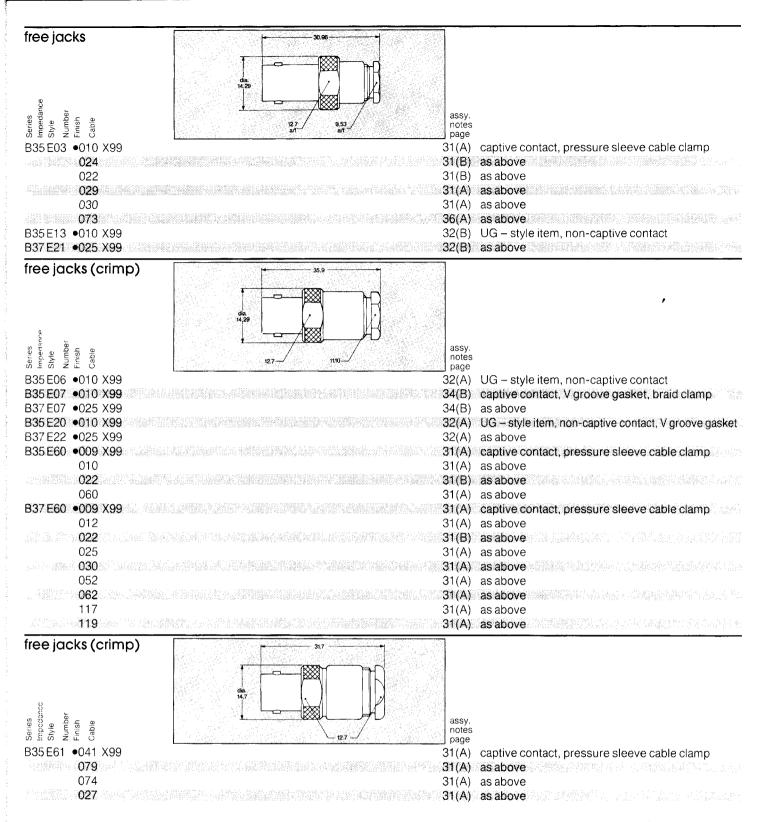
Standard items are usually identified with Greenpar part numbers and individually packed in Greenpar bags. Other options are possible.

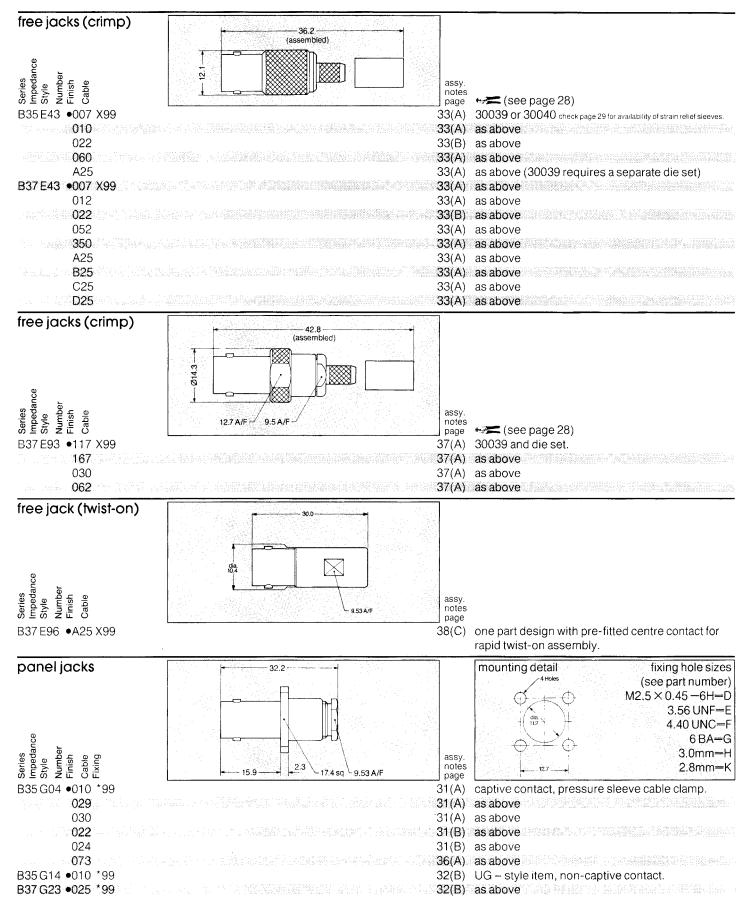




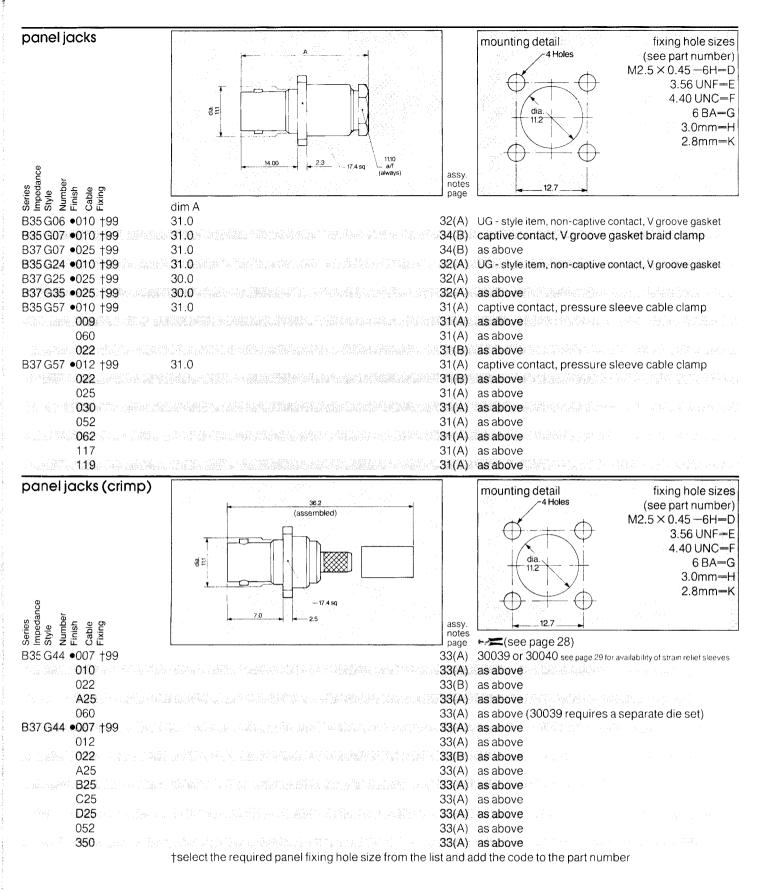


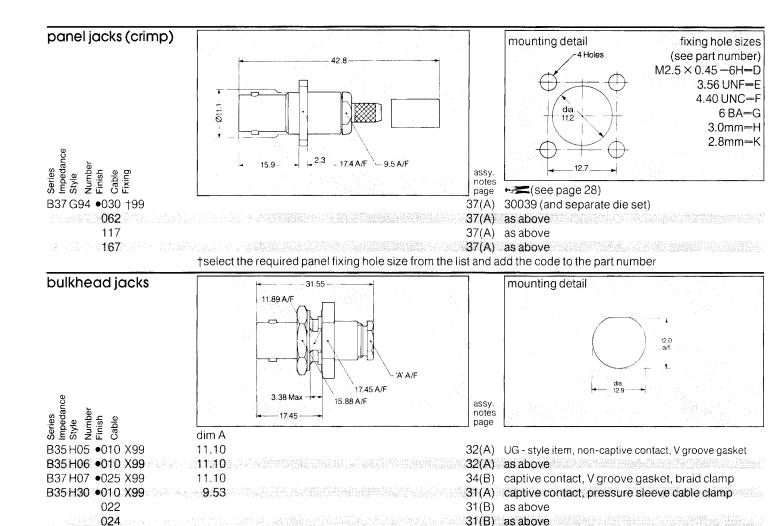






^{*}select the required panel fixing hole size from the list and add the code to the part number





31(A) as above

as above

as above

31(A) captive contact, pressure sleeve cable clamp

31(B) as above

34(B) captive contact, V groove gasket, braid clamp

31(B) as above

31(A) as above

32(A) as above

32(A) UG - style item, non-captive contact, V groove gasket

captive contact, pressure sleeve cable clamp

36(A)

31(A)

31(A)

31(A)

for an explanation of the part number, see page 5.

029

030

073

010

022

060

022

025

030

052

062

117

119

B37 H40 •025 X99

B37 H50 •025 X99

B35H07 •010 X99

B37 H39 •012 X99

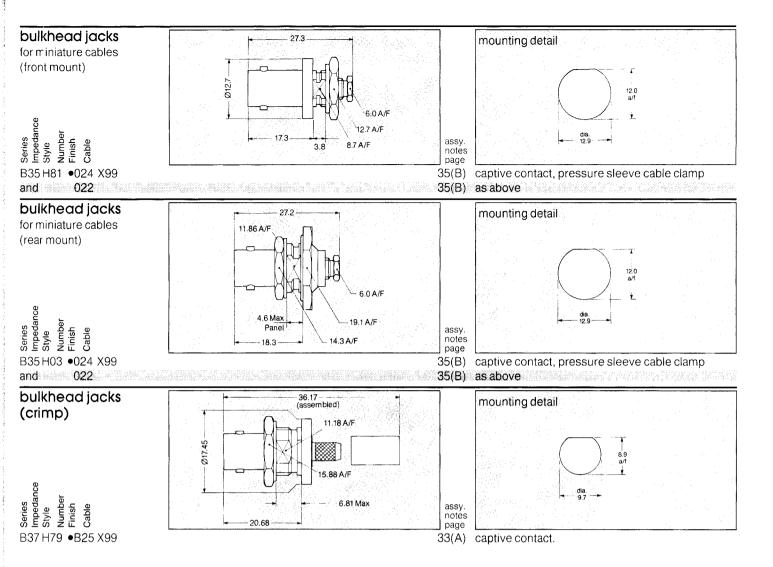
11.10

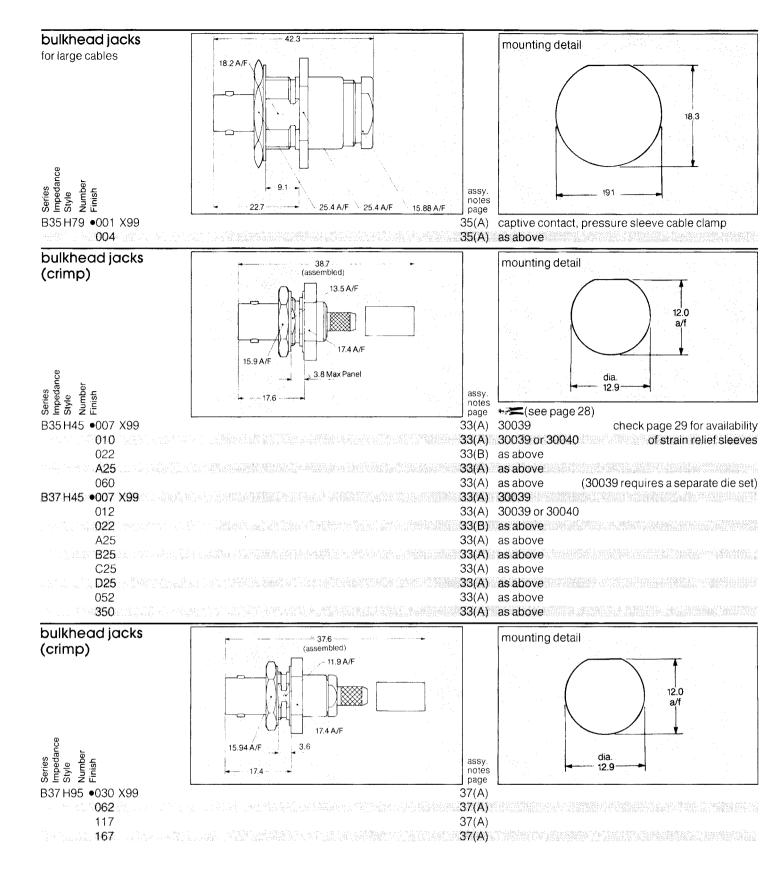
11.10

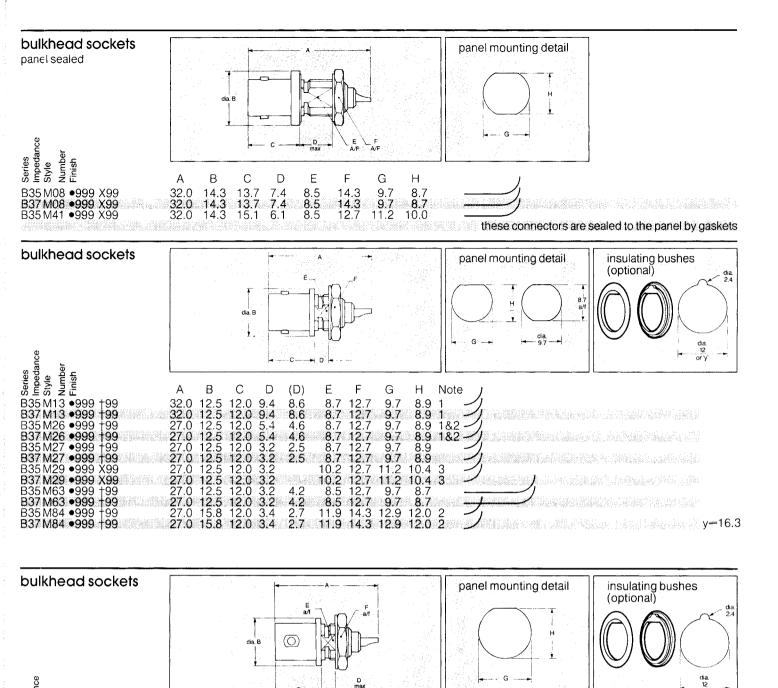
11.10

11.10

B35 H39 •009 X99







Notes:

B35 M43 •999

B37 M43 •999 †99 B35 M66 •999 †99 B37 M66 •999 †99

- for the required plating finish, enter code here
- † insulating bushes and solder tags are available for this item, but the bushes limit the available thread and require a different cut-out (see mounting detail for bush), dimension D is thus reduced see (D).

F

12.7

12.7 12.7 G

9.7 9.7 9.7 Н

8.9 **8.9** 8.9

8.9

Note

Ε

8.7

8.7 8.7

8.7

NB the basic item uses 999 X99 as a filler code here - but to indicate the addition of a solder tag or insulating bush, use the following numbers. Note 1 indicates a product which can take a thicker bush (see page 30)

- 001 S99-with solder tag only
- 002 S99=with solder tag and insulating bushes (as shown above)
- 003 S99=with insulating bushes only (as shown above)
- 004 S99—with solder tag and alternative insulating bushes (see page 30)

С

12.0

12.0 12.0 D

9.4 9.4 3.2 (D)

8.6 **8.6** 2.5

В

12.5 12.5 12.5

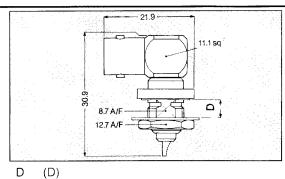
32.0

32.0

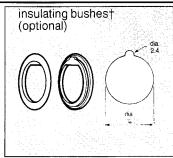
- 1 005 S99—with alternative insulating bushes only (see page 30)
- 2 these items have two flats @ 90°, on the body, to allow orientation of the connector in the panel.
- 3 Solder tags (only) are available as an accessory to this item enter '001 S99' in the part number.

bulkhead sockets

elbow



mounting detail 8.9 a/f



B35 M09 •999 †99 B37 M09 •999 †99

5.3 3.1 5.3 3.1

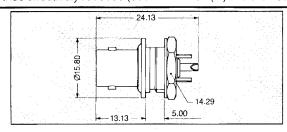
see the notes on page 17 for -availability of ins' bushes and sol' tags.

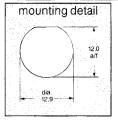
insulating bushes and solder tags are available as an option for this item, but bushes limit the available thread and require the alternative cut out. Dimension D is thus effectively reduced (see Dimension (D) and the note regarding bushes on previous page).

bulkhead sockets

(insulated)

B35 M49 •999 X99 B37 M49 ●999 X99



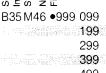


mounting detail

separate bushes are not required: connector features integral insulation of the metal mounting thread and nut.

bulkhead socket

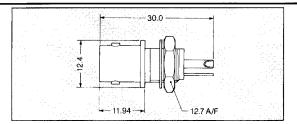
(insulated)

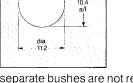


red insulator orange insulator 499 yellow insulator 599 green insulator blue insulator 699 799 violet insulator 899 grey insulator 999 white insulator

black insulator

brown insulator

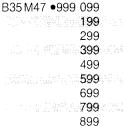




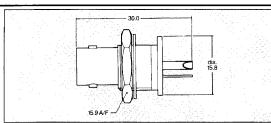
separate bushes are not required: connector features plastics body construction for panel insulation

bulkhead socket

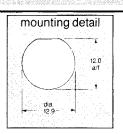
(insulated)



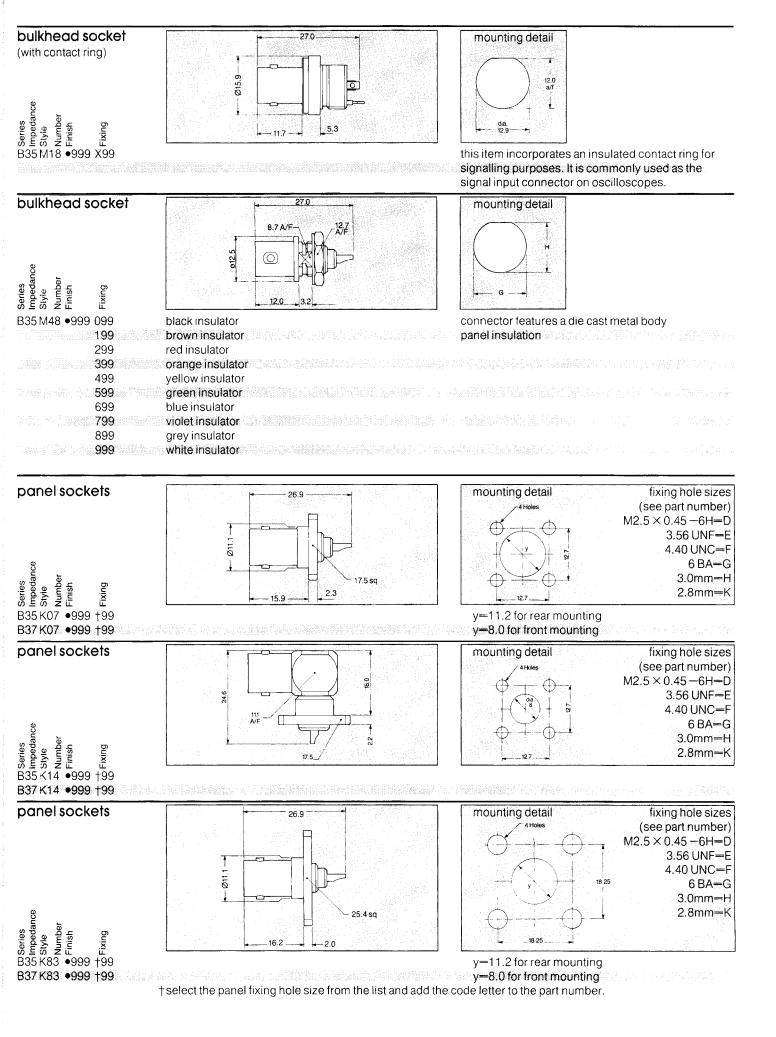
999

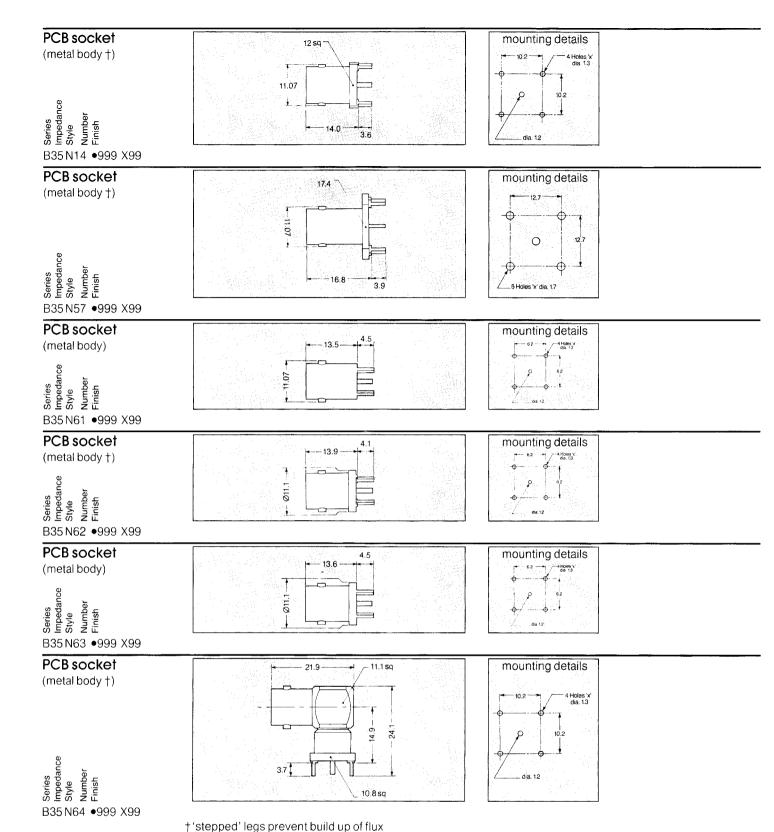


| black insulator | separate bushes are not required: connector |
|------------------|---|
| brown insulator | features plastics body construction for |
| red insulator | panel insulation |
| orange insulator | |
| yellow insulator | |
| green insulator | |
| blue insulator | |
| violet insulator | |
| grey insulator | |
| white insulator | |

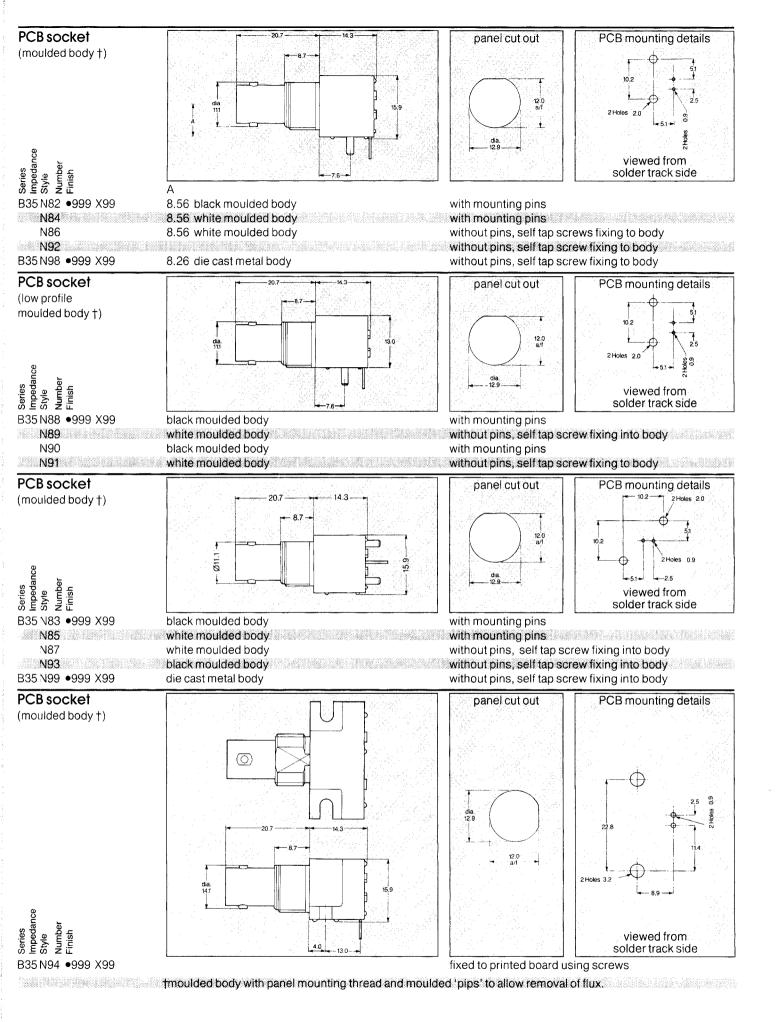


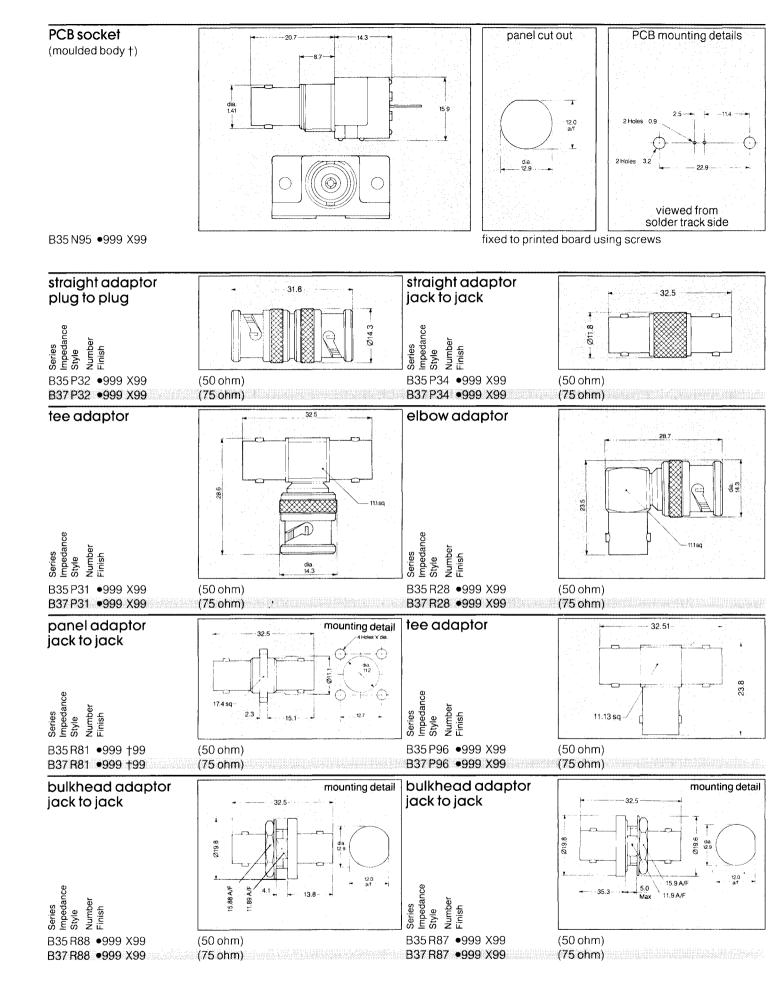
separate bushes are not required: connector features plastics body construction for panel insulation

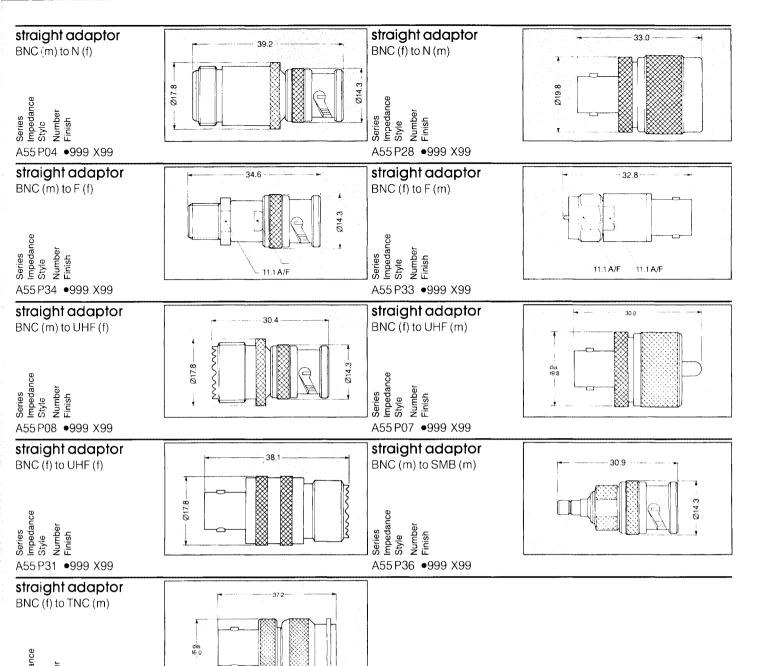




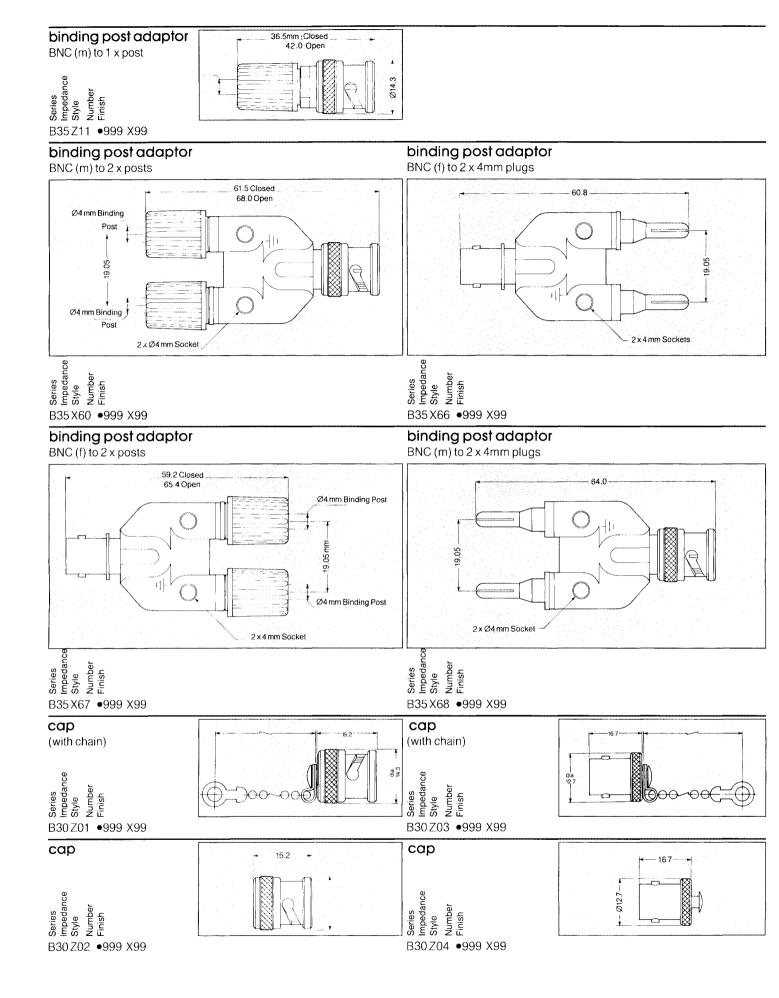
1 stepped legs prevent build up of hux

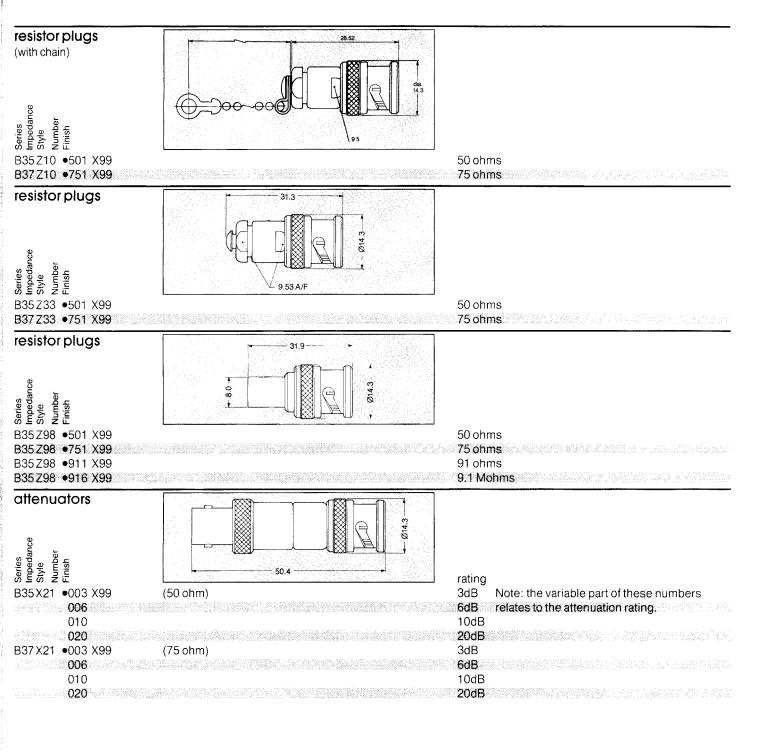


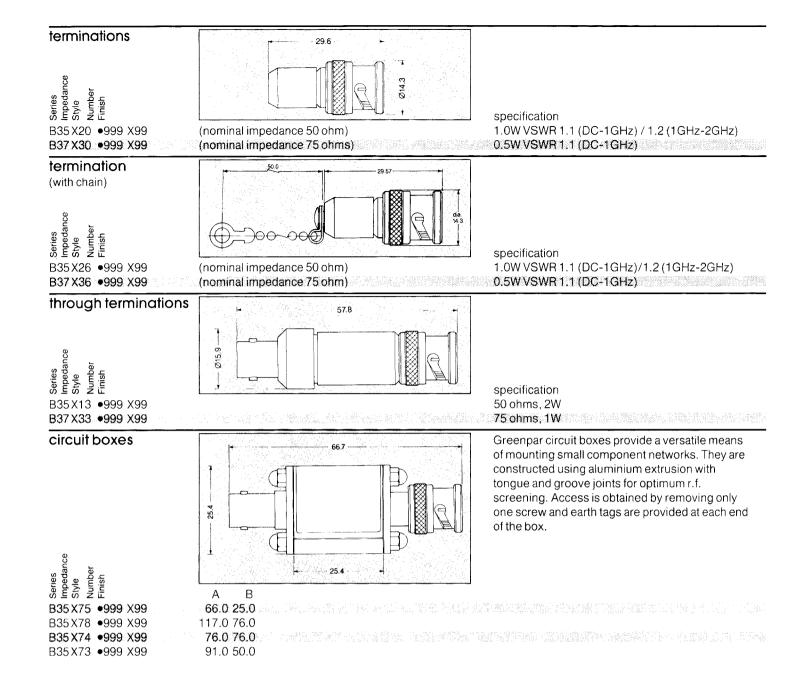




A55 P38 •999 X99





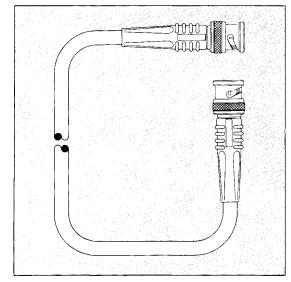


plug to plug

(BNC to BNC)

nickel body XB3A 050 B3A 01H5 XB3A 100 B3A 01H5 XB3A 150 B3A 01H5 XB3A 200 B3A 01H5

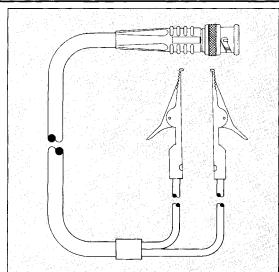
silver body XB3A 050 B3A 01E5 XB3A 100 B3A 01E5 XB3A 150 B3A 01E5 XB3A 200 B3A 01E5



nominal o/a length

- 0.5 m
- 1.0m
- 1.5m
- 2.0m
- 0.5m
- 1.0m
- 1.5m
- 2.0m

plug to clips



nominal o/a length

1.0m

1.0m

XB3A 100 C9C 01H5 silver body

XB3A 100 C9C 01E5

plug to plugs (BNC to 4mm)

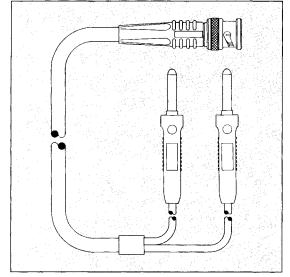
nickel body

silver body

XB3A 100 B4P 01H5

XB3A 100 B4P 01E5

nickel body



nominal o/a length

1.0m

1.0m

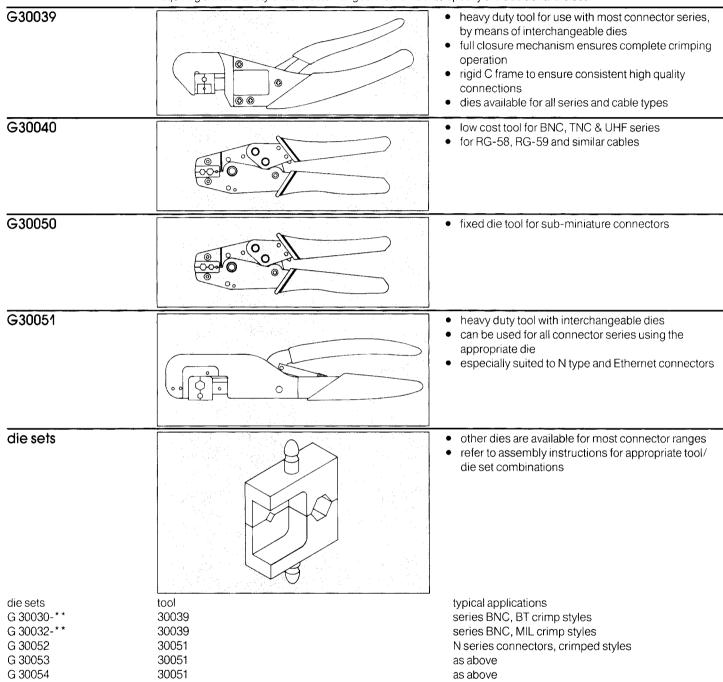
note: part numbers on this page do not conform to the connector part numbering rules

Greenpar offers four hand tools according to the connector ranges to be assembled.

G30040 & G30050 are supplied with a fixed three die design insert permitting crimping of both 50 & 75 ohm connectors suiting the cables listed in the cable groups shown in the chart. Each tool is robustly constructed with precision dies of high tensile steel; each of which will crimp both centre contact and outer ferrule. A ratchet mechanism ensures that the dies cannot be parted until the complete crimping operation has been performed in every case. But to allow for operator error, for instance, a mismatch of cable and die, there is a release catch which allows interruption of the process.

These are low cost, lightweight tools which can be used for assembly of specific connectors, according to the chosen tool.

G30039 and G30051 are heavier duty tools suited to all connector series and their corresponding cables, or for higher production volumes. Because the dies are interchangeable, the tools are equally suited to laboratory use requiring a wide variety of connector ranges. Remember to specify the additional die set.



note: the tools overlaid with tone are not related to this catalogue of connector products. note: **refer to the assembly instructions for the appropriate tool/die combinations.

| standard sleeves | 0000 | strain relief sleeves are available in a variety of colours and are normally marked 'Greenpar'. Unmarked or specially marked sleeves are available for viable quantities. |
|--|--|--|
| ST102110 11 12 13 14 15 16 17 18 | green blue brown yellow red grey violet orange white black | for cables, BT2003A, RG 71 & oversize RG62 (max O/D 7mm) |
| ST106403 04 05 06 07 08 09 10 11 12 | green blue brown yellow red grey violet orange white black | for RG174 cable (max O/D 3mm) |
| ST108720 21 22 23 24 25 26 27 28 29 | green blue brown yellow red grey violet orange white black | for cables, RG58 & RG223 (max O/D 5.5mm) |
| ST108730 31 32 33 34 35 36 37 38 39 | green blue brown yellow red grey violet orange white black | for cables, RG59, RG62B/U & URM70 (max O/D 6.3mm) |
| applications | | to protect cable at its entry to the connector to colour code to provide a degree of dirt and moisture resistance |
| cable assemblies | | cable assemblies incorporating the use of strain relief sleeves can be supplied (see page 27) |

Solder tags and insulating bushes are available for many panel mounted items which need to be isolated from the panel itself. It is important to note that the available mounting thread of the connector is effectively reduced when a bush is used, or conversely, that the panel must be thinner to allow for the thickness of the bush.

The part number allows for the specification of these accessories with bulkhead sockets in particular by using the digits which would otherwise be used for the cable group number of a cable entry style of connector.

Part Number variants:

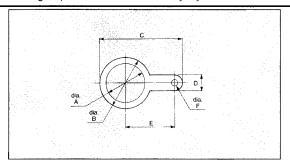
- ---M-- 001 S99: with solder tag only
- ---M-- 002 S99: with solder tag and insulating bushes for 'pip'

panel cut out

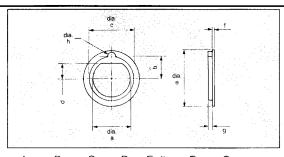
- ---M-- 003 S99: with insulating bushes only
- ---M-- 004 S99: with tag and bushes
- ---M-- 005 S99: with bushes only

(see below for specific style of bushes and tags. M=bulkhead socket).

solder tags

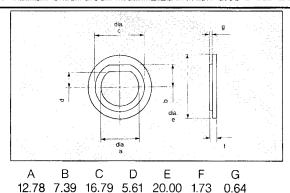


A B C D E F ST101502 12.95 19.05 22.23 3.18 11.10 1.02 ST101503 9.91 12.95 21.16 3.96 12.50 1.60



ST100539 ST103842 A B C D E.dia F G 9.53 11.89 3.99 5.72 2.79 1.40 0.38 12.75 16.26 5.59 7.92 2.28 1.40 0.38

insulating bushes



12.50 3.94 16.00 2.11

ST100903 ST108363

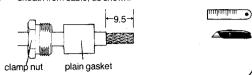
all dimensions are in mm

9.70 5.56

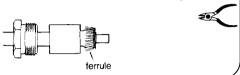
plugs and jacks captive contact, pressure sleeve clamp

assembly instructions

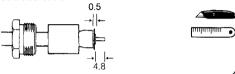
Slide clamp nut and plain gasket over cable and trim outer sheath from cable, as shown.



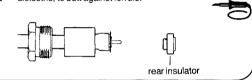
2 Fold back braid and push ferrule over dielectric to trap braid between outer sheath and ferrule. Trim off surplus braid.



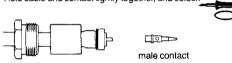
Trim back dielectric and check the length of the protruding centre conductor.



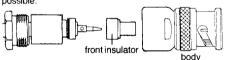
Tin centre conductor, then slide rear insulator over dielectric, to butt against ferrule.



Fit contact (male for plugs, female for jacks) onto centre conductor, with collar pressed into recess in rear insulator. Hold cable and contact tightly together, and solder.



Slide plain gasket and clamp nut up to ferrule, trapping braid. Fit front insulator over contact to butt against rear insulator and press sub-assembly into body as far as possible.



Engage and tighten clamp nut.

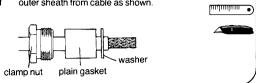


Note: a plug body is shown, but these instructions are relevant to both plugs and jacks. The shape of the contacts and insulators may vary from the drawings shown.

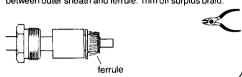
plugs and jacks captive contact, pressure sleeve clamp for cable groups 022 & 024

assembly instructions

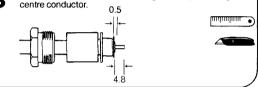
¶ Slide clamp nut, plain gasket and washer over cable; trim outer sheath from cable as shown.



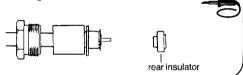
2 Fold back braid and push ferrule over dielectric to trap braid between outer sheath and ferrule. Trim off surplus braid.



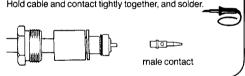
Trim back dielectric and check length of the protruding centre conductor.



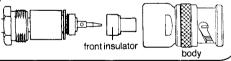
Tin centre conductor; then slide rear insulator over dielectric to butt against ferrule.



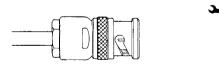
Fit contact (male for plugs, female for jacks) onto centre conductor, with collar pressed into recess in rear insulator. Hold cable and contact tightly together, and solder.



Slide washer, plain gasket and clamp nut up to ferrule, trapping braid. Fit front insulator over contact to butt against rear insulator and press sub-assembly into body as far as possible.



T Engage and tighten clamp nut.



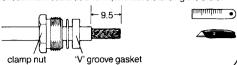
Note: a plug body is shown, but these instructions are relevant to both plugs and jacks. The characteristics of the contacts and insulators may vary from the drawings shown.

(A)

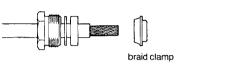
plugs and jacks non-captive contact, V groove gasket braid clamp

assembly instructions

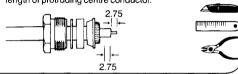
Slide clamp nut, washer and 'V' groove gasket over cable, (groove of gasket to face free end of cable) Trim outer sheath from cable as shown, without disturbing the braid.



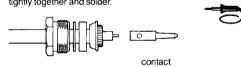
2 Slide braid clamp over braid so that Internal shoulder butts against face of outer sheath.



Fold braid back over braid clamp avoiding crossed wires and trim off surplus braid. Trim back dielectric and check length of protruding centre conductor.



Tin centre conductor and fit contact (male for plugs, female for jacks) onto centre conductor, hold cable and contact tightly together and solder.



5 Slide 'V' groove gasket, washer and clamp nut up to braid clamp and press sub-assembly into body as far as possible



Engage and tighten clamp nut.



Note: a plug body is shown, but these instructions are relevant to both plugs and jacks. The shape of the contact and insulators will vary.

plugs and jacks non-captive contact, UG style items

assembly instructions

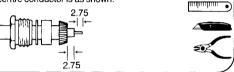
Slide clamp nut, washer and plain gasket over cable: trim outer sheath from cable as shown, without disturbing the basis.



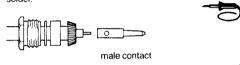
2 Fit braid clamp so that the internal shoulder butts to the end of the outer cable



Fold back braid, avoiding crossed wires, and trim surplus braid. Trim dielectric and check that dimension of exposed centre conductor is as shown.



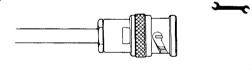
Tin centre conductor and fit contact to butt against face of dielectric. Hold cable and contact tightly together and solder



5 Slide plain gasket, flat washer and clamp nut to braid clamp and press sub-assembly into body as far as possible.



6 Engage and tighten clamp nut.



Note: a plug body is shown, but these instructions are relevant to both plugs and jacks. The shape of the contact and insulators will vary.

(A)

plugs, elbow plugs and jacks captive contact, MIL crimp

assembly instructions

Slide metal crimp sleeve over cable, trim outer sheath from cable as shown.



Trim back braid and dielectric to the dimensions shown.



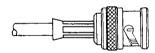
Fit contact over centre conductor to butt against the dielectric, then crimp.



4 Press sub-assembly into body, until contact clicks into place and ensuring that the knurled ferrule is inserted between the dielectric and braid.



5 Slide the sleeve along the cable, until it butts against the body sub-assembly. Crimp, using the tool listed below.

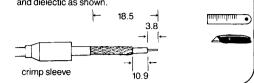


Note: a plug is shown, but these instructions are relevant to both plugs and jacks. The shape of contacts and insulators may also vary from the drawings shown.

plugs, elbow plugs and jacks captive contact, MIL crimp for cables in group 022

assembly instructions

Slide metal crimp sleeve over cable, trim outer sheath, braid and dielectic as shown.



2 Slide small brass sleeve over dielectric and under braid. Place small plastic sleeve on the end of the dielectric.



Fit contact over centre conductor to butt against the dielectric: then crimp.



Press sub-assembly into body, ensuring knurled ferrule is inserted between the dielectric and braid. Slide sleeve to butt against body sub-assy. Crimp, using the tool listed below.



Note: a plug body is shown, but these instructions are relevant to both plugs and jacks. The shape of contacts and insulators may also vary from the drawings shown.

| Cable groups · | Tool | Die | (BS ref) |
|----------------------------|----------------|------------------------|----------|
| 007 060 A25 B25 C25 D25 | 30040 30039 | (fixed die) 30032WG | (WG) |
| 010 | 30040 30039 | (fixed die) 30032WD | (WD) |
| 007 | 30039 | WG | |

 Cable group
 Tool
 Die
 (BS ref)

 022
 30040 (fixed die)
 (WD)

(A

elbow plugs captive contact 'V' groove gasket braid clamp

assembly instructions

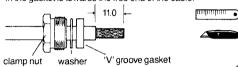
Assemble contact and insulators in the sequence shown. Fit them into the body with the contact slot aligned ready for the



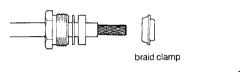
rear insulator contact front insulator

body

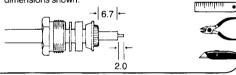
Slide clamp nut, washer and 'V' groove gasket over cable and trim the outer sheath as shown. Ensure that the groove in the gasket is towards the free end of the cable



Fit braid clamp so that internal shoulder butts against the end of the outer sheath.



Fold back braid avoiding crossed wires and trim the surplus braid. Trim dielectric and the centre conductor to the



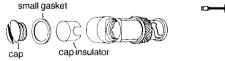
Slide 'V' groove gasket, flat washer and clamp nut along to the braid clamp ensuring that the groove seats on the



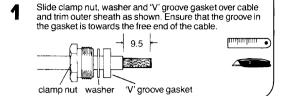
Tin centre conductor and press sub-assembly into body. Tighten clamp nut and solder centre conductor to slot in contact



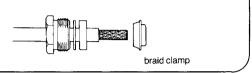
Fit the small gasket onto the cap, then fit the cupped insulator, followed by the cap, into the body and tighten.



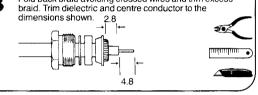
plugs and jacks bulkhead and panel jacks captive contact 'V' groove gasket braid clamp assembly instructions



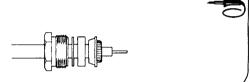
Fit braid clamp so that the internal shoulder butts against the end of the outer sheath



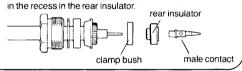
Fold back braid avoiding crossed wires and trim excess braid. Trim dielectric and centre conductor to the dimensions shown.



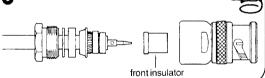
Tin centre conductor.



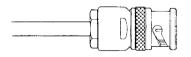
Slide clamp bush and rear insulator over dielectric to butt against braid. Fit contact (male for plugs, female for jacks) onto centre conductor so that the collar on the contact seats



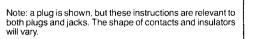
Hold contact and cable tightly together and solder



Slide 'V' groove gasket, flat washer and clamp nut to braid clamp. Fit front insulator over contact to butt to rear insulator. Press sub-assembly into connector body.



Engage and tighten clamp nut.



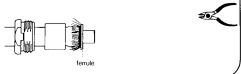
plugs and bulkhead jacks pressure sleeve cable clamp for large cables

assembly instructions

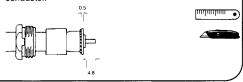
Slide clamp nut and plain gasket over cable and trirn outer sheath from cable as shown.



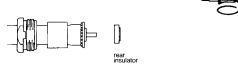
2 Fold back braid and push ferrule over dielectric to trap braid between outer sheath and ferrule. Trim off surplus braid.



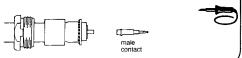
Trim dielectric and check length of protruding centre



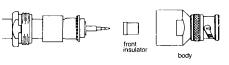
Tin centre conductor and slide rear insulator over dielectric to butt against ferrule.



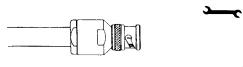
Fit contact, (male for plugs, female for jacks) onto centre conductor with the collar pressed into the recess in the rear insulator. Hold cable and contact tightly together and solder.



Slide plain gasket and clamp nut to the ferrule, trapping braid. Fit front insulator over contact to butt against rear insulator.



Press sub-assembly into body. Engage and tighten clamp nut.



A plug body is shown, but these instructions are relevant to both plugs and jacks. The shape of contacts and insulators will vary.

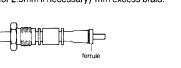
bulkhead jacks captive contact pressure sleeve cable clamp

assembly instructions

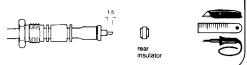
Slide clamp nut, a washer, plain gasket and the other washer over cable. Trim outer sheath from cable as shown.



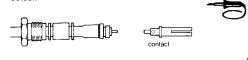
Pold back braid and push ferrule over dielectric to trap braid between outer sheath and ferrule. (slit sheath on both sides for 2.5mm if necessary) Trim excess braid.



3 Trim dielectric to the dimension shown and tin the centre conductor. Slide rear insulator over dielectric and into the ferrule.



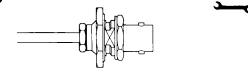
Fit contact (male for plugs, female for jacks) onto centre conductor. Hold contact and cable tightly together and solder



5 Slide clamp nut, washers and plain gasket up to ferrule, trapping braid. Press sub-assembly into body.



6 Engage and tighten clamp nut.

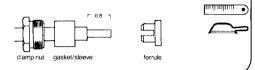


(A)

plugs and jacks captive contact for semi-rigid cable

assembly instructions

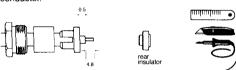
Slide clamp nut, plain gasket/metal sleeve over outer conductor and trim as shown.



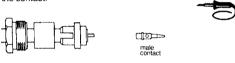
2 Fit the ferrule so that the internal step butts to the end of the outer conductor.



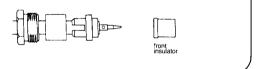
3 Solder the ferrule in this position, melting the solder into the notch and trim the dielectric as shown. Tin the centre conductor.



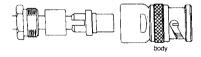
Slide the rear insulator over dielectric to butt against ferrule, fit centre contact and holding the assembly tightly, solder the contact.



Slide gasket/sleeve, and nut to the ferrule.



Fit the front insulator and press sub-assembly into the body.



T Engage and tighten clamp nut.

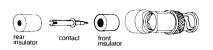


A plug body is shown, but these instructions are relevant to both plugs and jacks. The shape of contacts and insulators will vary.

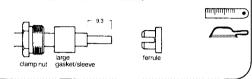
elbow plugs captive contact, pressure sleeve clamp for semi-rigid cable

assembly instructions

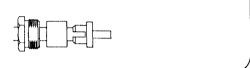
Assemble the contact and insulators in the sequence shown. Fit them into the body with the contact slot aligned ready for the conductor.



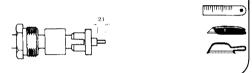
2 Slide clamp nut and large gasket/metal sleeve over cable and trim outer sheath from cable, as shown.



3 Fit the ferrule so that the internal step butts to the end of the outer conductor.



Solder the ferrule in this position, melting the solder into the notch and trim the dielectric as shown.



5 Slide the large gasket/metal sleeve and nut to the ferrule, tin centre conductor and press sub-assembly into body. Holding the body and cable rigidly, tighten the nut into the body.



Solder the centre conductor to the slot in the contact. Fit the small gasket onto the cap, then fit the cupped insulator, followed by the cap, into the body and tighten.



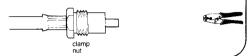
plugs and jacks captive contact, BT crimp

assembly instructions

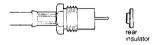
Slide rubber sleeve* and crimp sleeve over cable. Trim outer sheath and braid to dimensions shown.



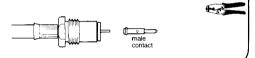
Place clamp nut over dielectric and under the braid to butt against the outer sheath. Slide sleeve forward until it butts against the clamp nut and crimp, ensuring that the crimp die is touching the face of the clamp nut.



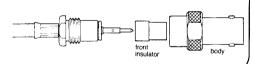
Trim the dielectric flush with the clamp nut. Slide rear insulator over centre conductor and into recess in the nut, until the insulator butts against the face of the nut.



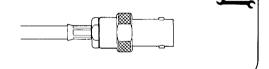
Fit contact onto centre conductor until the collar butts against face of rear insulator, trimming the conductor if necessary. Crimp the sleeve.



Fit front insulator over the contact so that it touches the rear insulator. Press sub-assembly into the body.



Engage and tighten clamp nut.*



Note: a jack body is shown, but these instructions apply to both plugs and jacks. The shape of the contacts and insulators will vary.

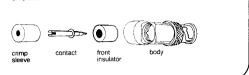
The rubber sleeve is only supplied for cables in group 167. When the assembly is complete, this sleeve should be pulled forward to cover the crimped sleeve and joint.

Dimensions for part 1: General cables Cable Group 167 A=27mm B=8mm A=39.5mm B=20.5mm Cable group 030 Tool Die (BS reference) 30039 30039 30030VC (VC) (VR) 062 30030VR 117 167 30039 30039 30030VQ 30030VS

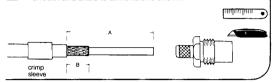
elbow plugs BT crimp

assembly instructions

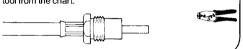
Assemble the contact and insulators in the sequence shown.



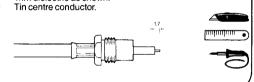
Slide rubber sleeve* and crimp sleeve over cable. Trim outer sheath and braid to dimensions shown.



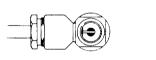
Place clamp nut over dielectric to butt against outer sheath face ensuring that the knurled ferrule is inserted between the dielectric and braid. Slide the sleeve along the cable until it butts against the clamp nut. Crimp, using the correct



Trim dielectric as shown. Tin centre conductor



Press sub-assembly into the body and tighten the clamp



Solder centre conductor to the slot in the contact.



Fit the small gasket onto the cap, then fit the cupped insulator, followed by the cap, into the body and tighten.



*Note: the rubber sleeve is only supplied for cables in group 167. When the assembly is complete, this sleeve should be pulled forward to cover the crimped sleeve and joint.

| Dimensions for p General cables A=31.5mm B=8mm | art 1: | Cable Group A=44mm B=20.5mm | 167 |
|---|--------|-----------------------------------|----------------|
| Cable group | Tool | Die | (BS reference) |
| 030 | 30039 | 30030VC | (VC) |
| 062 | 30039 | 30030VR | (VR) |
| 117 | 30039 | 30030VQ | (VQ) |
| 167 | 30039 | 30030VS | (VS) |

(B)

plugs captive contact, three part rapid assembly

assembly instructions

Slide clamp nut over cable, trim outer sheath, braid and dielectric flush, as shown.



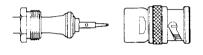
Push contact/ferrule sub-assembly onto cable until the dielectric touches the insulator and so that the tapered ferrule enters under the braid. The braid and sheath should cover the outside of the tapered ferrule.



Solder centre conductor onto the contact.



Push cable assembly into the body.



Engage and tighten clamp nut.



plug

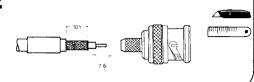
2 parts only for rapidly crimped assembly

assembly instructions

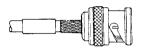
Slide crimp sleeve over cable, trim outer sheath as shown.



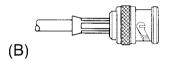
Trim braid and dielectric to dimensions



Push cable fully into the body to ensure centre conductor is firmly located in centre contact. Ensure knurled ferrule is inserted under the braid



4 Slide crimp sleeve along cable until it butts against the body sub-assembly; then crimp, using tool 30040 or 30039 with die set 30030 WD



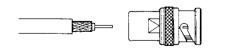
plug twist-on, rapid assembly

assembly instructions

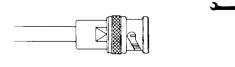
Trim outer sheath, braid and dielectric to the dimensions shown.



Twist braid in a clockwise direction to expose the dielectric.



Push the cable into the connector as far as possible and twist-on.



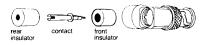
(A)

(C)

elbow plugs captive contact, pressure sleeve clamp

assembly instructions

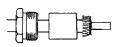
Assemble the contact and insulators in the sequence shown. Fit them into the body with the contact slot aligned ready for the conductor.



Slide clamp nut and large gasket over cable and trim outer sheath from cable as shown.



Fold back braid, and push ferrule over dielectric to trap braid between end of outer sheath and ferrule. Trim off surplus braid.



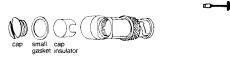
Slide gasket and nut to ferrule, trapping the braid against the flange. Trim back dielectric and check the length of the protruding centre conductor.



Tin centre conductor and press sub-assembly into the body. Tighten clamp nut and solder centre conductor to slot in



Fit the small gasket onto the cap, then fit the cupped insulator, followed by the cap, into the body and tighten.



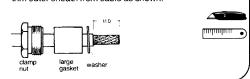
elbow plugs captive contact, pressure sleeve clamp for cables in groups 022 & 024

assembly instructions

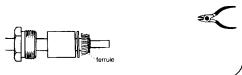
Assemble the contact and insulators in the sequence shown. Fit them into the body with the contact slot aligned ready for the conductor.



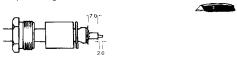
Slide clamp nut, large gasket and washer over cable and trim outer sheath from cable as shown.



Fold back braid and push ferrule over dielectric to trap braid between end of outer sheath and ferrule. Trim surplus braid.



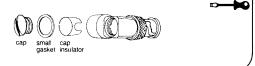
Slide gasket nut and washer to ferrule, trapping the braid against the flange. Trim dielectric and check the length of the protruding centre conductor.



Tin centre conductor and press sub-assembly into the body. Tighten clamp nut and solder centre conductor to slot in contact.



Fit the small gasket onto the cap, than fit the cupped insulator, followed by the cap, into the body and tighten.



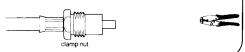
collet lock plug

assembly instructions

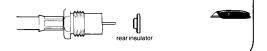
Slide crimp sleeve over cable and trim outer sheath and braid to dimensions shown.



Place clamp nut over dielectric and under the braid to butt against the outer sheath. Slide sleeve forward until it butts against the clamp nut and crimp, with the tool touching the nut



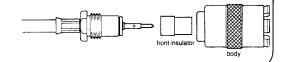
3 Trim dielectric flush with clamp nut. Slide rear insulator over centre conductor and into clamp nut recess until insulator butts to clamp nut.



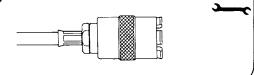
Fit contact onto centre conductor until collar butts to rear insulator, trimming conductor if necessary. Crimp the contact.



Fit front insulator over contact to butt against rear insulator. Press sub-assembly into the body.



Engage and tighten clamp nut.

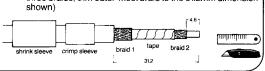


Use crimping tool reference No 30040 or, 30039 with die set 30030 WD $\,$

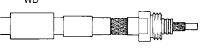
collet lock plug captive contact

assembly instructions

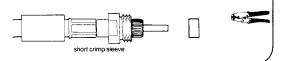
Slide shrink sleeve and long crimp sleeve over cable. Trim outer sheath and braid to dimensions shown. (For cable with three braids, trim outer-most braid to the 31.2mm dimension shown)



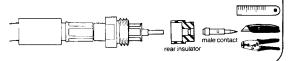
Place knurled part of ferrule over tape and under braid 1.
Slide long crimp sleeve over braid to butt against ferrule and then crimp, using tool 30040 or 30039 with die set 30030 WD



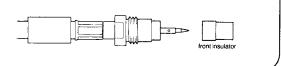
Fold braid 2 back over grooved portion of ferrule. Slide short crimp sleeve over braid to butt against ferrule and crimp. Trim excess braid.



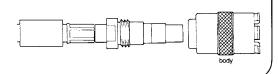
Trim dielectric to dimension shown. Slide rear insulator over cable and onto short crimp sleeve. Fit contact over centre conductor to butt against insulator and then crimp.



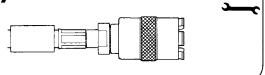
Fit front insulator over contact to butt against rear insulator.



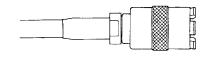
Press sub-assembly into the body.



Engage and tighten ferrule to a torque of 4Nm.



Slide shrink sleeve forward over crimped sleeve and apply heat.



(A)

(B)

methods of cable retention

crimp

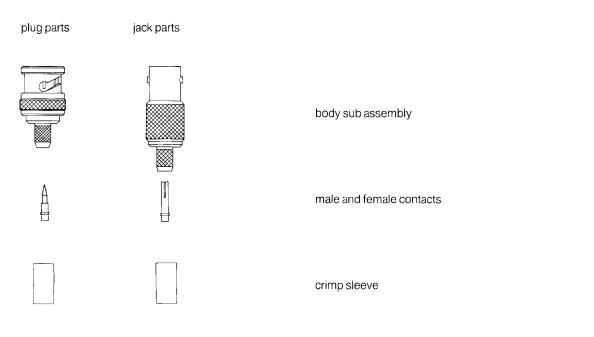
A crimped connector comprises only a few piece parts and produces a consistent result almost independent of the skill of the operator.

The braid is secured by being trapped between a crimped metal sleeve and the body of the connector. Once the cable has been prepared the assembly operation is very rapid.

Crimping is a 'cold' process, requiring no external power and therefore presenting no risk in dangerous or explosive environments. The crimping tool is required to match the connector dimensions precisely and may therefore be limited to a particular range of cables but the result is a quick, reliable connection which in many cases provides a greater 'pull-off' resistance than the equivalent clamp.

Standard crimp connectors are not re-usable. If retermination is required, the unwanted connector must be cut from the cable end.

piece parts in typical crimp connectors



solder/clamp

The clamp method of fastening connectors to co-axial cable requires mechanical clamping of the braid, usually by means of a threaded nut, and soldering of the centre conductor to the contact.

Securing the braid involves the assembly of a number of piece parts onto the cable after preparing the cable end. Satisfactory soldering requires a suitable small soldering iron with a power source, and an experienced operator.

The main advantage of the clamp/solder termination is its independence from special tools — only common workshop tools are needed. It also has the advantage that the joint can be inspected and if necessary, be remade without shortening the cable.

| piece parts in | 11111111111111111111111111111111111111 | | This page shows trained place parts used in PNC |
|-------------------------------------|--|-------------|---|
| typical solder/ clamp connectors | plug parts | jack parts | This page shows typical piece parts used in BNC connectors. For additional information, and to assist recognition and checking of parts supplied, turn to the appropriate assembly instruction pages. Where several parts are shown side by side, there would normally be only one of them per product. The simplest connector products might only have two or three piece parts in total. |
| | | | front insulator (pre-assembled in some connectors) |
| | | Emilion III | male & female contacts (may be captive or non-captive) |
| | | | rear insulator (supplied with only captive contacts) |
| | | | clamp bushing and braid clamp (used with V groove gasket system) or ferrule (used with pressure sleeve clamp styles) |
| | | | plain gasket or 'V' groove gasket |
| | distributions | | washer (supplied with some styles) |
| | | | clamp nut |
| key to symbols | | | measuring instrument – a rule is shown, but better results are obtained by using a Vernier gauge. |
| | | | stout trimming blade, suitable for cutting copper wire braid |
| | | | crimping tool – for more details, see page 28 |
| | | | soldering iron |
| | 1 | | side cutters, also for trimming braid |
| | | | spanner, of the relevant size for the connector |
| | | | small screwdriver |
| | | | hacksaw, sometimes appropriate for semi rigid cable, although for repetitive operations a power trimmer should be considered. |

| BNC | This catalogue relates exclusively to BNC connectors and associated components. These are small bayonet-lock coaxial connectors available in two 'intermateable' ranges of 50 ohm and 75 ohm impedance typically used with cables of 5-6mm diameter such as RG-58 and RG-59: styles for smaller and larger cables are also available. The standard bodies are brass, finished in nickel or silver plate with gold or silver inner contacts. |
|-----------------|--|
| TNC | Screw-coupled versions of the BNC series, in a comprehensive range of intermateable 50 and 75 ohm BNC equivalents. The increased rigidity of the screw coupling gives a more consistent performance under adverse operating conditions. Silver plated brass is the standard for TNC connectors, but as with BNC, nickel plated versions are used for less demanding applications. |
| N | Screw coupled coaxial connectors widely used in test and measurement systems also aerial installations. Larger than BNC, they also give better performance, especially with large cables such as RG-213 and RG-214. A particularly wide range of styles is available in both 50 and 75 ohm impedance; although items of different impedance are not intermateable. |
| UHF | Robust r.f. connectors for general purpose, low cost applications, suitable for a wide variety of small to medium size r.f. cables. The UHF connector was one of the first coaxial connectors to be widely used, but owing to its design, it is not suitable for very high frequency use. Because of its durability it is still widely used in low frequency r.f. and video applications. UHF bodies are silver or nickel plated brass with silver plated brass contacts. A small range of UHF twin items is available for use with twin-conductor, screened cables. |
| C & SC-A | Bayonet coupled coaxial connectors, larger than BNC and able to carry higher power. They are suitable for larger cables such as RG-213 and are generally used in more demanding applications. Series SC is a screw coupled variant of the series C and Greenpar offers the European "SC-A" which is not intermateable with the MIL-C-39012 version used in the USA. C and SC-A ranges are available as 50 or 75 ohm versions none of which are intermateable. |
| Computer Twinax | A range of twin contact screened connectors widely used in computer systems. The connector bodies are robustly constructed to provide long term reliability despite rough handling and the mating faces are polarised to prevent incorrect connection. All the components in this series meet the requirements of the relevant IBM specifications. Bodies are nickel plated brass with silver plated inner contacts. |
| BNO & TNO | Similar to the popular BNC coaxial connectors, but incorporating polarised twin contacts, one male and one female. The TNO range is a further development, employing a threaded coupling for increased security and using the BNC style "pips" on each side of the body to resist axial torque. TNO sockets accept both types of plug, and both ranges are designed to suit balanced twin rf cables including RG-108A/U, DRM 68 and carrier twin cable to BT specification CW 155C. |
| F | A low cost connector finding increasing use in cable TV and related applications. Plug items generally use the cable centre conductor as the inner contact. Body parts are nickel plated brass, with crimp connection to coaxial cable. |
| SMA | Miniature high performance connectors offering good performance to 18GHz and beyond. The design is optimised for use with RG-402/U ("UT-141") semi-rigid cable, but also offers excellent performance with other semi-rigid and flexible cables. SMA connectors have gold plated or passivated stainless steel bodies with gold plated beryllium copper contacts. |
| SMB-C-D | Comprising three related miniature connector ranges. SMB feature snap-on connection, SMC uses screw coupling, whilst SMD are slide on. Performance is similar to that of the BNC series, but their smaller size - smaller than the SMA range for 50 ohm types - make them ideal general purpose miniature connectors. The 75 ohm versions have larger body sizes than the 50 ohm, and are fully matched for best r.f. performance. |
| PMMA | A special purpose proprietary range for the interconnection of modular microwave systems. These connectors do not require precise alignment before mating, since the plug items provide both axial and radial float and are thus self-aligning with the corresponding socket: making them ideal for blind mating applications. Plugs and jacks are available for semi-rigid and small cables. Plug contacts are gold-plated, whilst other metal parts are passivated stainless steel with gold plating as an option. |
| MCX | Miniature connectors based on the proven principles of SMB, but smaller and lighter. MCX has been developed through careful elimination of piece parts, yet retains high performance up to 2GHz. The right-angle versions have a very low profile and permit wiring to run parallel to mounting panel or p.c.b. Crimp or solder variants are available to accept cable up to 3mm OD, plus pcb and socket items. |
| SHV | High Voltage screened connectors with recessed contacts, for safe use up to 5kV d.c. These connectors meet the IEC 498(B) specification, and are available to suit RG-58 and RG-59 cables. |
| miscellaneous | special connectors, components and assemblies. These ranges include: Greenpar proprietary Inter-series adaptor system; one piece adaptors; attenuators; terminations and power dividers; circuit boxes; EMP protection devices; standard and precision cable assemblies; Telecom and Ethernet assemblies. |

| old number | new number | page | old number | new number | page | old number | new numbe | er | page |
|------------|------------------|------|------------|------------------|------|-------------|------------|------------------|------|
| 30001 | B30 Z01 •999 X99 | 24 | 35033/75R | B37 Z33 •751 X99 | 25 | 35143D7 | B35 E43 | •B07 X99 | 12 |
| 30002 | B30 Z02 •999 X99 | 24 | 35034 | B35 P34 •999 X99 | 23 | 35144D10† | B35 G44 | | 13 |
| 30003 | B30 Z03 •999 X99 | 24 | 35035-25† | B37 G35 •025 †99 | 13 | 35144D22† | B35 G44 | | 13 |
| 30004 | B30 Z04 •999 X99 | 24 | 35039-10 | B35 H06 •010 X99 | 14 | 35144D25† | B35 G44 | | 13 |
| 35001-10 | B35 A11 •010 X99 | 7 | 35039A10 | B35 H07 •010 X99 | 14 | 35144D60† | B35 G44 | | 13 |
| 35001C10 | B35 A01 •010 X99 | 7 | 35039C10 | B35 H39 •010 X99 | 14 | 35144D7† | B35 G44 | , | 13 |
| 35001C22 | B35 A01 •022 X99 | 7 | 35039C22 | B35 H39 •022 X99 | 14 | 35145D10 | B35 H45 | •010 X99 | 16 |
| 35001C24 | B35 A01 •024 X99 | 7 | 35039C60 | B35 H39 •060 X99 | 14 | 35145D22 | B35 H45 | •022 X99 | 16 |
| 35001C29 | B35 A01 •029 X99 | 7 | 35039C9 | B35 H39 •009 X99 | 14 | 35145D25 | B35 H45 | •A25 X99 | 16 |
| 35001C30 | B35 A01 •030 X99 | 7 | 35040-25 | B37 H40 •025 X99 | 14 | 35145D60 | B35 H45 | •060 X99 | 16 |
| 35001C73 | B35 A01 •073 X99 | 7 | 35041 | B35 M41 •999 X99 | 17 | 35145D7 | B35 H45 | •B07 X99 | 16 |
| 35002A10 | B35 B12 •010 X99 | 9 | 35043 | B35 M43 •999 X99 | 17 | 35100 | | •022 X99 | 17 |
| 35002C10 | B35 B02 •010 X99 | 9 | 35047-25 | B37 A47 •025 X99 | 7 | 35203C22 | | •022 X99 | 15 |
| 35002C22 | B35 B02 •022 X99 | 9 | 35048-25 | B37 A48 •025 X99 | 7 | 35203C24 | B35 H03 | •024 X99 | 15 |
| 35002C24 | B35 B02 •024 X99 | 9 | 35049 | B35 M49 •999 X99 | 18 | 35214 | B35 N14 | •999 X99 | 20 |
| 35002C29 | B35 B02 •029 X99 | 9 | 35050-25 | B37 H50 •025 X99 | 14 | 35218 | | •999 X99 | 18 |
| 35002C30 | B35 B02 •030 X99 | 9 | 35057-10+ | B35 G06 •010 †99 | 13 | 35226D10 | B35 A26 | •010 X99 | 10 |
| 35002C60 | B35 B02 •060 X99 | 9 | 35057A10† | B35 G07 •010 †99 | 13 | 35226D334 | B35 A26 | •344 X99 | 10 |
| 35002C73 | B35 B02 •073 X99 | 9 | 35057C22† | B35 G57 •022 †99 | 13 | 35226D339 | B35 A26 | •339 X99 | 10 |
| 35002C9 | B35 B02 •009 X99 | 9 | 35057C60† | B35 G57 •060 †99 | 13 | 35226D60 | B35 A26 | •060 X99 | 10 |
| 35003-10 | B35 E13 •010 X99 | 11 | 35057C9† | B35 G57 •009 †99 | 13 | 35228D10 | B35 B28 | •010 X99 | 9 |
| 35003C10 | B35 E03 •010 X99 | 11 | 35060-10 | B35 E06 •010 X99 | 11 | 35228D22 | B35 B28 | •022 X99 | 9 |
| 35003C22 | B35 E03 •022 X99 | 11 | 35060A10 | B35 E07 •010 X99 | 11 | 35228D25 | B35 B28 | •A25 X99 | 9 |
| 35003C24 | B35 E03 •024 X99 | 11 | 35060C10 | B35 E60 •010 X99 | 11 | 35228D60 | B35 B28 | •060 X99 | 9 |
| 35003C29 | B35 E03 •029 X99 | 11 | 35060C22 | B35 E60 •022 X99 | 11 | 35228D7 | B35 B28 | •B07 X99 | 9 |
| 35003C30 | B35 E03 •030 X99 | 11 | 35060C60 | B37 E60 •060 X99 | 11 | 35246 | | •999 X99 | 18 |
| 35003C73 | B35 E03 •073 X99 | 11 | 35060C9 | B35 E60 •009 X99 | 11 | 35253K25 | B37 A53 | •025 X99 | 7 |
| 35004-10† | B35 G14 •010 †99 | 12 | 35061C27 | B35 E61 •027 X99 | 11 | 35257 | B35 N57 | •999 X99 | 20 |
| 35004C10† | B35 G04 •010 †99 | 12 | 35061C41 | B35 E61 •041 X99 | 11 | 35261 | B35 N61 | •999 X99 | 20 |
| 35004C22+ | B35 G04 •022 †99 | 12 | 35061C74 | B35 E61 •074 X99 | 11 | 35262 | B35 N62 | •999 X99 | 20 |
| 35004C24† | B35 G04 •024 †99 | 12 | 35061C79 | B35 E61 •079 X99 | 11 | 35263 | B35 N63 | •999 X99 | 20 |
| 35004C29† | B35 G04 •029 †99 | 12 | 35062 | B35 M13 •002 X99 | 17 | 35264 | B35 N64 | •999 X99 | 20 |
| 35004C30† | B35 G04 •030 †99 | 12 | 35063 | B35 M63 •999 X99 | 17 | 35281C22 | B35 H81 | •022 X99 | 15 |
| 35004C73† | B35 G04 •073 †99 | 12 | 35070-10 | B35 A06 •010 X99 | 7 | 35281C24 | B35 H81 | •024 X99 | 15 |
| 35005-10 | B35 H05 •010 X99 | 14 | 35070A10 | B35 A07 •010 X99 | 7 | 35282 | B35 N82 | •999 X99 | 21 |
| 35007† | B35 K07 •999 †99 | 19 | 35070C10 | B35 A70 •010 X99 | 7 | 35283 | B35 N83 | •999 X99 | 21 |
| 35008 | B35 M08 •999 X99 | 17 | 35070C22 | B35 A70 •022 X99 | 7 | 35287 | B35 R87 | •999 X99 | 22 |
| 35009 | B35 M09 •999 X99 | 18 | 35070C60 | B35 A70 ●060 X99 | 7 | 35288 | B35 R88 | •999 X99 | 22 |
| 35010/50R | B35 Z10 ●501 X99 | 25 | 35070C9 | B35 A70 ●009 X99 | 7 | 35292 | B35 N92 | ●999 X99 | 21 |
| 35010/75R | B37 Z10 ●751 X99 | 25 | 35071C27 | B35 A71 ●027 X99 | 7 | 35293 | B35 N93 | ●999 X99 | 21 |
| 35011 | B35 Z11 ●999 X99 | 24 | 35071C41 | B35 A71 ●041 X99 | 7 | 35294 | B35 N94 | ●999 X99 | 21 |
| 35013 | B35 M13 •999 X99 | 17 | 35071C74 | B35 A71 ●074 X99 | 7 | 35295 | B35 N95 | ●999 X99 | 21 |
| 35014† | B35 K14 ●999 †99 | 19 | 35071C79 | B35 A71 ●079 X99 | 7 | 37141D12 | B37 A41 | ●012 X99 | 8 |
| 35018-10 | B35 A18 ●010 X99 | 7 | 35076 | B35 D76 ●999 X99 | 10 | 37141D22 | B37 A41 | ●022 X99 | 8 |
| 35019-25 | B37 A19 ●025 X99 | 7 | 35079C1 | B35 H79 ●001 X99 | 15 | 37141D25 | B37 A41 | ●A25 X99 | 8 |
| 35020-10 | B35 E20 •010 X99 | 11 | 35079C4 | B35 H79 ●004 X99 | 15 | 37141D25/1 | B37 A41 | •B25 X99 | 8 |
| 35021-25 | B37 E21 ●025 X99 | 11 | 35081 | B35 R81 ●999 X99 | 22 | 37141D25/2 | B37 A41 | •C25 X99 | |
| 35022-25 | B37 E22 ●025 X99 | 11 | 35083† | B35 K83 ●999 †99 | 19 | 37141D350/2 | B37 A41 | ●350 X99 | 8 |
| 35023-25† | B37 G23 ●025 †99 | 12 | 35084 | B35 M84 ●999 X99 | 17 | 37141D52/1 | B37 A41 | ●052 X99 | 8 |
| 35024-10† | B35 G24 •010 †99 | 13 | 35086 | B35 C86 ●999 X99 | 10 | 37141D52/2 | B37 A41 | ●B52 X99 | 8 |
| 35025-25† | B37 G25 •025 †99 | 13 | 35096 | B35 P96 •999 X99 | 22 | 37141D7 | B37 A41 | ●B07 X99 | 8 |
| 35026 | B35 M26 ●999 X99 | 17 | 35098/50R | B35 Z98 ●501 X99 | 25 | 37143D12 | B37 E43 | ●012 X99 | 12 |
| 35027 | B35 M27 ●999 X99 | 17 | 35098/75R | B37 Z98 ●751 X99 | 25 | 37143D22 | B37 E43 | ●022 X99 | 12 |
| 35028 | B35 R28 ●999 X99 | 22 | 35103C4 | B35 A03 •004 X99 | 8 | 37143D25 | B37 E43 | ●A25 X99 | 12 |
| 35029 | B35 M29 ●999 X99 | 17 | 35103C1 | B35 A03 •001 X99 | 8 | 37143D350/2 | | ●350 X99 | 12 |
| 35030C10 | B35 H30 ●010 X99 | 14 | 35141D10 | B35 A41 •010 X99 | 8 | 37143D52/1 | B37 E43 | ●052 X99 | 12 |
| 35030C22 | B35 H30 ●022 X99 | 14 | 35141D22 | B35 A41 ●022 X99 | 8 | 37143D52/2 | B37 E43 | ●B52 X99 | |
| 35030C24 | B35 H30 ●024 X99 | 14 | 35141D25 | B35 A41 ◆A25 X99 | 8 | 37143D7 | B37 E43 | ●007 X99 | 12 |
| 35030C29 | B35 H30 ●029 X99 | 14 | 35141D60 | B35 A41 ●060 X99 | 8 | 37144D12† | B37 G44 | , | 13 |
| 35030C30 | B35 H30 ◆030 X99 | 14 | 35141D7 | B35 A41 ◆B07 X99 | 8 | 37144D22† | | ● 022 †99 | 13 |
| 35030C73 | B35 H30 ●073 X99 | 14 | 35143D10 | B35 E43 •010 X99 | 12 | 37144D25† | | ●A25 †99 | 13 |
| 35031 | B35 P31 •999 X99 | 23 | 35143D22 | B35 E43 •022 X99 | 12 | 37144D350† | | ● 350 †99 | 13 |
| 35032 | B35 P32 •999 X99 | 23 | 35143D25 | B35 E43 •A25 X99 | 12 | 37144D52† | | •052 †99 | 13 |
| 35033/50R | B35 Z33 ●501 X99 | 25 | 35143D60 | B35 E43 ●060 X99 | 12 | 37144D7† | B37 G44 | •B07 †99 | 13 |
| old number | new number | page | old number | new number | page | old number | new number | er | page |

Note:

[•] plating finish code – see pages 5 & 6 for details. † denotes fixing hole size code for panel mounted items, see page 5 for details.

| old number | new nu | umbe | er | | page | old number | new | numb | er | page | old number | new | numb | er | | page |
|-------------------------|--------|------------|--------------|-----|---------|----------------------|------------|------------|----------------------|------|------------|-----|------|--------|------------|------|
| 37145D12 | B37 I | H45 | •012 | X99 | 16 | 37528 | B37 | R28 | •999 X99 | 22 | 50038 | A55 | P38 | •999 > | K99 | 23 |
| 37145D22 | | H45 | •022 | | 16 | 37529 | B37 | | •999 X99 | | 80060 | B35 | X60 | •999 > | | 24 |
| 37145D25 | | H45 | •A25 | | 16 | 37531 | B37 | P31 | •999 X99 | | 80066 | B35 | X66 | •999 > | | 24 |
| 37145D350/2 | | | •350 | | 16 | 37532 | B37 | P32 | •999 X99 | | 80067 | B35 | X67 | •999 > | | 24 |
| 37145D52/1 | | | •052 | | 16 | 37534 | B37 | P34 | ●999 X99 | | 80068 | B35 | X68 | •999 > | X99 | 24 |
| 37145D52/2 | | H45 | B52 | | 16 | 37539A25 | B37 | H07 | | | 80073 | B35 | X73 | •999 > | | 26 |
| 37145D7 | | H45 | •007 | | 16 | 37539C117 | B37 | H39 | •117 X99 | | 80074 | B35 | X74 | •999 > | | 26 |
| 37166 | | | •999 | | 17 | 37539C119 | B37 | | ●119 X99 | 14 | 80075 | B35 | X75 | •999 > | | 26 |
| 37191D117 | | A91 | ● 117 | | 8 | 37539C12 | B37 | H39 | ●012 X99 | | 80078 | B35 | X78 | •999 > | X99 | 26 |
| 37191D167 | B37 | A91 | ● 167 | X99 | 8 | 37539C22 | B37 | H39 | ●022 X99 | | 80520 | B35 | X20 | •999 > | X20 | 26 |
| 37191D30 | B37 / | A91 | •030 | X99 | 8 | 37539C25 | B37 | H39 | ●025 X99 | 14 | 85021/3dB | B35 | X21 | •003 > | X99 | 25 |
| 37191D62 | B37 / | A91 | •062 | X99 | 8 | 37539C30 | B37 | H39 | ●030 X99 | 14 | 80521/6dB | B35 | X21 | •006 > | (99 | 25 |
| 37192D117 | B37 I | B92 | ● 117 | X99 | 10 | 37539C52 | B37 | H39 | ●052 X99 | 14 | 80521/10dB | B35 | X21 | •010 > | X99 | 25 |
| 37192D167 | B37 (| B92 | ● 167 | X99 | 10 | 37539C62 | B37 | H39 | ●062 X99 | 14 | 80521/26dB | B35 | X21 | •026 > | X99 | 25 |
| 37192D30 | B37 F | B92 | •030 | X99 | 10 | 37543 | B37 | | ●999 X99 | | 80530 | B37 | X30 | •999 > | X99 | 26 |
| 37192D62 | B37 (| B92 | •062 | X99 | 10 | 37549 | B37 | M49 | •999 X99 | 18 | 80536 | B37 | X36 | •999 > | | 26 |
| 37193D117 | B37 E | E93 | ● 117 | | 12 | 37557A25† | B37 | | •025 †99 | | 80721/3dB | B37 | X21 | •003 > | | 25 |
| 37193D167 | | E93 | ● 167 | | 12 | 37557C117† | B37 | | •117 †99 | | 80721/6dB | B37 | | •006 > | | 25 |
| 37193D30 | | E93 | •030 | | 12 | 37557C119† | B37 | | •119 †99 | | 80721/10dB | | X21 | •010 > | | 25 |
| 37193D62 | | E93 | •062 | | 12 | 37557C12† | B37 | | •062 †99 | | 80721/30dB | B37 | X21 | •030 > | (99 | 25 |
| 37194D117† | | | ● 117 | | 14 | 37557C22† | B37 | | •022 †99 | | 84013 | | X13 | •999 > | | 26 |
| 37194D167† | | | ● 167 | | 14 | 37557C25† | B37 | | •025 †99 | | 84033 | B37 | X33 | •999 > | (99 | 26 |
| 37194D30† | | | •030 | | 14 | 37557C30† | B37 | | •030 †99 | | | | | | | |
| 37194D62† | | | •062 | | 14 | 37557C52† | B37 | | •052 †99 | | | | | | | |
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| 37195D167 | | | ● 167 | | 16 | 37560A25 | B37 | E07 | ●025 X99 | | | | | | | |
| 37195D30 | | | •030 | | 16 | 37560C10 | B35 | E60 | ●010 X99 | | | | | | | |
| 37195D62 | | H95 | •062 | | 16 | 37560C11T | B37 | E60 | ●117 X99 | | | | | | | |
| 37226D62 | | A26 | •062 | | 10 | 37560C119 | B37 | E60 | •119 X99 | | | | | | | |
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| 37228D25 | | B28 | •A25 | | 9 | 37560C25 | B37 | E60 | ●025 X99 | | | | | | | |
| 37228D350/2 | | B28 | •350 | | 9 | 37560C30 | B37 | E60 | •030 X99 | | | | | | | |
| 37228D52/1 | | B28 | •052 | | 9 | 37560C52 | B37 | E60 | •052 X99 | | | | | | | |
| 37228D52/2 | | H28 | B52 | | 9 | 37560C62 | B37 | E60 | •062 X99 | | | | | | | |
| 37228D7 | | B28 | •B07 | | 9 | 37562 | B37 | | •002 S99 | | | | | | | |
| 37242D25/1 | | | •B25 | | 9 | 37563 | B37 | | •999 X99 | | | | | | | |
| 37243D25/1 | | E43 | •B25 | | 12 | 37570A25 | B37 | | | | | | | | | |
| 37244D25/1† | | | •B25 | | 13 | 37570C117 | B37 | | •117 X99 | | | | | | | |
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| 37279D25/1 37284D402 | _ | H79 | •B25 | | 15 | 37570C30 37570C52 | B37 | A70 A70 | ●030 X99 ●052 X99 | | | | | | | |
| 37284D402 37287 | | A41 R87 | ●D25 ●999 | | 8 22 | 37570C52 37570C62 | B37 | A70 | •062 X99 | | | | | | | |
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| 37290DN 37288 | | | •999 | | 22 | 37571C28 | B37 | | ●027 X99 | | | | | | | |
| 37502A25 | | | •025 | | 9 | 37571C7 | B37 | A71 | ●B07 X99 | | | | | | | |
| 37502A25 37502C117 | | | •117 | | 9 | 37571C79 | B37 | A71 | •079 X99 | | | | | | | |
| 37502C117 | | | •119 | | 9 | 37576 | B37 | C76 | •999 X99 | | | | | | | |
| 37502C119 | | | •012 | | 9 | 37581 | B37 | R81 | •999 X99 | | | | | | | |
| 37502C12 | | | •022 | | 9 | 37583† | B37 | K83 | •999 †99 | 19 | | | | | | |
| 37502C25 | | | •025 | | 9 | 37584 | B37 | M84 | | 17 | | | | | | |
| 37502C30 | | | •030 | | 9 | 37586† | B37 | C86 | •999 X99 | | | | | | | |
| 37502C50 | | | •052 | | 9 | 37596 | B37 | P96 | •999 X99 | 22 | | | | | | |
| 37502C62 | | | •062 | | 9 | 50004 | A55 | P04 | •999 X99 | 23 | | | | | | |
| 37502002 37507† | | | •999 | | 19 | 50007 | A55 | P07 | •999 X99 | 23 | | | | | | |
| 37508 | | | •999 | | 17 | 50007 | A55 | P08 | •999 X99 | 23 | | | | | | |
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| 37514† | | | •999 | | 19 | 50033 | A55 | P33 | •999 X99 | 22 | | | | | | |
| 37526 | | | •999 | | 17 | 50034 | A55 | P34 | •999 X99 | 22 | | | | | | |
| 37527 | | | •999 | | 17 | 50036 | A55 | P36 | •999 X99 | 23 | | | | | | |
| | | | | | | | | | | | | | | | | |
| old number | new กเ | umbe | er | | page | old number | new | numbe | er | page | | | | | - | |
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| new | numbe | er | | old number | page | new | numb | er | old number | page | new | numbe | er | | old number p | age |
|------|-------|--------------|-----|--------------|------|-----|-------|----------------------|------------|------|-----|-------|--------|-----|--------------|-----|
| A55 | P04 | •999 | X99 | 50004 | 23 | B35 | E03 | •010 X99 | 35003C10 | 11 | B35 | M08 | •999 | X99 | 35008 | 17 |
| A55 | P07 | •999 | | 50007 | 23 | B35 | E06 | •010 X99 | 35060-10 | 11 | B35 | | | | 35009 | 18 |
| A55 | P08 | •999 | | 50008 | 23 | B35 | E07 | •010 X99 | 35060A10 | 11 | B35 | | •999 | | 35013 | 17 |
| A55 | P28 | •999 | | 50028 | 23 | B35 | E13 | •010 X99 | 35003-10 | 11 | B35 | | •999 | | 35218 | 18 |
| A55 | P31 | •999 | | 50020 | 23 | B35 | E20 | •010 X99 | 35020-10 | 11 | B35 | | •999 | | 35026 | 17 |
| A55 | P33 | •999 | | 50031 | 23 | B35 | E43 | •A25 X99 | 35143D25 | 12 | B35 | | •999 | | 35020 | 17 |
| A55 | P34 | •999 | | 50033 | 23 | B35 | E43 | ●007 X99 | 35143D23 | 12 | B35 | | •999 | | 35027 | 17 |
| A55 | | •999 | | | 23 | B35 | E43 | ●007 X99 | | | | | | | | |
| | P36 | | | 50036 | | | | | 35143D10 | 12 | B35 | M41 | •999 | | 35041 | 17 |
| A55 | P38 | •999 | | 50038 | 23 | B35 | E43 | •022 X99 | 35143D22 | 12 | B35 | | •999 | | 35043 | 17 |
| B30 | Z01 | •999 | | 30001 | 24 | B35 | E43 | •060 X99 | 35143D60 | 12 | B35 | | •999 | | 35246 | 18 |
| B30 | Z02 | •999 | | 30002 | 24 | B35 | E60 | •009 X99 | 35060C9 | 11 | B35 | | •999 | | 35049 | 18 |
| B30 | Z03 | •999 | | 30003 | 24 | B35 | E60 | ●010 X99 | 37560C10 | 11 | B35 | | •002 | | 35062 | 17 |
| B30 | Z04 | •999 | | 30004 | 24 | B35 | E60 | ●022 X99 | 35060C22 | 11 | B35 | | •999 | X99 | 35063 | 17 |
| B35 | A01 | ● 010 | | 35001C10 | 7 | B35 | E60 | ●060 X99 | 35060C60 | 11 | B35 | | •999 | | 35166 | 17 |
| B35 | A01 | •022 | | 35001C22 | 7 | B35 | E61 | ●027 X99 | 35061C27 | 11 | B35 | M84 | | | 35084 | 17 |
| B35 | A01 | ● 024 | X99 | 35001 C24 | 7 | B35 | E61 | ●041 X99 | 35061C41 | 11 | B35 | N14 | •999 | X99 | 35214 | 20 |
| B35 | A01 | ● 029 | X99 | 35001C29 | 7 | B35 | E61 | ●074 X99 | 35061C74 | 11 | B35 | N57 | •999 | X99 | 35257 | 20 |
| B35 | A01 | •030 | X99 | 35001C30 | 7 | B35 | E61 | ●079 X99 | 35061C79 | 11 | B35 | N61 | •999 | X99 | 35261 | 20 |
| B35 | A01 | •073 | X99 | 35001C73 | 7 | B35 | G04 | ● 010 †99 | 35004C10† | 12 | B35 | N62 | •999 | | 35262 | 20 |
| B35 | A03 | •001 | X99 | 35103C1 | 8 | B35 | G04 | •022 †99 | 35004C22† | 12 | B35 | N63 | •999 | X99 | 35263 | 20 |
| B35 | A03 | •004 | X99 | 35103C4 | 8 | B35 | G04 | ● 024 †99 | 35004C24† | | B35 | N64 | •999 | X99 | 35264 | 20 |
| B35 | A06 | •010 | | 35070-10 | 7~ | B35 | | | 35004C29† | | B35 | | •999 | | 35282 | 21 |
| B35 | A07 | •010 | | 35070A10 | 7 | B35 | | •030 †99 | 35004C30† | | B35 | N83 | •999 | | 35283 | 21 |
| B35 | A11 | •010 | | 35001-10 | 7 | B35 | | •073 †99 | 35004C73† | | B35 | N92 | | | 35292 | 21 |
| B35 | A18 | •010 | | 35018-10 | 7 | B35 | | | 35057-10† | 13 | B35 | N93 | •999 | | 35293 | 21 |
| B35 | A26 | •010 | | 35226D10 | 10 | B35 | | •010 †99 | 35057A10† | | B35 | N94 | •999 | | 35294 | 21 |
| B35 | A26 | •060 | | 35226D10 | 10 | B35 | | •010 †99 | 35004-10† | 12 | B35 | N95 | •999 | | 35295 | 21 |
| B35 | A26 | | | | | B35 | | •010 †99 | | | | P31 | | | | |
| | | •339 | | 35226D339 | 10 | | | | 35024-10† | 13 | B35 | | •999 | | 35031 | 22 |
| B35 | A26 | •344 | | 35226D334 | 10 | B35 | | •A25 †99 | 35144D25† | | B35 | P32 | •999 | | 35032 | 22 |
| B35 | A41 | •A25 | | 35141D25 | 8 | B35 | | ●B07 †99 | 35144D7† | 13 | B35 | P34 | •999 | | 35034 | 23 |
| B35 | A41 | •B07 | | 35141D7 | 8 | B35 | | •010 †99 | 35144D10† | | B35 | P96 | •999 | | 35096 | 22 |
| B35 | A41 | •010 | | 35141D10 | 8 | B35 | | •022 †99 | 35144D22† | | B35 | R28 | •999 | | 35028 | 22 |
| B35 | A41 | •022 | | 35141D22 | 8 | B35 | G44 | ● 060 †99 | 35144D60† | | B35 | R81 | •999 | | 35081 | 22 |
| B35 | A41 | •060 | | 35141D60 | 8 | B35 | | •009 †99 | 35057C† | 13 | B35 | R87 | •999 | | 35287 | 22 |
| B35 | A70 | •009 | | 35070C9 | 7 | B35 | | ● 010 †99 | 35057C10† | | B35 | R88 | •999 | | 35288 | 22 |
| B35 | A70 | | | \ 35070C10\ | 7 | B35 | | ● 060 †99 | 35057C60† | 13 | B35 | X13 | •999 | | 84013 | 26 |
| B35 | A70 | •022 | X99 | 35070C22 | 7 | B35 | G57 | ● 022 †99 | 35057C22† | 13 | B35 | X20 | •999 | | 80520 | 26 |
| B35 | A70 | ● 025 | X99 | 37570C25 | 7 | B35 | H03 | ●022 X99 | 35203C22 | 15 | B35 | X21 | •003 | X99 | 80521/3dB | 25 |
| B35 | A70 | •060 | X99 | 35070C60 | 7 | B35 | H03 | ●024 X99 | 35203C24 | 15 | B35 | X21 | •006 | X99 | 80521/6dB | 25 |
| B35 | A71 | ● 027 | X99 | 35071C27 | 7 | B35 | H05 | ●010 X99 | 35005-10 | 14 | B35 | X21 | •010 | X99 | 80521/10dB | 25 |
| B35 | A71 | ● 027 | X99 | 37571C27 | 7 | B35 | H06 | ●010 X99 | 35039-10 | 14 | B35 | X21 | •020 I | X99 | 80521/20dB | 25 |
| B35 | A71 | | X99 | 35071C41 | 7 | B35 | H07 | ●010 X99 | 35039A10 | 14 | B35 | X60 | •999 | X99 | 80060 | 24 |
| B35 | A71 | ● 074 | X99 | 35071C74 | 7 | B35 | H30 | ●010 X99 | 35030C10 | 14 | B35 | X66 | •999 | | 80066 | 24 |
| B35 | B02 | •009 | X99 | 35002C9 | 9 | B35 | H30 | ●022 X99 | 35030C22 | 14 | B35 | X67 | •999 | X99 | 80067 | 24 |
| B35 | B02 | •010 | | 35002C10 | 9 | B35 | H30 | ●024 X99 | 35030C24 | 14 | B35 | X68 | •999 | | 80068 | 24 |
| B35 | B02 | •022 | | 35002C22 | 9 | B35 | H30 | •029 X99 | 35030C29 | 14 | B35 | X73 | •999 | | 80073 | 26 |
| B35 | B02 | •024 | | 35002C24 | 9 | B35 | H30 | •030 X99 | 35030C30 | 14 | B35 | X74 | •999 | | 80074 | 26 |
| B35 | B02 | •029 | | 35002C29 | 9 | B35 | H30 | •073 X99 | 35030C73 | 14 | B35 | X75 | •999 | | 80075 | 26 |
| B35 | B02 | •030 | | 35002C30 | 9 | B35 | H39 | •009 X99 | 35039C9 | 14 | B35 | X78 | •999 | | 80078 | 26 |
| B35 | B02 | •060 | | 35002C60 | 9 | B35 | H39 | •010 X99 | 35039C10 | 14 | B35 | Z10 | •501 | | 35010/50R | 25 |
| B35 | B02 | •073 | | 35002C00 | 9 | B35 | H39 | •022 X99 | 35039C10 | 14 | B35 | Z11 | •999 | | 35010/3011 | 24 |
| B35 | B12 | | | 35002C73 | | B35 | H39 | •060 X99 | 35039C22 | | B35 | Z33 | •501 | | 35033/50R | 25 |
| | | •010 | | | 9 | | | | | 14 | | | | | | |
| B35 | B28 | •A25 | | 35228D25 | 9 | B35 | | •A25 X99 | 35145D25 | 16 | B35 | Z98 | •501 | | 35098/50R | 25 |
| B35 | B28 | •B07 | | 35228D7 | 9 | B35 | | ●B07 X99 | 35145D7 | 16 | B37 | A07 | •025 | | 37570A25 | 7 |
| B35 | B28 | •010 | | 35228D10 | 9 | B35 | | •010 X99 | 35145D10 | 16 | B37 | A19 | •025 | | 35019-25 | 7 |
| B35 | B28 | •022 | | 35228D22 | 9 | B35 | | •022 X99 | 34145D22 | 16 | B37 | A26 | •062 | | 37226D62 | 10 |
| B35 | B28 | •060 | | 35228D60 | 9 | B35 | | •060 X99 | 35145D60 | 16 | B37 | A41 | •A25 | | 37141D25 | 8 |
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| B35 | D76 | •999 | | 35076 | 10 | B35 | H79 | ●004 X99 | 35079C4 | 15 | B37 | A41 | C25 | | 37141D25/2 | 8 |
| B35 | E03 | •022 | | 35003C22 | 11 | B35 | H81 | ●022 X99 | 35281C22 | 15 | B37 | A41 | •D25 ∑ | | 37284D402 | 8 |
| B35 | E03 | •024 | | 35003C24 | 11 | B35 | H81 | ●024 X99 | 35281C24 | 15 | B37 | A41 | ●B07 2 | X99 | 37141D7 | 8 |
| B35 | E03 | •029 | | 35003C29 | 11 | B35 | K07 | •999 †99 | 35007† | 19 | B37 | A41 | •012 | X99 | 37141D12 | 8 |
| B35 | E03 | •030 | | 35003C30 | 11 | B35 | K14 | •999 †99 | 35014† | 19 | B37 | A41 | •022 | X99 | 37141D22 | 8 |
| B35 | E03 | •073 | | 35003C73 | 11 | B35 | | •999 † 99 | 35083+ | 19 | | | | | | |
| | | | | | | | | • | · | | | | | | | |
| newi | numbe | er | | old number p | oage | new | numbe | er | old number | page | new | numbe | er | | old number p | age |

Note: ● plating finish code – see pages 5 and 6 for details.

† denotes fixing hole size code for panel mounted items, see page 5 for details.

| new | numbe | er | old number pag | ge | new | numbe | er | old number p | age | new i | numbe | er | | old number p | age |
|-----|-------|----------|----------------|------------|---------|-------|------------------|----------------|------|-------|-------|--------|-------------|--------------|-----|
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| B37 | | •B52 X99 | 37141D52/1 | O | B37 | E93 | •030 X99 | 37193D30 | 12 | B37 | | •999 | | 37584 | 17 |
| B37 | A41 | •350 X99 | 37141D350/2 | Ω | B37 | E93 | •062 X99 | 37193D62 | 12 | B37 | | •999 | | 37531 | 22 |
| B37 | A47 | •025 X99 | 35047-25 | 7 | B37 | E93 | •117 X99 | 37193D02 | 12 | | P32 | •999 | | 37532 | 22 |
| | | | | | | | | | | | | | | | 22 |
| B37 | A48 | •025 X99 | 35048-25 | 7 | B37 | E93 | •167 X99 | 37193D167 | 12 | B37 | P34 | •999) | | 37534 | |
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| B37 | A55 | •062 X99 | 37255D62 | 8 | B37 | | •025 †99 | 35023-25† | 12 | B37 | R28 | •999 | | 37528 | 22 |
| B37 | | ●117 X99 | 37255D117 | 8 | B37 | | •025 †99 | 35025-25† | 13 | B37 | R81 | •999 | | 37581† | 22 |
| B37 | | ●012 X99 | 37570C12 | 7 | B37 | | •025 †99 | 35035-25† | 13 | B37 | R87 | •999 | | 37287 | 22 |
| B37 | | ●022 X99 | 37570C22 | 7 | B37 | | ●A25 †99 | 37144D25† | 13 | B37 | R88 | •999 | | 37288 | 22 |
| B37 | | ●030 X99 | 37570C30 | 7 | B37 | G44 | ●B25 †99 | 37244D25/1 | † 13 | B37 | | •003 | (99 | 80721/3dB | 25 |
| B37 | A70 | ●052 X99 | 37570C52 | 7 | B37 | G44 | ●B07 †99 | 37144D7† | 13 | B37 | X21 | •006 | (99 | 80721/6dB | 25 |
| B37 | A70 | ●062 X99 | 37570C62 | 7 | B37 | G44 | •012 †99 | 37144D12† | 13 | B37 | X21 | •010 X | (99 | 80721/10dB | 25 |
| B37 | A70 | ●117 X99 | 37570C117 | 7 | B37 | | •022 †99 | 37144D22† | 13 | B37 | X21 | •020 X | X 99 | 80721/20dB | 25 |
| | | ●119 X99 | 37570C119 | 7 | B37 | | •052 †99 | 37144D52† | 13 | B37 | X30 | •999 | | 80530 | 26 |
| B37 | A71 | •B07 X99 | 37571C7 | 7 | B37 | | •350 †99 | 37144D350† | | B37 | X33 | •999 | (99 | 84033 | 26 |
| B37 | A71 | •028 X99 | 37571C28 | 7 | B37 | | •117 †99 | 37557C117† | | B37 | | •999 | | 80536 | 26 |
| B37 | A71 | •079 X99 | 37571C79 | 7 | B37 | | •119 †99 | 37557C119† | | B37 | | ●751 X | | 35010/75R | 25 |
| B37 | | •A25 X99 | 37274D25 | 8 | B37 | | •022 †99 | 37557C22† | 13 | B37 | Z98 | •751 | | 35098/75R | 25 |
| B37 | A91 | •030 X99 | 37191D30 | | B37 | | •025 †99 | 37557C25† | 13 | DOI | 230 | 9/31 | 133 | 33030//311 | 20 |
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| B37 | A91 | •062 X99 | 37191D62 | 8 | B37 | | •030 †99 | 37557C30† | 13 | | | | | | |
| B37 | A91 | •117 X99 | 37191D117 | 8 | B37 | G57 | •052 †99 | 37557C52† | 13 | | | | | | |
| B37 | A91 | •167 X99 | 37191D167 | 8 | B37 | | •062 †99 | 37557C12† | 13 | | | | | | |
| B37 | A96 | ●A25 X99 | 37296BN | 8 | B37 | | •062 †99 | 37557C62† | 13 | | | | | | |
| B37 | | ●012 X99 | 37502C12 | 9 | B37 | | •030 †99 | 37194D30† | 14 | | | | | | |
| B37 | | ●022 X99 | 37502C22 | 9 | B37 | | ● 062 †99 | 37194D62† | 14 | | | | | | |
| B37 | B02 | ●025 X99 | 37502C25 | 9 | B37 | | ● 117 †99 | 37194D117† | 14 | | | | | | |
| B37 | | ●030 X99 | 37502C30 | 9 | B37 | G94 | ● 167 †99 | 37194D67† | 14 | | | | | | |
| B37 | B02 | ●052 X99 | 37502C52 | 9 | B37 | H07 | ●025 X99 | 37539A25 | 14 | | | | | | |
| B37 | B02 | ●062 X99 | 37502C62 | 9 | B37 | H39 | ●012 X99 | 37539C12 | 14 | | | | | | |
| B37 | | ●117 X99 | 37502C117 | 9 | B37 | H39 | ●022 X99 | 37539C22 | 14 | | | | | | |
| B37 | | •119 X99 | 37502C119 | 9 | B37 | H39 | ●025 X99 | 37539C25 | 14 | | | | | | |
| B37 | | ●025 X99 | 37502A25 | 9 | B37 | H39 | •030 X99 | 37539C30 | 14 | | | | | | |
| B37 | | •A25 X99 | 37228D25 | 9 | B37 | H39 | ●052 X99 | 37539C52 | 14 | | | | | | |
| B37 | B28 | •007 X99 | 37228D7 | 9 | B37 | H39 | •062 X99 | 37539C62 | 14 | | | | | | |
| B37 | B28 | •012 X99 | 37228D12 | 9 | B37 | | •117 X99 | 37539C117 | 14 | | | | | | |
| B37 | | •022 X99 | 37228D22 | 9 | B37 | H39 | •119 X99 | 37539C117 | 14 | | | | | | |
| | | | 37228D52 | | | | | | | | | | | | |
| B37 | B28 | •052 X99 | | 9 | B37 | | ●025 X99 | 35040-25 | 14 | | | | | | |
| B37 | | •350 X99 | 37228D350 | 9 | B37 | | •A25 X99 | 37145D25 | 16 | | | | | | |
| B37 | | •B25 X99 | 37242D25/1 | 9 | B37 | | •B25 X99 | 37245D25/1 | 16 | | | | | | |
| B37 | B92 | ●030 X99 | | 10 | B37 | H45 | •B07 X99 | 37145D7 | 16 | | | | | | |
| B37 | | ●062 X99 | | 10 | B37 | | ●012 X99 | 37145D12 | 16 | | | | | | |
| B37 | B92 | ●117 X99 | 37192D117 | 10 | B37 | H45 | ●022 X99 | 37145D22 | 16 | | | | | | |
| B37 | B92 | ●167 X99 | 37192D167 | 10 | B37 | H45 | ●052 X99 | 37145D52 | 16 | | | | | | |
| B37 | C86 | ●999 X99 | 37586 | 10 | B37 | H45 | ●350 X99 | 37145D350 | 16 | | | | | | |
| B37 | D76 | ●999 X99 | 37576 | 10 | B37 | H50 | ●025 X99 | 35050-25 | 14 | | | | | | |
| B37 | E07 | ●025 X99 | 37560A25 | 11 | B37 | H79 | ●B25 X99 | 37279D25/1 | 15 | | | | | | |
| B37 | E21 | ●025 X99 | | 11 | B37 | H95 | ●030 X99 | 37195D30 | 16 | | | | | | |
| B37 | E22 | •025 X99 | | 11 | B37 | H95 | •062 X99 | 37195D62 | 16 | | | | | | |
| B37 | E43 | •A25 X99 | | 12 | B37 | H95 | •117 X99 | 37195D117 | 16 | | | | | | |
| B37 | E43 | •B25 X99 | | 12 | B37 | H95 | ●167 X99 | 37195D167 | 16 | | | | | | |
| B37 | E43 | •B52 X99 | 37143D52/2 | | B37 | K07 | •999 †99 | 37507† | 16 | | | | | | |
| B37 | E43 | •B07 X99 | | 12 | | | | | | | | | | | |
| | | | | 12 | B37 | K14 | •999 †99 | 37514† | 16 | | | | | | |
| B37 | E43 | •012 X99 | | 12 | B37 | K83 | •999 †99 | 37583† | 16 | | | | | | |
| B37 | E43 | •022 X99 | | 12 | B37 | | •999 X99 | 37508 | 17 | | | | | | |
| B37 | E43 | •052 X99 | 37143D52/1 | 12 | B37 | | •999 X99 | 37509 | 18 | | | | | | |
| B37 | E43 | •350 X99 | 37143D350/2 | | B37 | | •999 X99 | 37513 | 17 | | | | | | |
| B37 | E60 | ●012 X99 | | 11 | B37 | | ●999 X99 | 37526 | 17 | | | | | | |
| B37 | E60 | ●022 X99 | 37560C22 | 11 | B37 | | ●999 X99 | 37527 | 17 | | | | | | |
| B37 | E60 | ●025 X99 | 37560C25 | † 1 | B37 | M29 | •999 X99 | 37529 | 17 | | | | | | |
| B37 | E60 | •030 X99 | | 11 | B37 | | •999 X99 | 37543 | 17 | | | | | | |
| B37 | E60 | ●052 X99 | | 11 | B37 | | •999 X99 | 37549 | 18 | | | | | | |
| B37 | E60 | •060 X99 | | 11 | B37 | | •002 S99 | 37562 | 17 | | | | | | |
| B37 | E60 | •062 X99 | | 11 | B37 | | •999 X99 | 37563 | 17 | | | | | | |
| | | 112 /100 | | • | 20, | | 220 7.00 | 2. 200 | | | | | | | |
| new | numbe | er | old number pag | ne. | new/ | numbe | er | old number p | nage | new | numbe | 2r | | old number p | age |
| ,, | | | cia nombor pag | , - | , .0 ** | | | Sid Hallibol F | ,~9° | 11044 | | | | cia nambor p | ~gc |

Note: ● plating finish code — see pages 5 and 6 for details.

† denotes fixing hole size code for panel mounted items, see page 5 for details.

| Cable | Impedance | Greenpar group | Cable | Impedance | Greenpar group |
|--------------------------|-----------|----------------|---------------|-----------|----------------|
| 388-388 (Radio Spares) | 75 | B07 | RG 216/U | 75 | 004 |
| BT500B | 75 | 062 | RG 223/U | 50 | 060 |
| BT502A | 75 | 030 | RG 303/U | 50 | 009 |
| BT502B | 75 | 117 | RG 316/U | 50 | 022 |
| BT503 | 75 | 167 | RG 400/U | 50 | 060 |
| BT2001 | 75 | 030 | RG 402/U | 50 | 073 |
| BT2002 | 75 | 117 | T3263 | 50 | 024 |
| BT2003 | 75 | 062 | TM3022 (BICC) | 75 | A52 |
| BT2003A | 75 | 062 | TM3116 (BICC) | 75 | 028 |
| 50S141R (Insulated Wire) | | 073 | TM3172 (BICC) | 75 | B52 |
| MM10/75 (UKAEA) | 75 | 344 | TM3173 (BICC) | 75 | B52 |
| MM11/50 (UKAEA) | 50 | 339 | TM3189 (BICC) | 75 | B52 |
| PSF1/2M (BBC) | 75 | B07 | TM3205 (BICC) | 75 | B07 |
| PSF1/3M (BBC) | 75 | C25 | TM3231 (BICC) | 75 75 | 027 |
| PSF1/4M (BBC) | 50 | 001 | TM3250 (BICC) | 50 50 | 029 |
| RG 8A/U | 50 | 001 | TM3289 (BICC) | 75 | 022 |
| RG 9B/U | 50 | 004 | TM3304 (BICC) | 75 75 | C25 |
| RG 11A/U | 75 | 001 | TM3306 (BICC) | 50 | 022 |
| RG 13A/U | 75 75 | 004 | TM3328 (BICC) | 50 50 | 029 |
| RG 55B/U | 50 | 060 | URM 43 | 50 50 | 010 |
| RG 58C/U | 50 | 010 | URM 57 | 75 | 001 |
| RG 59B/U | 75 | A25 | URM 60 | 75 75 | 004 |
| RG 62B/U | 93 | B25 | URM 64 | 75 75 | 004 |
| RG 71B/U | 93 | D25 | URM 65 | 75 75 | 001 |
| RG 122/U | 75 | B35 | URM 67 | 50 | 001 |
| RG 140/U | 75 75 | A25 | URM 70 | 75 | 012 |
| RG 141A/U | 50 | 010 | URM 72 | 50 | 009 |
| RG 142B/U | 50 50 | 060 | URM 76 | 50 50 | 010 |
| RG 174A/U | 50 50 | 022 | URM 90 | 75 | A25 |
| RG 178B/U | 50 50 | 024 | URM 91 | 73 50 | 004 |
| RG 179B/U | 75 | 022 | URM 95 | 50 50 | 022 |
| RG 180/U | 95 | A35 | URM 108 | 50 50 | 009 |
| | 95 75 | 022 | URM 109 | 50 50 | 022 |
| RG 187A/U | | | | | |
| RG 188A/U | 50 05 | 022 | URM 110 | 50 75 | 024 |
| RG 195/U | 95 50 | A35 | URM 111 | | 022 |
| RG 196A/U | 50 | 024 | URM 116 | 50 75 | 022 |
| RG 210/U | 93 | B25 | URM 201 | 75 75 | B52 |
| RG 213/U | 50 | 001 | URM 202 | 75 75 | B52 |
| RG 214/U | 50 | 004 | URM 203 | 75 75 | 028 |
| | | | URM 205 | 75 50 | 028 |
| | | | URM 301 | 50 | 060 |
| | | | UT141A | 50 | 073 |

the Greenpar cable group number brings together those connectors with the same cable entry detail. This list covers the more popular types of cable, but if your cable is not shown here, please check with the Sales Office. Understanding the cable group system is fundamental to an appreciation of the range of variants of each connector design.

| A25 A35 A52 B07 B25 B35 B52 B52 | 75 95 75 75 93 75 75 75 75 | RG 59B/U, RG 140/U, URM 90 RG 180/U, RG 195/U TM3022 (BICC) 388-388 (Radio Spares), PSF1/2M (BBC), TM3205 (BICC) RG 62B/U, RG 210/U RG 122/U TM3172 (BICC), TM3173 (BICC), TM3189 (BICC) URM 201, URM 202 PSF1/3M (BBC), TM3304 (BICC) |
|--|--|---|
| A52 B07 B25 B35 B52 | 75 75 93 75 75 75 | TM3022 (BICC) 388-388 (Radio Spares), PSF1/2M (BBC), TM3205 (BICC) RG 62B/U, RG 210/U RG 122/U TM3172 (BICC), TM3173 (BICC), TM3189 (BICC) URM 201, URM 202 |
| B07 B25 B35 B52 | 75 93 75 75 75 | 388-388 (Radio Spares), PSF1/2M (BBC), TM3205 (BICC) RG 62B/U, RG 210/U RG 122/U TM3172 (BICC), TM3173 (BICC), TM3189 (BICC) URM 201, URM 202 |
| B25 B35 B52 | 93 75 75 75 75 | RG 62B/U, RG 210/U RG 122/U TM3172 (BICC), TM3173 (BICC), TM3189 (BICC) URM 201, URM 202 |
| B35 B52 | 75 75 75 75 | RG 122/U TM3172 (BICC), TM3173 (BICC), TM3189 (BICC) URM 201, URM 202 |
| B52 | 75 75 75 | TM3172 (BICC), TM3173 (BICC), TM3189 (BICC) URM 201, URM 202 |
| | 75 75 | URM 201, URM 202 |
| B52 | 75 | |
| | | PSF1/3M (BBC), TM3304 (BICC) |
| C25 | 93 | |
| D25 | | RG 71B/U |
| 001 | 50 | PSF1/4M (BBC), RG 8A/U, RG 213/U, URM 67 |
| 001 | 75 | RG 11 A/U, URM 57, URM 64, URM 65 |
| 004 | 50 | RG 9B/U, RG 214/U, URM 91 |
| 004 | 75 | RG 13A/U, RG 216/U, URM 60 |
| 009 | 50 | RG 303/U, URM 72, URM 108 |
| 010 | 50 | RG 58C/U, RG 141 A/U, URM 43, URM 76 |
| 012 | 75 | URM 70 |
| 022 | 50 | 50H101R (Insulated Wire), RG 174A/U, RG 188A/U, RG 316/U, TM3306 (BICC), URM 95, |
| 200 | 7- | URM 109, URM 116 |
| 022 | 75 | RG 179B/U, RG 187A/U, TM3289 (BICC), URM 111 |
| 024 | 50 | RG 178B/U, RG 196A/U, T3263, URM 110 |
| 027 | 75 | TM3231 (BICC) |
| 028 | 75 | TM3116 (BICC), URM 203, URM 205 |
| 029 | 50 | TM3250 (BICC), TM3328 (BICC) |
| 030 | 75 | BT502A, BT2001 |
| 060 | 50 | RG 55B/U, RG 142B/U, RG 223/U, RG 400/U, URM 301 |
| 062 | 75 | BT500B, BT2003, BT2003A |
| 073 | 50 | 50S141R (Insulated Wire), RG 402/U, UT141A |
| 117 | 75 | BT502B, BT2002 |
| 119 | 75 | Amphenol 21-597 |
| 167 | 75 | BT503 |
| 339 | 50 | MM11/50 (UKAEA) |
| 344 | 75 | MM10/75 (UKAEA) |

This list covers the more popular types of cable, but if your cable is not shown here, please check with the Sales Office. Understanding the cable group system is fundamental to an appreciation of the range of variants of each connector design.

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