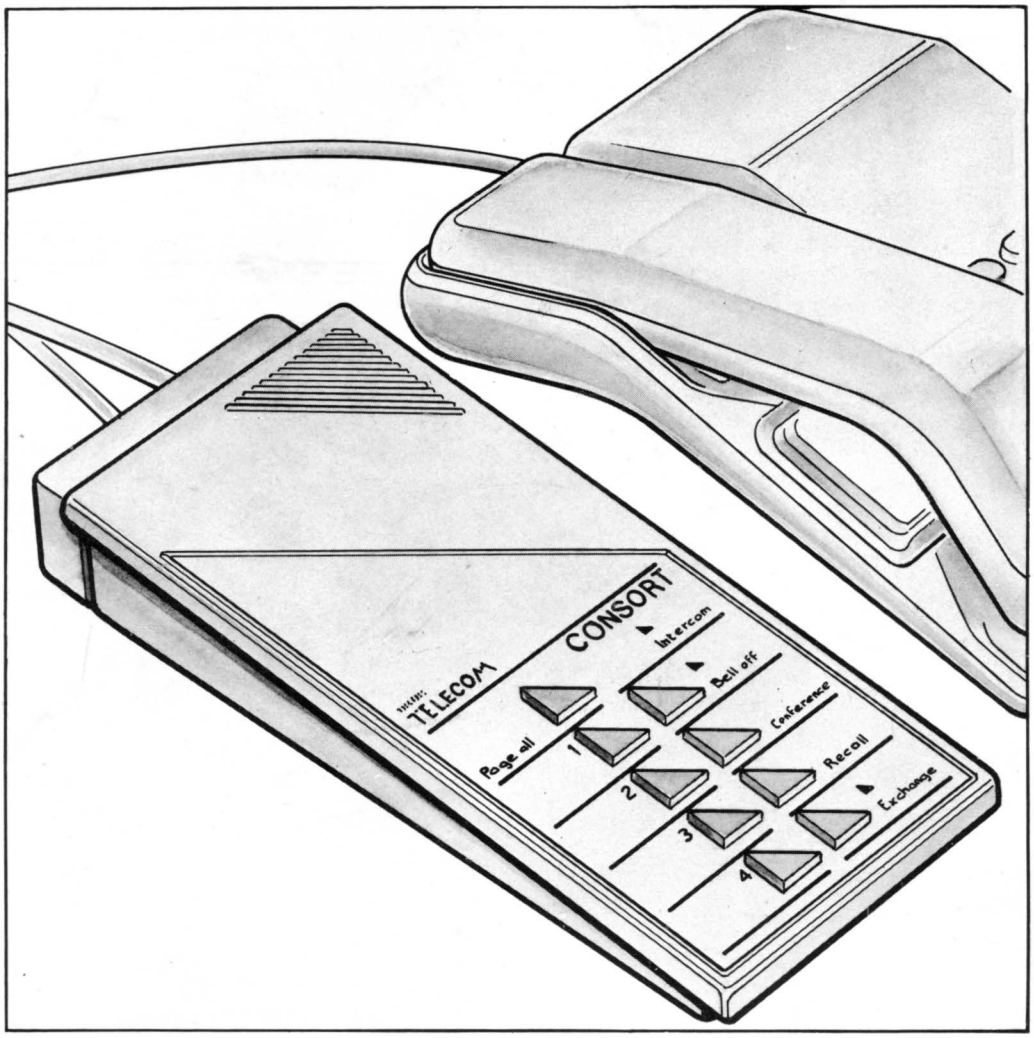

Consort 1+4

System Manual

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1 GENERAL DESCRIPTION

The CONSORT is a small microprocessor controlled key module system that handles one line and up to four extensions. It is designed for connection to a direct exchange line and can also be connected as an extension to most Private Branch exchanges (PBXs). When CONSORT is connected to a PBX extension, any reference to the exchange line in this booklet should be taken to mean the PBX extension.

The system comprises two types of module: a main extension module and up to three extension modules. These are cabled together either radially from the main module or serially to each extension module. A combination of both methods can be used.

Each module must be used in conjunction with a telephone approved to BS6317 and depending on the type of exchange connection the telephone may employ LD or MF signalling. The telephone is connected to the system by plugging it into the back of the module.

2 CAPACITY, SIZE AND WEIGHT

Minimum system capacity: 1 line
2 extensions
(1 main module, 1 extension module)

Expandable by adding extension modules up to a maximum capacity of:
1 line
4 extensions
(1 main module, 3 extension modules)

Terminology: CONSORT is referred to as a 1+2, 1+3 and 1+4 system, the '1' represents the exchange line and the second number '2', '3' or '4' signifies the number of extensions.

Key Module Dimensions:
Length : 240mm
Width : 95mm
Height : 40mm tapering to 15mm

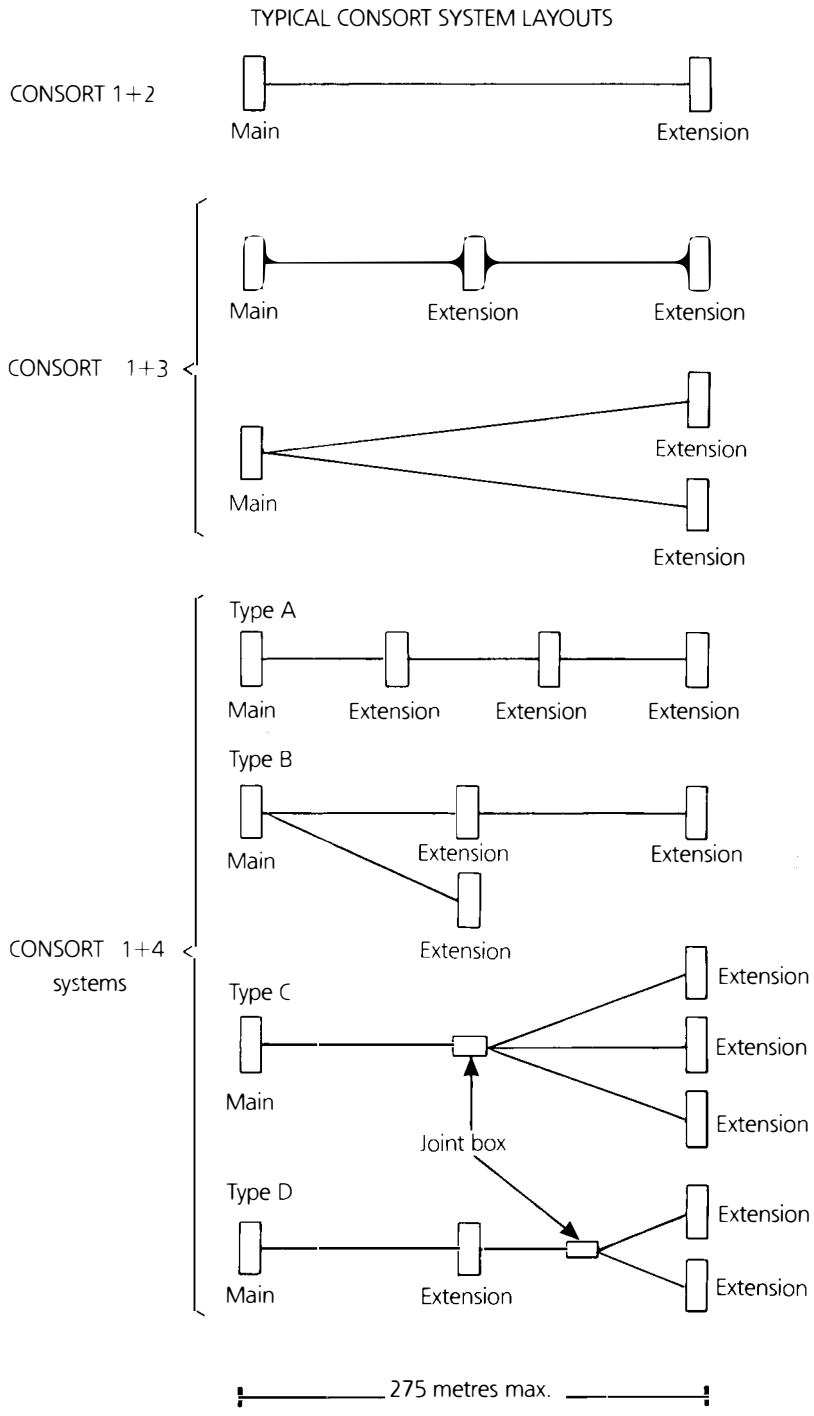
Weight : Main - 330g, Extension - 280g

3 INSTALLATION

3.1 Planning the system

Decide where you want to use the CONSORT modules and their telephones. The CONSORT Main module will need to be sited near the telephone exchange line socket (within 3 metres) and a 240V, 13A socket outlet.

According to the kit you have, there are several options for making the connections. The diagram illustrates all combinations of systems possible with the CONSORT and can be used for guidance. The maximum series wiring length is 275 metres from the Main module socket to the furthest Extension module socket.



When planning the cable layout of the CONSORT remember that only two cables can be accommodated and terminated at one socket box. If you want to wire the CONSORT sockets in the 'star' wiring pattern, as in connection diagrams C or D, then it is necessary to use a joint box (British Telecom DIY Kit No. 6). Please see section 3.8 for more information. This Joint Box must also be used if two pieces of cable are to be joined together to extend the length of a cable run.

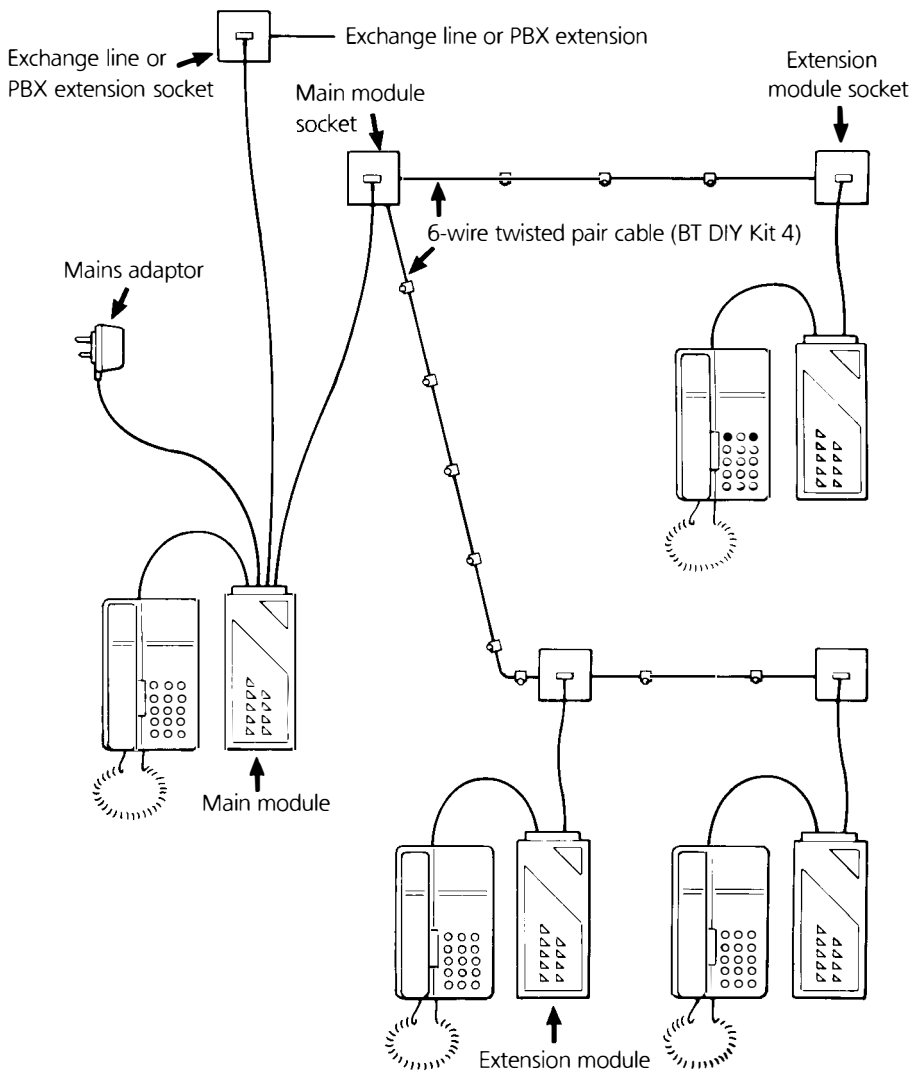
Although all extensions have access to most of the CONSORT system facilities, bear in mind that whoever will be using the Main module will have exclusive access to the CONSORT Night Service and will be able to override the other Extension modules' 'Bell off' facility. The Main module user will not be able to switch off the Main module tone caller, for example in Boss/Secretary situations where the secretary would normally use the Main module.

The CONSORT modules and their sockets are not designed to be used outdoors. The sockets must be sited away from any damp environments such as bathrooms, where moisture could cause faults.

The cabling must be kept completely separate from any other electrical wiring. We recommend that CONSORT cables are not run parallel to electricity supply cables in order to minimise any possible mains pickup interference. The CONSORT sockets must be placed more than 50mm (2") from any 240V mains supply outlets and must never share wall fixings or back boxes with such outlets. This is a safety requirement.

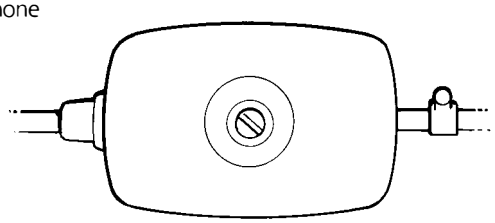
The exchange line to which you intend to connect the CONSORT must be fitted with a telephone socket which has been installed by the telephone service provider. The CONSORT Main module is plugged into this socket. The extension telephones are then plugged into the CONSORT modules. Typical wiring for a CONSORT 1+4 system, connection type B, is shown below.

CONSORT 1+4 (connection type B)
(to show cables)



If at present the telephone is connected to an old type terminal block (see illustration) it must be replaced with a socket installed by the telephone service provider. There may be a charge for this service. Unauthorised persons must not tamper with the telephone exchange line socket. It will only be necessary to use it to plug in the CONSORT Main module.

The old type telephone terminal block



3.2 Installing the sockets

Each CONSORT socket should be wall mounted in a convenient position close to where the corresponding module will be used. The module is connected to the socket by a 3 metre cord.

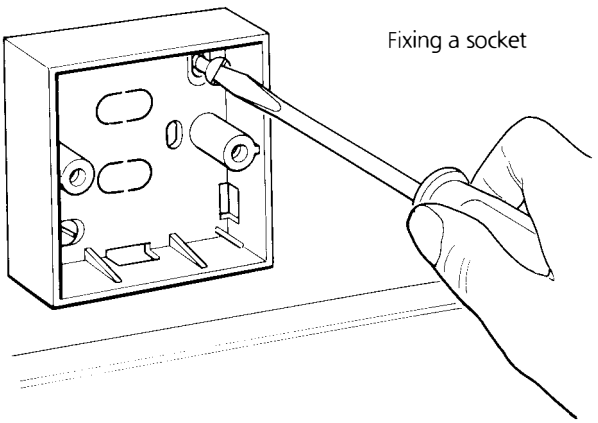
Remember to keep the sockets well clear of the floor to avoid damage by floor cleaning equipment and to enable the cable to be brought neatly out of the socket box and on to the room skirting board.

When you have decided on the positions for the sockets, carefully cut out the appropriate cable entry hole in the side or base of each socket using a sharp knife.

Mount the sockets in position, using the two screws and plastic wall plugs supplied with each socket. The socket box mounting holes are slotted to allow horizontal and vertical adjustment before tightening the screws fully.

WARNING: Before attaching the socket to the wall, ensure that you have selected a position where you will not hit any concealed pipes or electrical cables.

Fixing a socket



3.3 Cabling

The CONSORT should be wired using cable containing six 0.5mm diameter solid conductors. It is important that this size of wire is used or a good electrical connection cannot be guaranteed and there could be problems in the future with the system. Never use stranded wire for cabling the CONSORT.

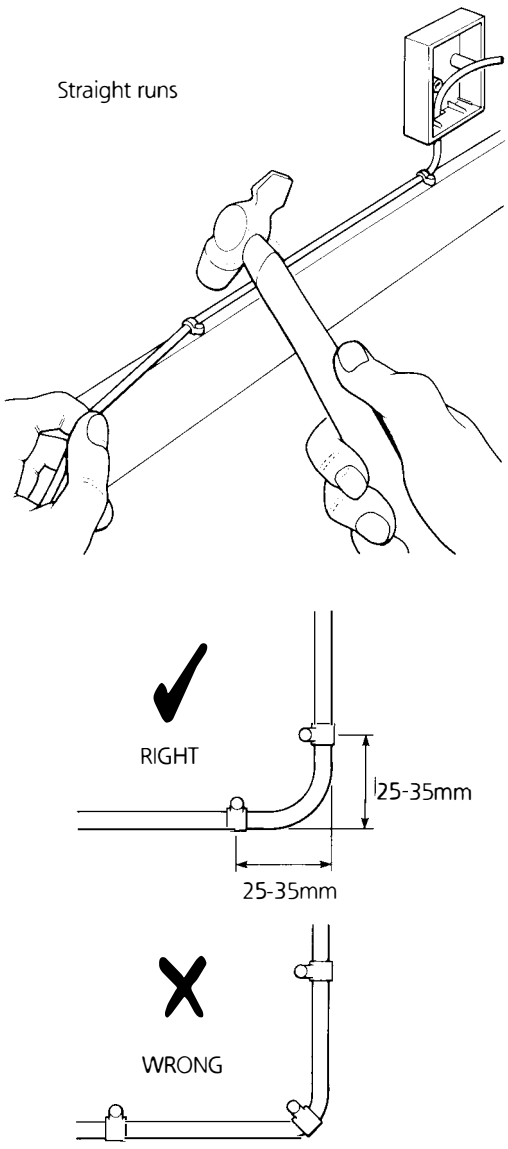
Run the cables to the Extension socket positions in accordance with your plan. Feed the cable through each socket box entry hole and leave about 200mm (8") of cable spare at the socket.

WARNING: When cleating the cable, take care not to puncture or damage it in any way. Damaged cable may cause faulty operation or damage to the system and must be replaced.

Two tips:

On straight runs it is easier to cleat the cable at one end of the cable run, pull the cable tight, cleat the other end and then insert intermediary cleats at approximately 300mm (12") intervals.

Use two cleats as shown to hold a cable bend neatly in place, not a single cleat on the bend.

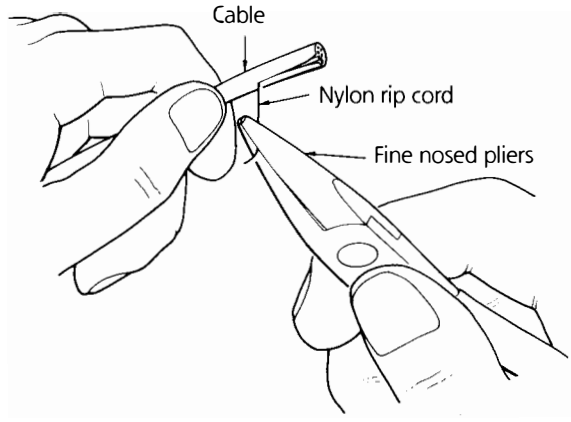


Cleating cables on corners

3.3.1 Exposing the wires ready for connection

For every cable at each socket, cut the sheath at the end of a cable about 13mm (½") with a pair of sidecutters and expose the white nylon ripcord.

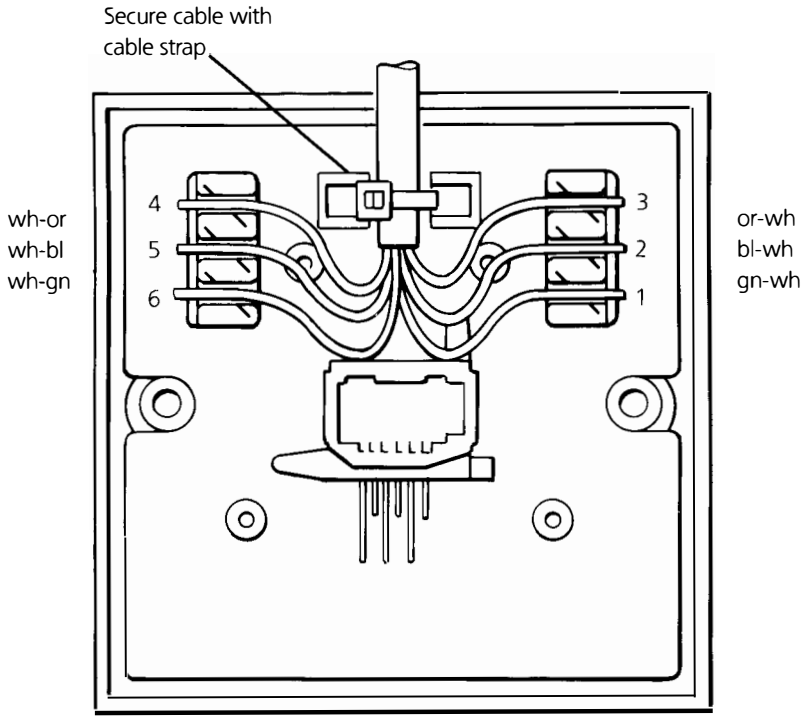
Grip the rip cord with a pair of fine nosed pliers and pull firmly down, exposing the wires to about 50mm (2").



Removing sheath with rip cord

Cut away the unwanted sheath with the sidecutters. Do not remove the PVC insulation from the wires themselves.

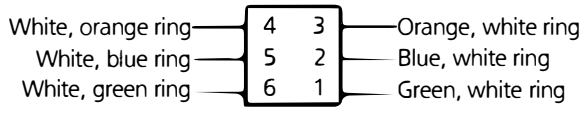
Fix the cable sheath(s) neatly to the cable mount on the faceplate of the socket using the nylon tie provided with the socket. Thread the tie through the slot/hole in the back of the faceplate. Put the cable in place and tighten the tie (see diagram below). N.B. Cable securing methods may differ on some socket faceplates.



Wiring at the back of a module socket
(terminating 1 cable)

Spread out the individual wires so that you can identify the colours. Important—the first colour identified is the base colour of the plastic insulation, the second colour is printed over the first; for example, gn-wh means green base, white overprint, wh-gn means white base, green overprint.

In each socket the wires of the CONSORT have to be connected to the terminal numbers shown.



WARNING: Make sure that you follow the colour coding correctly. Incorrect wiring may cause faulty operation or damage to the system.

3.3.2 Terminating the wires

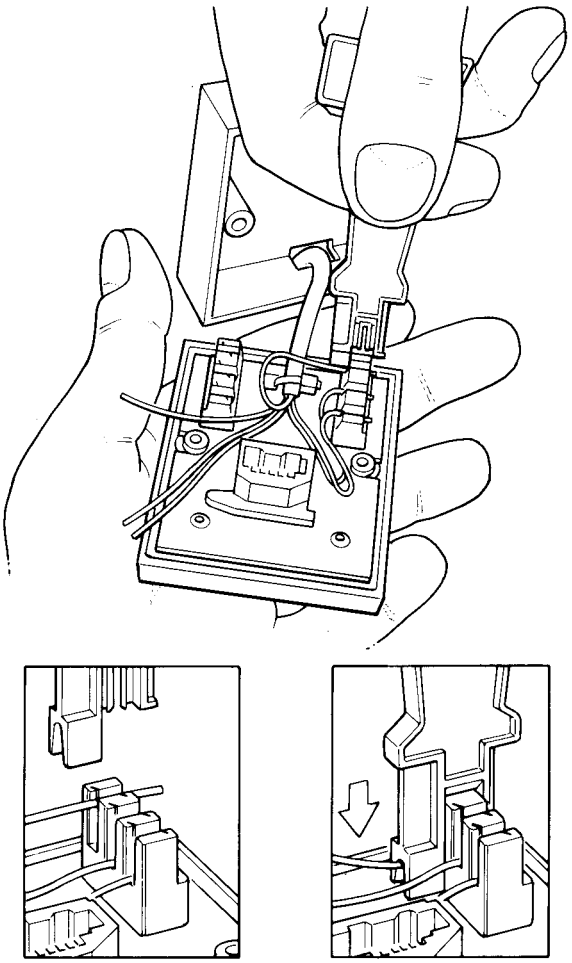
No wire stripping or soldering is necessary to make a good termination.

The IDC (Insulation Displacement Connector) tool supplied with each kit is used.

IMPORTANT: Do not attempt to insert the wires with anything other than the proper IDC tool.

Support the socket faceplate firmly and hold the tool vertically making sure that the 'blade' of the tool is the correct way round. This is essential, as not only will the tool be damaged but also the wire will not be terminated properly if the tool is incorrectly used. It is recommended that you practice first by placing the IDC tool over a terminal, without a wire in place. In the correct position the tool will easily slide as far as the chamfer of the plastic insulator on the terminal.

Place one wire to be terminated in the appropriate slot of the terminal. Put the tool into position. A firm vertically applied pressure to the tool will force the wire into the connector fork and the connection is made. You will hear it go into place. Then remove any excess wire beyond the connector with the wire side cutters.



Using the IDC Tool

If two cables are to be connected to the socket, a second wire will need to be inserted at the same terminal. Each wire must be inserted individually and not both at once. Ensure that wires are pushed into the connector fork fully, one on top of the other.

Where two wires are to be terminated at the same terminal, make sure that the colours of the wires from each cable match each other.

After you have made the three terminations on one side of the socket, eg. 1,2,3 as shown above, turn the tool around to make the terminations for 4,5,6 so that the 'blade' of the tool (longer edge), is again facing towards the middle of the socket.

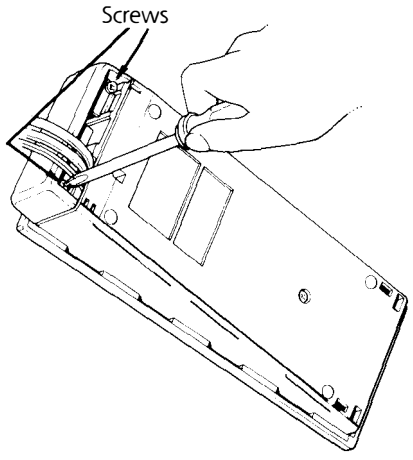
If you should make a mistake, a wire can be removed by pulling it upwards out of the connector fork. Do not attempt to reinsert the same wire until the damaged portion has been cut off. Leave each terminated socket out of its box for the moment.

3.4 Connecting up the CONSORT

3.4.1 Main module

Remove the CONSORT Main module from its packing. This is the module with the Night Service button and the mains adaptor.

Remove the two screws which attach the module rear cover to the case.

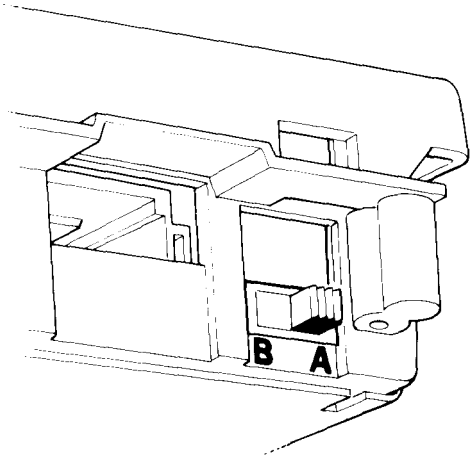


At the rear of the Main module is a switch with two positions marked A and B (see diagram). This is used to match CONSORT to the external line.

If you are connecting CONSORT to:

a direct exchange line—make sure the switch is in position A.

a PBX extension—refer to section 3.7 for details of how to set the switch.



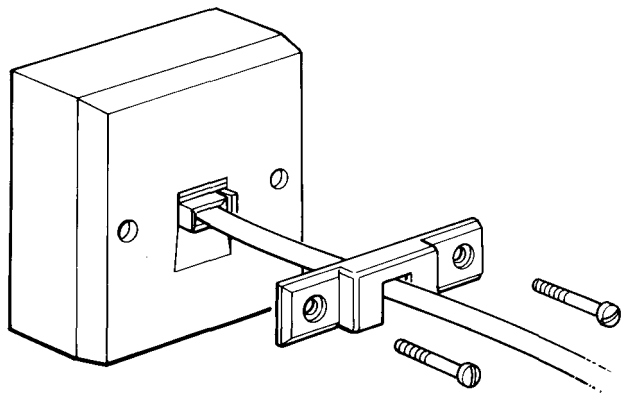
Plug a telephone into the exposed socket at the rear of the Main module.

Replace the cover and secure it with its screws, making sure the plastic lugs on the cover are properly engaged in their slots, and the telephone cable emerges from the back.

Of the two connecting cords, select the thinner, 'blue' cord. Plug this cord into the telephone exchange line or PBX socket. (It may be necessary to remove an existing telephone cord from the socket first). Take the other connecting cord and plug it into the CONSORT Main module socket that you have installed.

Coil any excess cable neatly inside the socket box. Position the faceplate of the socket on the box (tucking in the cable at the same time). Using the socket faceplate securing screws, fit the locking bar supplied over the faceplate, making the plug captive. Note that the bar has an offset slot for the cord and only fits one way round. (It is necessary to fit the locking bar to retain the 'approved system' status.)

DO NOT PLUG IN THE MAINS ADAPTOR AT THIS STAGE.



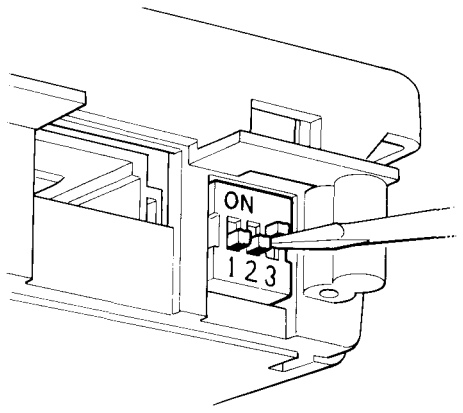
Fitting a locking bar

3.4.2 Extension module(s)

Remove an Extension module from its packing. Remove the rear cover and plug a telephone into the socket, in a similar way to the Main module. Do not replace the cover yet.

Each and every Extension module must have its own individual address (1 or 2 or 3) so that the CONSORT rings the right extension. The triple slide switch at the rear of the Extension module is used to set its address.

With the aid of a small screwdriver, carefully set one of the miniature slides to 'on'. The other two slides should be in the opposite position which sets them 'off'. The calling address for this particular module is now the number of the 'on' slide. (Note: The address of the Main module is always '4').



Connect a telephone to each of the other Extension modules and set each one's address. Remember that no two address switches should be set the same. Make a note of which Extension module is set to which number.

Replace and secure the rear cover(s). Plug each connecting cord into its Extension module socket. Fit a locking bar to each as for the Main module, and secure each socket in its box.

3.5 Testing the CONSORT

Before you test the CONSORT, ensure that all the modules and telephones have been installed and the locking bars fitted.

Plug the mains adaptor, which is connected to the Main module by a black and white cord, into a 13A socket outlet. Switch on the power. The system should give a single beep indicating that the CONSORT is ready.

At the Main module, lift the handset from the telephone and press the Exchange button.

Dial tone should be heard and a normal outgoing call should be possible.

Replace the telephone handset. Arrange to have an incoming call made to the CONSORT. The CONSORT tone caller, in the module, should respond to the incoming ring. (Note: The telephone does not ring when connected to CONSORT - this is normal.)

Lift the telephone handset and press the Exchange button. Normal telephone two-way speech should be possible.

If dial tone is not returned, check:

a) That the thinner, 'blue' connecting cord from the Main module, has been plugged into the exchange line socket.

b) That power is 'on' to the CONSORT. This is indicated by the 'Intercom' lamp coming on when the telephone handset is lifted.

c) That the telephone is working correctly. Test the telephone on an exchange line that you know is working. If a telephone is found to be faulty it must be replaced.

d) That the exchange line is working. Plug a telephone into the exchange line socket. If you hear dial tone when you lift the handset, the line is working. If the exchange line is not working correctly, report the fault to the service provider.

e) That the system is wired correctly.

If after making these checks you are still unable to work a telephone from the CONSORT, the Main module would appear to be faulty.

If you have been successful so far, you can test an Extension module at one of the other sockets.

Lift the telephone handset at the Main module and press the appropriate Extension calling button (ie the address number you set).

The tone callers of the Extension module and Main module should ring together.

On lifting the handset of the telephone connected to the Extension module, normal two way speech should be possible.

Test the other extension(s) in a similar way.

3.6 Labelling the modules

Modules can be labelled by writing each telephone user's name or department next to the Extension button used to call them. The button will correspond to the address that has been set for the user's Extension module. The Main module user is called by pressing button 4.

If you write in pencil the name can be altered; if you write in biro it will be permanent.

3.7 Using CONSORT with a PBX

If the CONSORT is connected to a PBX extension, you may need to adjust the switch at the rear of the Main module. (The rear cover of the module must be removed to expose the switch.)

Consult the list below to see whether the PBX requires the switch to be in position 'A' or 'B'

Switch in position 'A' for

BTeX	Ensign	Herald	MDX	Minimaster 3
Monarch	Pentara	Premiere	Regent	PABX 1
PABX 2	PABX 3	PABX 4	PABX 5	PABX 6
PMBX 2/	PMBX 3/	PMBX 4/	PMBX 11	

Switch in position 'B' for

Admiral	Kinsman	PMBX 1A	SX2000	TSX50
Viceroy				

If the PBX is not included in either of these lists or you are not sure which PBX the CONSORT is connected to, carry out the following test.

3.7.1 Testing the CONSORT PBX setting

Before you can test the PBX setting you must connect up the full system in accordance with the main instructions ('Connecting up the CONSORT'), but for the time being leave the rear cover off the Main module. Having connected up the full system, plug in the mains adaptor and switch on the power at the 13A socket.

With the Main module switch in position 'A', lift the telephone handset and press the Exchange button on the module. You should hear dial tone and the exchange line lamp should glow continuously.

Replace the handset.

If the exchange line lamp goes off, the switch is set correctly. If the lamp does **not** go off, set the switch to position 'B'.

Repeat this test to check that the exchange line lamp goes off when you replace the handset.

If you do not hear dial tone when you lift the handset and press the Exchange button, see 'Testing the CONSORT', section 3.5.

When you have set the switch replace the rear cover and return to section 3.5 ('Testing the CONSORT').

3.7.2 Recall

Check with the PBX controller what type of recall the PBX uses.

Earth Recall Use the Recall button on the CONSORT module.

Time Break Recall Use the recall button of a telephone which has time break recall connected to the CONSORT module. Do not use the Recall button on the module.

3.7.3 Compatibility

CONSORT is not compatible with—'C' wire signalling PBXs
—TX14 line cards on Mitel PBXs
—the TSX50 using LD telephones.

3.8 Wiring up a 1+4 in 'star' layout

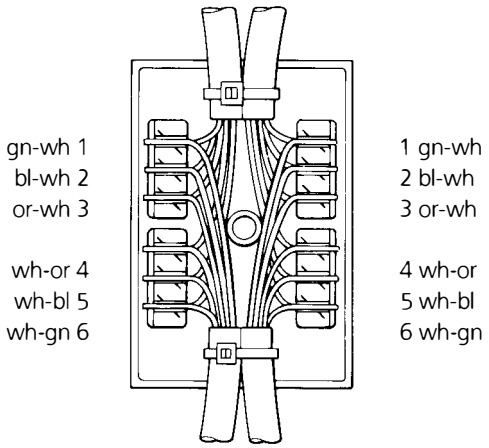
If you want to wire a CONSORT 1+4 in a 'Star' layout (types C & D on page 3), you will need to include a Joint Box in the CONSORT system wiring. The Joint Box comes complete with screws, wall plugs and two cable securing straps.

The Joint Box has 2 pairs of IDC terminal strips inside it labelled 1 to 6. The two pairs of terminals are wired in parallel on the printed circuit mounting board and enable up to four 6-wire cables to be terminated, two on each IDC strip.

Connecting the Joint Box

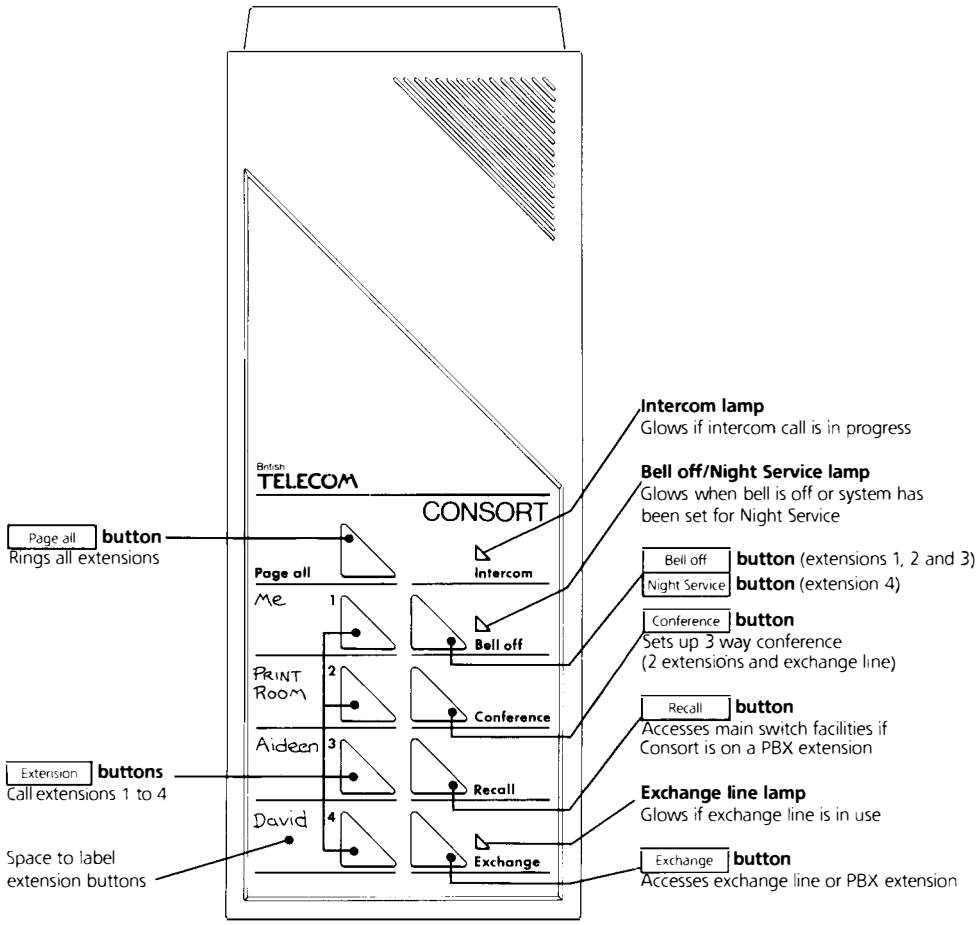
Connect the wires to the Joint Box as shown. The Joint Box uses the same method of IDC termination of the wires, as already explained in these instructions, with the exception that it will only be necessary to leave about 75mm (3") of cable at the joint box for terminating the wires.

IMPORTANT: The DIY range of sockets and accessories are not fully compatible with CONSORT. You do NOT need to refer to the instructions which come packed with the Joint Box.



4 FACILITIES—CONSORT SIGNALS

4.1 The CONSORT module



Notes:
The CONSORT module buttons are used to access the exchange line, the other extensions and the various CONSORT facilities. To dial external numbers, use the telephone keypad in the normal way.

4.2 Ringing signals

When receiving calls the module can sound in four ways.

Short Warble	~ ~	You are being "buzzed". The module gives a short warble each time the button is pressed.
Internal Ringing	~~~~~~~~~~~~	You are being rung by another CONSORT user. The module rings continuously while the button is pressed.
External Ringing	~~~ ~~~ ~~~ ~~~	You are being rung by an external caller. The module rings with exchange ringing frequency.
Ring Back On Hold	~~ ~~ ~~ ~~ ~~ ~~ ~~	You are being rung by an external caller who has been left on hold.

Notes:
1. The module sounds and not the telephone.
2. When you press an Extension button or Page all the module will reproduce the signal being heard by the called module(s). This is so that you know the call is being announced.

4.3 Lamp signals

INTERCOM LAMP		
Lamp off		No intercom call in progress.
Lamp on (steady glow)		Intercom call in progress
BELL OFF LAMP (Extns 1, 2, 3) NIGHT SERVICE LAMP (Extn 4 only)		
Lamp off		NO BELL OFF—exchange calls will ring at extension modules with lamp off. Exchange calls will always ring at extension 4.
Lamp on (steady glow)		BELL OFF—exchange calls will not ring at extension modules with lamp on. NIGHT SERVICE—an extension's Bell Off is overridden; all modules will ring for external calls.
EXCHANGE LAMP		
Lamp off		Exchange line free for use.
Lamp on (steady glow)		Exchange line call in progress.
Lamp flashing in time with external call ringing		Incoming exchange line call.
Lamp flashing slowly		Exchange line call on hold.
Lamp flashing quickly and tone caller rings		Exchange line call in hold is ringing back.
Lamp flashing quickly for 10 seconds		Another extension user has joined in your external call.

5 FACILITIES—USING CONSORT

In addition to allowing you all the normal telephone facilities, CONSORT gives you access to a range of new facilities.

Many of these instructions refer to pressing buttons. Unless stated otherwise, just press the button and then release it. There is no need to hold the button down. Failed calls are commonly caused by pressing buttons too quickly. If a call is unsuccessful, repeat it pressing each button firmly.

5.1 Making intercom/exchange line calls

A call to another extension user is an intercom call.

To make an intercom call

Check that the system is not in use.	The Intercom and Exchange lamps are not lit.
Lift your handset.	The Intercom lamp glows steadily on all modules.
Press required Extension button.	Your module and the called extension both ring as long as the button is pressed.

To make an exchange line call

Check that the system is not in use.	The Intercom and Exchange lamps are not lit.
Lift your handset.	
Press the Exchange button.	The Exchange lamp glows steadily on all modules.
When you hear exchange dial tone, dial the number you require.	

To end a call

Replace the handset.

If the Exchange lamp flashes rapidly for 10 seconds during a call, this means that another extension user has joined in your call (see 'Joining an exchange line call', section 5.8).

5.2 Answering intercom/exchange line calls

To answer an intercom call

For an intercom call . . .	Your module rings continuously while the extension button is pressed and the Intercom lamp glows steadily.
Lift your handset.	
Replacing your handset clears the call.	

To answer an exchange line call

For an exchange line call . . .	The Exchange lamp flashes and your module gives normal exchange line ringing (unless it is 'Bell off'—Extns. 1, 2, 3).
Lift your handset and press the Exchange button.	The Exchange lamps glow steadily on all modules.

To end a call

Replace the handset.

Note:

1. An exchange line call will also be ended by pressing the Exchange button. Replace the handset before making another call.
2. An incoming exchange line call will ring even if an intercom call is in progress.
3. You can answer an incoming exchange line call even if your extension is 'Bell off'.

5.3 Page all

To call all extension users at once, lift your handset, press the Page all button.

Your module and those of all other extensions ring (even if they are engaged on an intercom call).

5.4 Buzz

The 'Buzz' facility allows you to call another extension without speaking or lifting the handset.

Press required Extension button (do not lift handset).

Your module and the called extension give a single short warble for each press of the Extension button.

5.5 Controlling ringing—bell off or night service

Extensions 1, 2 and 3 can control whether or not their modules will ring for exchange line calls; they will always ring for intercom calls. Note: even if you are 'Bell off' for exchange line calls, you can still pick up such calls.

To set 'bell off'

Press the Bell off button.

The Bell Off lamp will glow steadily.

Your module will not ring for exchange line calls.

To cancel 'bell off'

Press the Bell off button.

The Bell Off lamp goes off.

Your module will ring for exchange line calls.

Extension 4 (Main module) cannot turn its bell off for ringing to exchange line calls. Instead it has a Night Service button which can override the 'Bell off' settings on all the other extensions, and ensure that they ring to exchange line calls.

To override 'bell off' with 'night service'

Press the Night Service button.

The Night Service lamp glows steadily.

All extensions will ring to exchange line calls.

To restore normal ringing

Press the Night Service button.

The Night Service lamp goes off.

Normal ringing is resumed.

5.6 Hold/Enquire/Transfer

5.6.1 Holding a call

You can 'hold' an exchange line call. This enables you to replace the telephone handset without disconnecting the caller and then to return to the call.

Tell the caller that you are putting the call into hold.

Press the Extension button for the module you are using (for example, if you are using extension 2, press the Extension 2 button).

The Exchange lamp flashes slowly on all modules.

The call can be picked up from any extension by lifting the handset and pressing the Exchange button.

5.6.2 Ring back on hold

Call on hold, handset replaced

After two minutes all modules will ring continuously and the Exchange lamp flashes This ensures that calls placed in hold are not forgotten.

The call can be picked up from any extension by lifting the handset and pressing the [Exchange] button.

5.6.3 Making an enquiry call

You can make an enquiry call to another CONSORT extension during an exchange line call. This enquiry is made in **privacy** from the exchange line caller.

Press the required [Extension] button, or [Page all] button.

Your module and that of the called extension(s) ring, as long as the button is pressed.

The exchange line is on hold and the Exchange lamp flashes slowly on all modules.

Extension user answers and you speak in **privacy** from the exchange line caller.

When other extension user replaces handset, you are returned to exchange line call.

The Exchange lamp glows steadily.

If extension user does not answer, press the [Exchange] button to return to the exchange line call.

5.6.4 Transferring a call

You can transfer an exchange line call to any other extension on your CONSORT system.

Make an enquiry call to the extension to which you want to transfer the call.

When the extension user answers, explain (in privacy) that you are transferring a call.

Either:
replace your handset

or:
ask the extension user wishing to take the call to press the [Exchange] button.

The Exchange lamp glows steadily and the call is transferred.

If you press [Page all], the call cannot be transferred by replacing your handset while more than one other extension user has a handset off-hook; the call will remain in hold. The receiving extension user must press the [Exchange] button.

5.6.5 Unattended transfer

You can transfer an exchange line call to another extension without announcing the call to the extension user. The call is placed in hold until the extension user picks it up.

Press the required [Extension] button, or [Page all] button.

Your module and that of the called extension(s) ring as long as the button is pressed.

The exchange line is on hold and the Exchange lamp flashes slowly on all modules.

Replace your handset.

The called extension user lifts the handset and presses the [Exchange] button.

The Exchange lamp glows steadily and the call is transferred.

If the call is not answered within 2 minutes all modules will ring with the fast 'Ring back on hold' signal. The call can be picked up by any extension user pressing the [Exchange] button.

5.7 Conference calls

A conference call is one between three or four callers in which each can hear and be heard by the others. A conference can be set up between three or four CONSORT extensions, or two CONSORT extensions and an exchange line caller.

To set up a conference with all CONSORT extensions

Lift your handset.

Press [Page all] button. — All modules ring.

All extension users lift their handsets and are in conference.

To set up a conference with specific extensions

Lift your handset.

Press each required [Extension] button. — Extensions called will ring.

Extension users called lift their handsets and are in conference.

To set up an exchange line conference

Having spoken to the exchange line caller, press the required [Extension] button. — Your module and that of the called extension ring, as long as the extension button is pressed.

The exchange line is on hold, and the Exchange lamp flashes slowly on all modules.

The called extension user answers and you ask the user to join the conference. — The exchange line caller can not hear what you are saying.

Press [Conference] button (either extension). — You are both in conference with the exchange line caller. The Exchange lamp glows steadily.

To leave a conference, press [Exchange] button.

5.8 Joining an existing call

To join an intercom call

Lift your handset. — You are connected to an existing intercom call.

To join an exchange line call

Press the [Exchange] button. — You are connected to the external call.

The Exchange lamp on the module of the extension already on the exchange line call flashes rapidly for ten seconds.

5.9 Subsidiary connection (Piggy backing)

To make an external call, you will need to dial the PBX outgoing access code, eg 9. Refer to your PBX user guide.

Recall

Find out what type of recall your PBX uses:

— If it requires EARTH RECALL then you can recall your PBX by pressing the [Recall] **button on your CONSORT**

— If it requires TIME BREAK RECALL then you can recall your PBX by using the **recall button of a telephone which has time break recall**. (Do not use the [Recall] button on your CONSORT).

5.10 Mains power failure

The telephone associated with the Main module reverts to the exchange line until power is restored. During a power failure all other modules are inoperative. Bell on/off status requires resetting when power is restored.

6 MAINTENANCE

6.1 General

On site maintenance is limited to that specified in this section. This enables customer service to be restored quickly and maintenance visit durations to be kept to a minimum.

There are no fuses in the main or extension modules.

6.2 Test conditions

Idle state : 5.5 M ohms 6nF
Seized : 227 ohms
Hold : 212 ohms

The line will test low loop when Megger tested.

6.3 Faulting

If the system does not appear to be working correctly then carry out the following checks.

Check:
—that the facilities are being used in accordance with the CONSORT User Guide;
—that the mains power is on;
—whether the system needs to be reset—try turning the power off and on again;
—that the exchange line is working correctly and the line cord is plugged in;
—that all the telephones are plugged into the modules and all modules are plugged into their sockets;
—that the telephones are not faulty by testing them on an exchange line that is known to be working properly;
—that the sockets are wired correctly and the sockets and cabling are not damaged;
—that the extension address switches are set to the correct numbers;
—that the position of the switch at the rear of the main module is set correctly, if the exchange line lamp does not go out after finishing a call (refer to Installation section).

If having carried out all of these checks the CONSORT is still not working correctly the fault would appear to be within the CONSORT modules or possibly the CONSORT sockets. To prove whether or not a module is faulty, substitute main/extension modules in turn (ensuring switches are set correctly).

If the fault is traced to a CONSORT module then it should be replaced.

7 TECHNICAL DESCRIPTION

7.1 General description

The extension modules are connected to the main module using a 6 way cable (system bus) and can be wired radially or serially. This cable consists of the exchange line pair, module power supply pair and a dual purpose pair used for intercom feed and data transfer.

Incoming ringing is detected in the main module and is converted into a data signal which activates the tone caller. The main module microprocessor activates the extension modules' tone callers via the data pair of the system bus.

The intercom feed provides a constant current source of 20mA nominal. The exchange line is through fed to the extension telephones via relay contacts in the main and extension modules.

All signalling (either loop disconnect or multi-frequency) is generated by the telephone being used. It is possible to use a mix of LD and MF telephones if the exchange connection allows both types.

Earth recall is provided by relay operation in the main module. An earth needs to be provided locally and connected to terminal 4 in the master line jack unit. If timed break recall is required a telephone which has this facility must be used.

Each module contains a relay that switches the telephone to either the intercom circuit or the exchange line. Under mains fail conditions the relay in the main module connects the associated telephone to the exchange line and the extension modules' telephones are connected to the intercom feed (they cannot be used in mains fail mode).

The main module contains an exchange status detector connected in parallel with the line. This determines whether exchange line power is present or not and also if the line is in use or idle. This detector has a selectable threshold, set by the switch at the rear of the main module. Its position is determined by the type of line the CONSORT is connected to (refer to Installation, section 3.4.1). In one position the threshold is set to 35V and in the other to 18.8V. A line voltage above the set threshold is interpreted as the telephone being on-hook; a voltage below the threshold indicates a telephone is off-hook and connected to the line.

7.2 Power Supply

The mains 240V ac supply is stepped down to 18V rms by the plug mounted transformer. This is rectified in the main module to provide an unregulated 30V dc with a ripple of 1V. This is the system voltage which powers the intercom feed, relay drive circuit, tone caller and the extension modules via terminals 1 and 6 of the system bus.

A 5V dc supply is derived from the 30V dc supply in both the main and extension modules. This powers the microprocessor, LED's and remaining circuitry.

8 PARTS LIST

Marketing/Engineering Title
CONSORT 1+4

Item Codes

CONSORT 1+2 Starter Kit	870282
CONSORT Extension Kit	870283
CONSORT Wall Bracket (available early 1988)	870288
CONSORT Plinth (available early 1988)	870308
Joint Box (Block Terminal 77A)	436733
Joint Box (BT DIY Kit No 6)	870183

Maintenance Spares

CONSORT Main Unit (Maintenance)	870286
CONSORT Extension Unit (Maintenance)	870289
CONSORT Socket Kit (Maintenance) (for use by retail outlets only—contains Socket, IDC Tool, Locking Bar and Screws)	870287
LJU 2/3A	373900
Locking Bar	436491

When you use the items:

		New supply or sale	BT maintenance purposes	DIY customers for their maintenance purposes
1+2 Starter Kit	870282	✓	✓*	✓*
Extension Kit	870283	✓		✓
Main Unit (Maintenance)	870286		✓	✓
Extension Unit (Maintenance)	870289		✓	
Socket Kit (Maintenance)	870287			✓
Wall Bracket	870288	✓	✓	✓
Plinth	870308	✓	✓	✓
Joint Box—Block Terminal 77A	436733	✓	✓	
Joint Box—BT DIY Kit No 6	870183	✓		✓
LJU 2/3A	373900		✓	
Locking Bar	436491		✓	

*only if both units faulty

9 DOCUMENTATION

The documentation that is published for the CONSORT is:

CONSORT User Guide	CPE/MS 513
CONSORT Installation Instructions	CPE/MS 514
CONSORT Aide Memoir	CPE/MS 518
CONSORT System Manual	CPE/MS 519

10 SPECIFICATION

10.1 Mains supply

240V ac ± 10%. 50Hz ± 5%.

10.2 Power consumption

10 Watts

10.3 Environment

Operating: Temperature range 0° to 40°C with relative humidity not exceeding 80%.

Storage: Temperature range —10°C to 55°C with relative humidity not exceeding 95%.

10.4 Ringer Equivalence Number (REN)

3.0

10.5 Cabling limits

Network Terminating Point to main module—3 metres.

Main module to extension module—maximum series resistance is 50 ohms. This is equivalent to 275 metres of 0.5mm copper cable (allowing for fixed cordage).

10.6 Warning

Only apparatus complying with BS6301 should be connected to the ports at the rear of the CONSORT modules.

The user is warned that interconnection directly or by way of other apparatus to ports marked 'WARNING Connect only apparatus complying with BS6301 to this port' must be observed. Ports not so marked may produce hazardous conditions on the British Telecom Network so you should obtain advice from a competent engineer before such a connection is made.

APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

S/3008/3/**G**/452439

CPE/MS 519