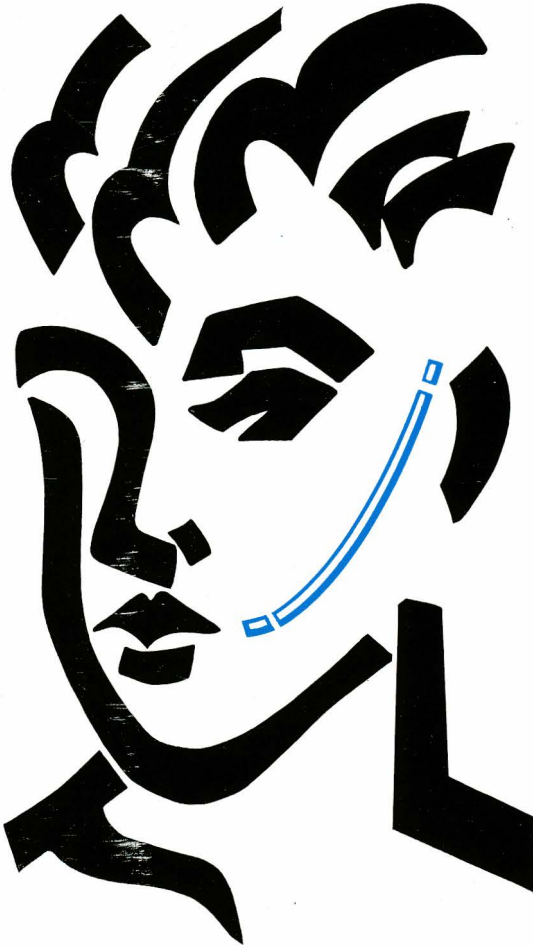




**PLANTRONICS**

World Leader in Telephone Headsets



***Guide to Headsets***



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## Foreword

This Guide To Telephone Headsets is the result of Plantronics' experience in satisfying many thousands of customers over the past thirty years. It is designed to introduce you to the technology, explain the rationale behind headset operation, and provide you, the reader, with a basis for evaluating the correct product for your particular application.

The Guide takes the form of a series of question and answers, which will hopefully lead you through the selection process and, at the same time, clarify many misconceptions as to how, when, and why headsets should be used.

Any comments or suggestions you would like to make with a view to making this publication more useful would be most welcome. Please address these to our public relations manager, at the Plantronics International headquarters.

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## **What is a headset?**

The headset is a natural progression from the ordinary telephone handset. It consists of a receiver, which enables the user to hear the voice of the person at the other end, and a transmitter, which converts the user's voice into electrical energy suitable for transmission along a telephone line.

These two components, the transmitter and the receiver, are mounted in a capsule which in turn can be attached to your head. Hence the expression 'telephone headset'.

## **Are all headsets technically the same?**

No, not all headsets are technically the same, although in essence they fulfil the same function. Telephone technology has

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progressed dramatically since the invention of the telephone by Alexander Graham Bell in 1876. Advances in electronics have resulted in the development of several different components which might be used, according to the telephone design and specification. This variation may dictate a different solution for the headset interface.

## **How does this affect me?**

Whatever telephone equipment you may have in place, there is an appropriate headset available. The compatibility guide which appears as a supplement, indicates the correct headset technology for any particular telephone, or telephone equipment. The only proviso is, that if you change your instrument, then it may be necessary to change your headset. Again, this can be verified by referring to the compatibility guide.

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## **Where did headsets originate?**

Headsets were originally developed to overcome problems arising from the use of manual telephone exchanges. Many years ago, all telephone calls were routed from place to place by physically connecting telephone lines together with flexible cords. Because this required the use of two hands, it was convenient for the exchange operator to talk to the caller over a headset, leaving both hands free to operate the manual telephone exchange.

These days this type of manual keyboard is almost entirely obsolete. However, many newer electronic systems still require a full-time operator, or receptionist, and it is still far more efficient to use a headset whilst operating the buttons or keys of the new system.

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## **Have telephone headsets therefore stayed the same?**

The answer is definitely no. The advances in technology, the introduction of lighter and stronger materials, and the demand for more comfortable headsets have resulted in many changes in the modern telephone headset. The development of surface mount technology led to a quantum leap in miniaturisation and the design of unobtrusive, aesthetically pleasing headset styles. Today's headsets are feather-light, comfortable, stylish, and easy to use.

## **What's wrong with using a handset?**

For many applications, there is no intrinsic disadvantage in using a handset rather than a headset. There are, however, a number of factors which, either

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individually or collectively, make the use of a headset very attractive. Let us examine some of these in detail:

### ■ ***Another Pair of Hands***

There are many actions which are best performed using both hands. These can vary from the very obvious, like using a typewriter, personal computer (PC) or computer terminal, to more mundane tasks like taking notes or working your way through a file. How many times would you have liked to have had an extra hand free?

### ■ ***Comfort***

Cradling a telephone handset between neck and shoulder for any length of time is extremely uncomfortable. Even more importantly, this can result in temporary or even longer term disability. Ask your



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doctor or chiropractor how many patients he or she has treated for neck strain problems associated with protracted telephone handset use.

### ■ ***Freedom of Movement***

A lightweight headset, attached via a flexible, curly cable, enables the user to move around easily while continuing to talk on the telephone. This makes the finding of that file, the identification of the correct drawing, or the sifting of the 'in-tray' much more straightforward.

### ■ ***Improved Speech Quality***

Because the headset is physically attached to your ear (in some cases directly into the ear by means of an ear-tip), the quality of sound received is greatly improved. In noisy offices, specially developed noise-cancelling microphones

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can cut out up to 75 per cent of back-ground noise transmitted through the receiver. (This subject is covered in more detail on pages 28 and 29).

### ■ ***Hygiene***

Most Plantronics headsets incorporate a clear voice-tube, which carries your voice to the tiny microphone hidden in the earpiece. This can be detached - or replaced if necessary - in seconds. It can be easily cleaned to maintain hygiene protection and personalises the user's headset.

### ■ ***Increased Telephone Efficiency***

The net result of headset use is a saving of both time and money or, to put it another way, the ability to take and make

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more calls. The additional flexibility and freedom of movement offered by headset use will increase telephone efficiency and cost-effectiveness, while improving customer satisfaction through more relaxed and friendly service.

## **How can using a headset save me time and money?**

In order to examine this more fully, you will have to estimate how much time you or your employees spend on the telephone each day. Based on an average telephone call of 3 minutes 12 seconds (BT statistics), and the findings of an independent survey which has calculated increased efficiency of up to 43 per cent, **Table 1** will enable you to work out the possible time saved, or the possible increase in calls taken.

**Table 1 : Typical Time Saving With Headset Working**

<b>% of day spent on the telephone</b>	<b>25%</b>	<b>50%</b>	<b>75%</b>	<b>100%</b>
<b>Number of calls per day</b>	<b>38.0</b>	<b>75.0</b>	<b>113.0</b>	<b>150.0</b>
<b>Total minutes on the telephone</b>	<b>121.6</b>	<b>240.0</b>	<b>361.6</b>	<b>480.0</b>
<b>Minutes saved per day</b>	<b>13.4</b>	<b>26.4</b>	<b>39.8</b>	<b>52.8</b>
<b>Additional calls possible</b>	<b>4.0</b>	<b>8.0</b>	<b>12.0</b>	<b>16.0</b>

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## **How much money could this save me or my company?**

In order to indicate the amount of money that might be saved by headset use, the following assumptions have been made:

- an hourly labour rate of £5 per hour.

**Note: This figure should be much higher if overheads are to be taken into consideration.**

- a working week of approximately 40 hours. Cost savings and the pay-back period for the company's investment in headsets can now be calculated as follows:

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**Table 2 :**  
**Typical Cost-Saving With Headset Working**

a	Time spent on telephone	50%
b	Minutes saved per day (see Table 1)	26.4
c	Hours saved per day (b divided by 60)	0.44
d	Hourly labour rate	£5.00
e	Daily cost saving per headset (c multiplied by d)	£2.20
f	Monthly cost saving per headset (e multiplied by 21 working days)	£46.20
g	Total number of headset users	10
h	Total savings per month (g multiplied by f)	£462.00
i	Retail price for standard headset (approx)	£120.00
j	Total investment (g multiplied by i)	£1200.00
k	Number of months for full return on investment (j divided by h)	2.60

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## Who would benefit from using a headset?

In actual fact, anyone who spends any noticeable time on the telephone will benefit from using a headset. The list is almost endless, but here are some categories which cover the most common applications:

- ***telesales/telemarketing teams***
- ***customer services/help desks***
- ***sales co-ordinators***
- ***booking clerks***
- ***enquiry desks***
- ***hotel/airline/car reservations***
- ***receptionists***
- ***taxi operators***
- ***financial services agencies***
- ***travel agents***
- ***bank hot-lines***
- ***timetable enquiries***
- ***mail order telephone agents***

- 
- ***hospital appointment desks***
  - ***freight forwarders***
  - ***vehicle breakdown/servicing***
  - ***emergency services personnel***

And many, many more ...

## **Will a headset work on my telephone or telephone system?**

Yes! Whatever you phone system, we have a product which will provide you with headset operation. To select the correct product, all you have to do is:

1. identify your present system by name or type
2. check against the compatibility list in the attached supplement.



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## **What types of systems are there?**

### **■ *Direct Exchange Line (DEL)***

This is a direct connection between your phone and the telephone exchange, such as that you would have at home. Each DEL has its own dedicated phone number.

### **■ *Key & Lamp (K&L)***

Normally associated with small businesses, this is a manual system (operated by perhaps a receptionist) which allows for one or more DELs and a number of internal extension lines.

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## ■ **Key System**

This system is popular with small to medium-sized businesses and would have a number of DELs and typically, up to 100 extension lines. A key system would normally have relatively sophisticated extension instruments offering features such as group pick-up, divert, call identification, etc. On a key system, it is generally possible for any extension to pick up an incoming call.

## ■ **Private Automatic Branch Exchange (PABX)**

The PABX is usually associated with medium to larger operations and, as the name suggests, is a miniature version of the telephone exchange. Unlike a key system, which tends to offer sophisticated extension instruments, the PABX uses

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standard telephones of the type which the general public uses at home. PABXs allow outside calls to be switched to any extension without the need for a central operator/receptionist.

### ■ **Hybrid**

The hybrid is a cross between a key system and a PABX. Depending on how the system is configured and programmed, it provides a mixture of PABX and key system facilities. It is therefore possible to have standard telephones on some extensions and key system type instruments on others. We recommend that users seek advice before ordering a headset for this type of telephone system.

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## ■ ***Automatic Call Distribution (ACD)***

An ACD is a highly specialised system which enables large numbers of calls to be handled quickly by teams of operators/agents. Typical ACD applications would include directory enquiries, airline reservations, mail order companies, etc. Every ACD has a specially designed headset tailored to suit that particular application.

## ■ ***Dealerboards***

These systems are used by dealers/brokers in environments such as the stock exchange. Dealerboards do not usually take headsets although some companies are beginning to recognise the advantages that headsets can provide.

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## ■ **Mobile/Cellular**

Mobile or cellular systems are becoming increasingly popular. In order to allow for communication on the move these systems depend on radio rather than cables to convey information. This is likely to prove a growth area for headset manufacturers in the immediate future with the introduction of CT2 and, later, PCN (Personal Communications Network).

**NOTE: The compatibility guide lists systems by type as well as manufacturer to enable readers to easily identify existing equipment.**

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## **What can I attach to a Direct Exchange Line (DEL)?**

Any of the following products may be attached to a DEL:

### **Headset/Handset Telephone**

This is a fully featured telephone which allows for either headset or handset operation. Full details may be found on page 36.

### **Headset Only Telephone**

The dedicated headset telephone is a fully functioning telephone with a headset attachment rather than a handset. This is the Plantronics StarBase model, and further information may be found on pages 37 and 38.

### **Telephone Headset Adaptor**

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Providing your telephone has a modular handset, then the specialist telephone adaptors Spectra, Vista or StarMate series can be connected to it to allow for headset operation. The advantage of the headset adaptor is that it offers users the option of either headset or handset working at the flick of a switch. For more information on these products please go to pages 39 and 40.

### **Hearing-assistive Telephones**

The Clarity telephone (see pages 41 and 42) has been specifically designed to improve clarity and speech intelligibility for the hard of hearing, and can also be connected to a DEL.

**Note: Full details of the Plantronics products corresponding to the above descriptions are given on pages 35 to 46.**

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## **What can I attach to a key and lamp system?**

All those products suitable for attachment to a DEL can also be used in conjunction with a key and lamp system.

## **What can I attach to a key/hybrid system?**

Providing that the equipment has a modular connector, the telephone headset adaptors Spectra, Vista or StarMate series, can be attached, giving the user the choice of headset and handset working on the same instrument. See pages 39, 40, 43 and 44.

On some hybrid system, the dedicated headset telephone, headset/handset telephone, or the hearing assistive telephone can also be connected. However, we would recommend that you seek advice before ordering a headset product for hybrid systems.



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## **What can I attach to a PABX?**

Headsets can be used in two possible areas on a PABX:

1. On the operator console. In most cases, a specialised headset can be used here.
2. On extension line telephones any of the products listed as compatible with a DEL can be attached.

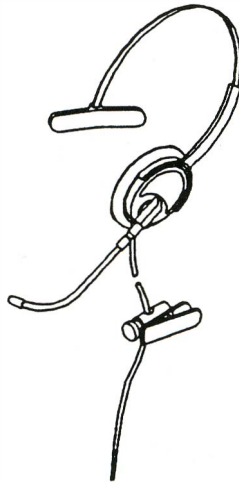
## **What can I attach to an ACD?**

Specialised headsets have been designed for each ACD system. We would recommend that you seek advice from manufacturers before ordering headset products for ACD systems.

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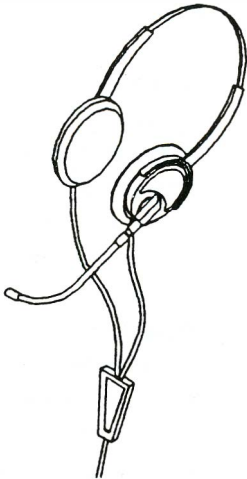
## What type or style of headset would suit me best?

### **Monaural Headband**



A lightweight ear cushion headset with sound in one ear only, and featuring a replaceable voice-tube.

The Plantronics Supra Monaural Headset

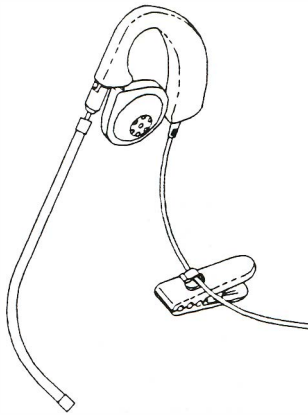


### **Binaural Headband**

A lightweight ear cushion headset, with sound in both ears and featuring a replaceable voice-tube.

Ideal for use when a high degree of concentration is required.

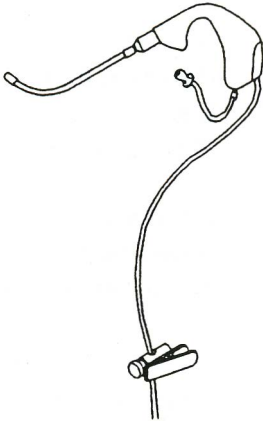
The Plantronics Supra Binaural Headset



### **On-the-ear Capsule**

An extremely lightweight (2oz) 'state-of-the-art' capsule attached to the ear and connected to the mouth by a replaceable voice-tube. The most lightweight and unobtrusive option available.

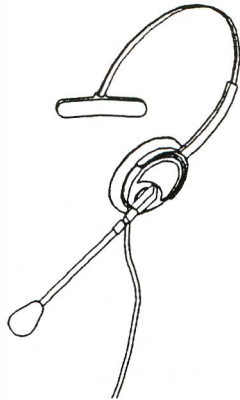
The Plantronics Mirage Headset



### **In-the-ear Capsule**

A range of ear-tips ensure the best possible fit for users who prefer an in-the-ear capsule. The tips are replaceable, as is the clear voice-tube.

The Plantronics StarSet II Headset

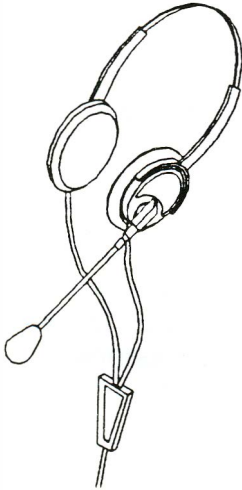


**Monaural  
Headset/Noise-  
Cancelling  
Microphone**

Specially  
developed  
noise-cancelling  
microphones  
can cut out up to  
75 per cent of  
background

noise transmitted down the receiver,  
making it a popular option for noisy work  
environments.

Monaural headband/noise cancelling microphone



### **Binaural Headband Noise-Cancelling Microphone**

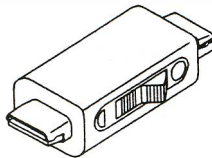
Noise-cancelling microphones are also available on binaural headbands, offering sound in both ears and further protection from surrounding noise.

The Plantronics Supra Binaural  
Noise-cancelling Headset

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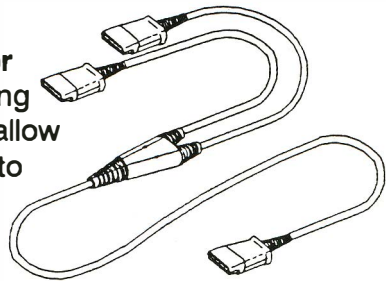
## Are there any other accessories which might be useful to me?

Yes, the following attachments are suitable for most headsets:



**Quick Disconnect (QD) mute switch.**  
This cuts off (mutes) the microphone.

**'Y' Connector**  
Used in training situations to allow a Supervisor to listen in to a conversation.



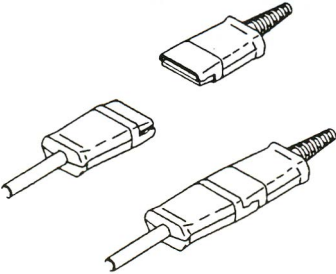


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## Would a headset restrict my movements?

Your headset is of course connected to the user's telephone by a flexible cord. However, this does not mean that the user is tied to the telephone. The following features guarantee free and easy movement around the work area:

### ■ **Quick Disconnect**



The Quick Disconnect feature enables the user to disconnect the headset from the bottom part of the cable

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which is attached to the telephone. This can be done while the user is in mid-conversation and wishes to access another file (for example). Upon disconnecting the cable, the other party is effectively placed 'on hold' until both parts of the cable are reconnected.

### ■ ***Curly Cable***

A headset comes supplied with approximately 3 metres of curly cable. In some circumstances, this can be extended to provide an even greater range of movement by prior agreement with the manufacturers.

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## **What if my headset goes wrong?**

In event of physical damage or unsatisfactory performance from a headset, the user should contact Plantronics. We offer a 12-month warranty which covers free repair over that period. Once the warranty has expired, headsets should be returned for a 'fast repair' service.

Please return it to the address given below:

Service Manager  
Plantronics International  
Interface Business Park  
Bincknoll Lane  
Wootton Bassett  
Wilts SN4 8QQ  
England

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## **Conclusion**

We hope that the preceding pages have helped to clarify any queries that you may have had regarding the design, application, and use of lightweight telephone headsets.

If you would like any further information on a specific point, please do not hesitate to contact our Customer Services department at:

Plantronics International  
Interface Business Park  
Bincknoll Lane  
Wootton Bassett  
Wilts SN4 8QQ  
England

Tel: +44 (0)793 849200, 201, 202

Fax: +44 (0)793 848853

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## Appendix A

### The Plantronics Product Range

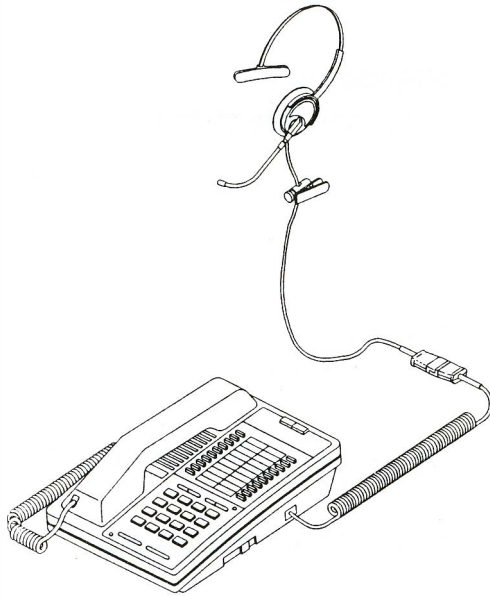
- Headset/Handset Telephone
- **StarBase**  
Headset Telephone
- **Spectra/Vista/StarMate**  
Telephone Headset Adaptor
- **Clarity**  
Hearing Assistive Telephone
- In-Line Amplified Headsets
- Unamplified Headsets

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## Headset/Handset Telephone

A full feature telephone which provides either headset or handset operation.

Utilises the full range of headset styles.



Headset/Handset Telephone

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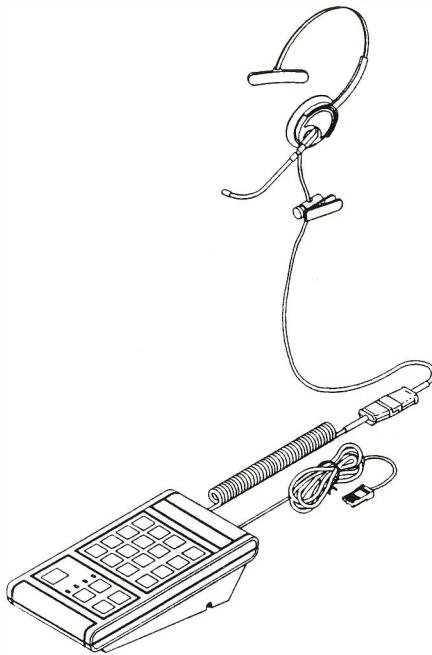
## **StarBase**

The first dedicated headset telephone with full BAPT approval. Installation is so easy - just plug into any standard modular socket.

Features include:

- 30 Programmable Memories
- Last Number Redial
- Four Position Volume Control
- Mute Function
- 6 Headset Choices  
(see pages 24 to 29)
- Interchangeable voice-tube  
for hygiene (noise-cancelling only)
- LD/MF Switchable
- Tone Ringer Control  
(High, Low, Off)

- 
- Electronic Voice Switching
  - Pulse Dial over-ride
  - Earth Loop Recall/Time-Break Recall



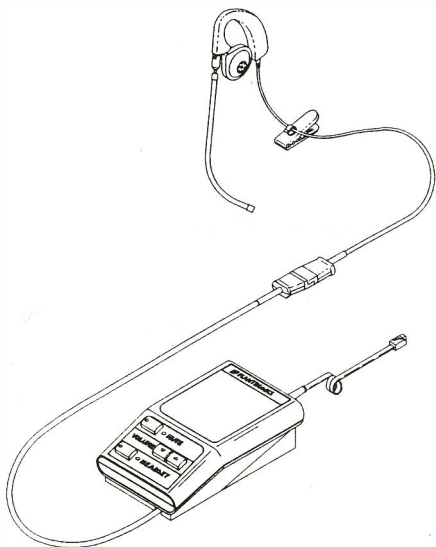
**Plantronics Starbase Headset Telephone**



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## **Spectra/Vista/StarMate Series Telephone Headset Adaptor**

All provide headset capability on a wide range of modular telephones and on key/hybrid telephone systems. The units are quickly and easily installed using the handset modular socket.



The Plantronics Spectra

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Features:

- Fits most telephone/key systems
- Compatible with 6 Plantronics headset styles
- Flexible headset operation
- Multi position volume control
- Mute switch button (except StarMate)
- Independent power supply (except StarMate E+)
- Utilises Plantronics unique SwitchGain circuitry

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## **Clarity The Hearing-Assistive Telephone**

Design specifically for those experiencing problems hearing on the telephone.

Clarity offers an adjustable, frequency shaping feature which enhances the high-frequency sounds that are missed by hearing-impaired people.



**The Plantronics Clarity Telephone**

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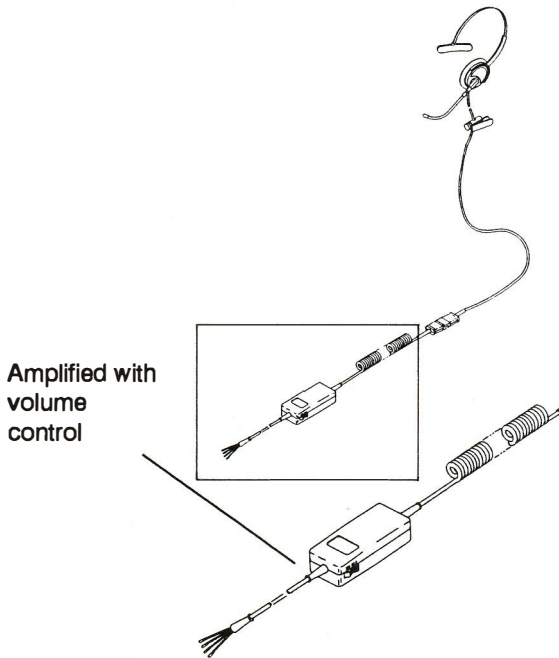
**Features:**

- Easy to hear low frequency ringer
- A ringer that lights up so you can see incoming calls
- Lighted, easy to read dial pad
- 3 emergency number and 10 personal number memories
- Last number redial
- Mute button for privacy
- Desk or wall mountable

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# Amplified Headsets

These come in a variety of options depending on the type of equipment to which they are connected.



Plug varies according to host equipment

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## Amplified Headsets

<b>Plantronics No.</b>		<b>Auralite Ref.</b>
HSB 186-5	StarSet I	3A
HSB 383-1J	StarSet II	4
HSB 383-2J	StarSet II	4A
HSB 583-1J	Supra Monaural	5
HSB 583-2J	Supra Monaural	5A
HSB 583-2U	Supra Monaural	5B
HSB 583B -2J	Supra Binaural	
NCB 583-2J	Supra Monaural N/C	
NCB 583B-2J	Supra Binaural N/C	
HSB 494-2J	Mirage	
<b>StarMate</b>		
MHB 224-1	StarSet II	
MHB 424-1	Mirage	
MHB 524-1	Supra Monaural	
MHB 525-1	Supra Binaural	
MHB 524-NC	Supra Monaural N/C	
MHB 525-NC	Supra Binaural N/C	
<b>StarMate E</b>		
MHB 228-2	StarSet II	
MHB 428-2	Mirage	
MHB 528-2	Supra Monaural	
MHB 529-2	Supra Binaural	
MHB 528-NC	Supra Monaural N/C	
MHB 529-NC	Supra Binaural NC	
<b>StarMate E+</b>		
MHB 230-1	StarSet II	
MHB 430-1	Mirage	
MHB 530-1	Supra Monaural	
MHB 531-1	Supra Binaural	
MHB 530-NC	Supra Monaural N/C	
MHB 531-NC	Supra Binaural N/C	

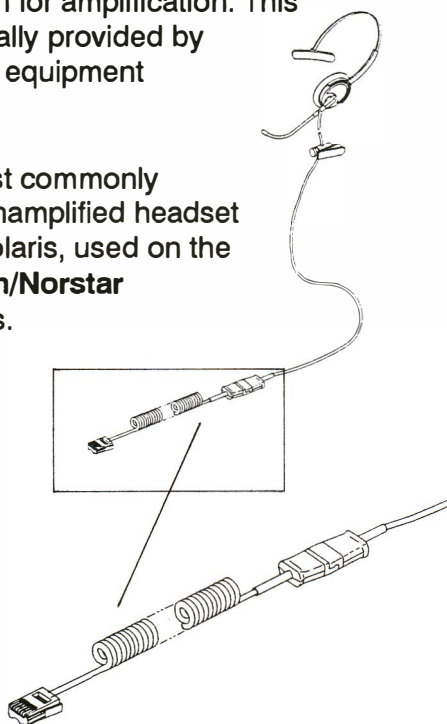
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## Unamplified Headsets

As the name suggests this type of headset is connected to the equipment with no provision for amplification. This is generally provided by the host equipment itself.

The most commonly found unamplified headset is the Polaris, used on the **Meridian/Norstar** products.



Plug can vary according to host equipment

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## **Unamplified Headsets**

### **Polaris**

OH 2001      Supra Monaural  
boom microphone

OH 2002      Supra Binaural  
boom microphone

### **Datapoint**

OH 1002      StarSet II

OH 5002      Supra Binaural



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# Notes

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# Notes





## European Offices:

**Plantronics International**  
Interface Business Park  
Bincknoll Lane  
Wootton Bassett  
Wilts SN4 8QQ England.

Tel: +44 793 848999  
Fax: +44 793 848853

**Plantronics AG**  
Alte Steinhauserstrasse 19  
CH06300 Cham. Switzerland.

Tel: +41 42 420404  
Fax: +41 42 420410

**Plantronics Akustic GmbH**  
Pfungstweide 21, Industriegebiet Sud  
D-6360 Friedberg. Germany

Tel: +49 60 31 62077  
Fax: +49 60 31 62515

**Plantronics Acoustics SrL**  
Viale Lombardia 15  
1-20121 Milano. Italy

Tel: +39 226 64304  
Fax: +39 226 66960

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