# Telex

# **Professional Headsets**





# Anatomy of a headset...

# The Basics

# Headphone—Headset. What's the difference?

A headphone is a listening device consisting of either one or two earphone receivers and a headband with which to hold them on the head. When a microphone attached to a boom is added, it becomes a headset.





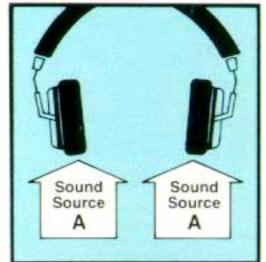
Headphone

Headset

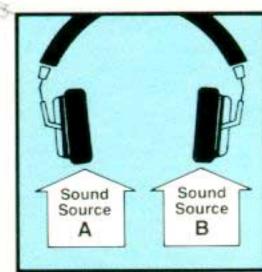
#### Monaural—Binaural— Stereo Receivers. What's the difference?

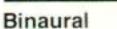
Monaural earphones receive audio from only one sound source, whereas each earphone on a binaural headset receives audio from a different sound source such as

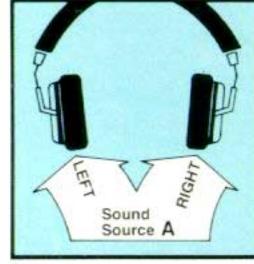
director's voice in one ear and on-the-air programming in the other. Stereo, on the other hand, means that although the sound source is the same, each earphone receives audio from a different sound track of the recording. One track could, for instance, be recorded from the left and the other from the right side of an orchestra.



Monaural





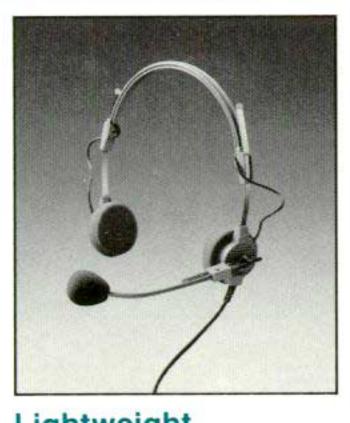


Stereo

#### Where to look to find the right headset for you.

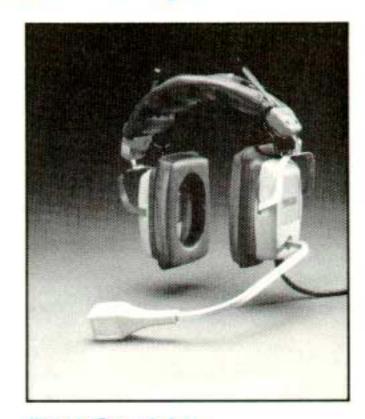


The Basics—an elementary look at headsets and headphones.
Page 2,3



Lightweight
Announcer's headsets—
for normal noise level, onlocation or studio use.

Page 4

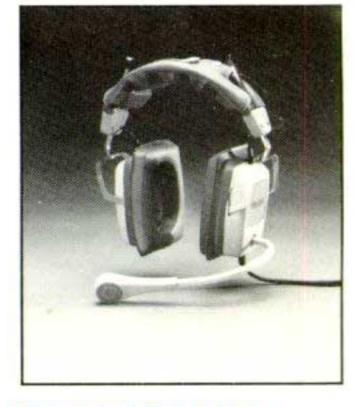


Full Cushion
Announcer's headsets—
for higher noise levels, onlocation or studio use.

Page 5



Camera Intercom
headsets—intercom headsets
with carbon microphones.
Page 6



General Purpose
headsets—communication,
dispatch and intercom headsets
for industry.
Page 7

# Are magnetic or dynamic earphones best?

It depends on the application. Telex uses magnetic receivers in their camera headsets for compatibility with

existing Western Electric intercom circuits and most video camera intercoms. Telex Earsets® utilize the magnetic style because of its small size, efficiency and economy. Telex Announcer's headsets, general purpose headsets and monitor headphones use dynamic earphone elements because of their high fidelity and low distortion.



# Should I choose a single side or dual side headset?

One reason to choose a dual side (dual muff) headset is to facilitate either binaural or stereo earphone listening as described above. Some, on the other hand, use it to isolate themselves in order to concentrate on only the audio being communicated through the headset. Conversely, some prefer the single side (single muff) headset that keeps one ear exposed to environmental sounds in order to "keep in touch". Single sided headsets are also chosen when the camera is held on the shoulder leaving little room for an earphone on the ear closest to the camera.

# Lightweight or Full Cushion headsets?

The advantage of a lightweight headset is obvious—its light weight provides comfort when worn for long periods of time. Why then would one choose the heavier full cushion variety? These headsets are full ear encompassing (full circumaural), therefore they have the advantage of shielding the user from bothersome environmental noise. At the same time they can actually protect (to varying degrees) the user from noise that is potentially harmful to one's hearing.







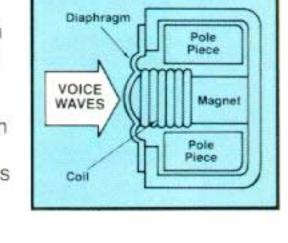
**Full Cushion** 

# Microphones. Why so many?

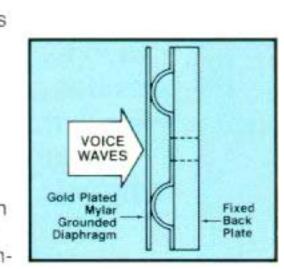
All types of headset boom mics contain an "element" which changes sound waves into electrical waves. Differing elements offer various advantages such as size, economy or compatibility with special circuits such as those found in television cameras or sportscasting applications.

#### **Dynamic**

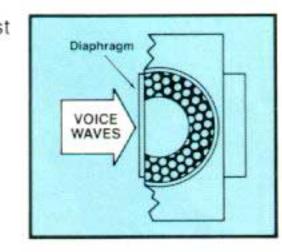
elements are the most common. A wire coil is connected to a diaphragm which moves when sound waves strike it. An electrical signal is generated when the coil moves within a magnetic field. The voltage of this signal varies with the amplitude and frequency of the sound waves.



Electret elements are the smallest, lightest and most natural sounding. Sound waves move a "charged plate" diaphragm which varies the distance between it and a fixed back plate. This causes changes in an electrical signal based on the amplitude and frequency of the sound waves.



Carbon elements are the oldest and simplest design. A diaphragm is connected to a small container of carbon granules which have a small bias current. Sound waves striking the diaphragm cause movement of the carbon granules which, in turn, results in current changes.

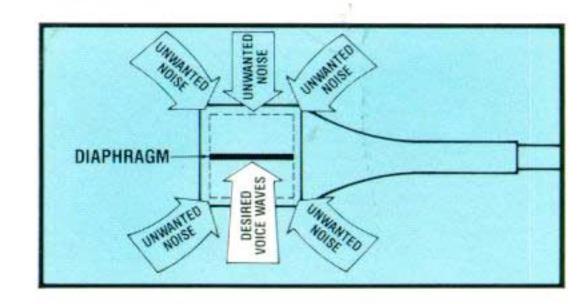


# Why choose an omnidirectional style microphone?

An omnidirectional microphone is designed to pick up sound equally in all directions. If it's important for your audience to hear the sounds surrounding the announcer in order to experience the ''flavor'' of the announcer's environment, this type of microphone is best. Many Telex headset microphones allow the user to control the amount of omnidirectional ''crowd flavor'' by moving the microphone further from the mouth.

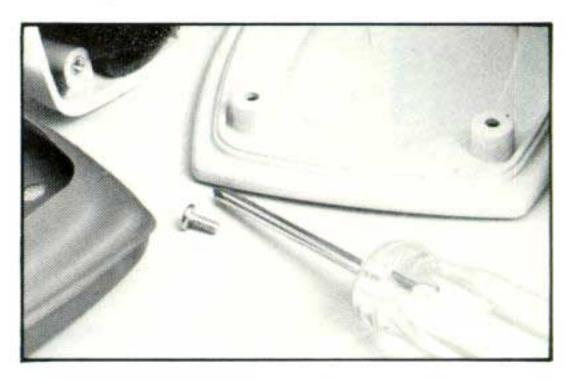
# Noise Cancelling. How it works. Why it helps.

Sometimes, unreasonably loud background noise can be detrimental to clear communication or good broadcast audio. In that case the headset's microphone should be noise cancelling. With this type of microphone, the only sound waves that activate the diaphragm are those from the user's voice which is close up and directly in front of the microphone, all others are cancelled. These microphones have carefully designed openings that channel background noise to **both** sides of the diaphragm with equal pressure therefore cancelling out. Sound waves from the user's voice are picked up because they strike only the front of the diaphragm.



# Field Repairability. How can that help?

In most cases, Telex headsets can be repaired easily by replacing entire earphone or microphone elements without sending the unit back to the factory. Earphone and microphone cavities are accessible by simply removing a couple of screws. Even if you don't intend to actually repair a headset 'in the field', this feature can still save time and money. However, if downtime could prove to be extremely expensive, it may pay to carry spare earphone or microphone elements on location.



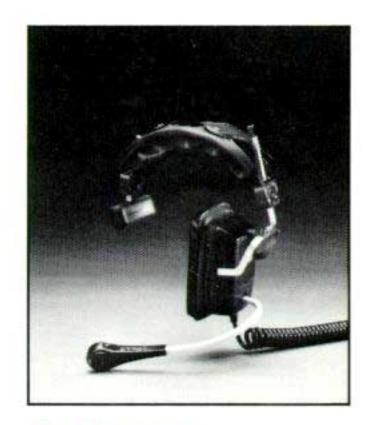
#### Made in U.S.A.

It makes good sense to buy Telex products because they are all made in the USA and have been for the past 50 years. Dependability of parts and service can mean real savings of time and money in the long run.



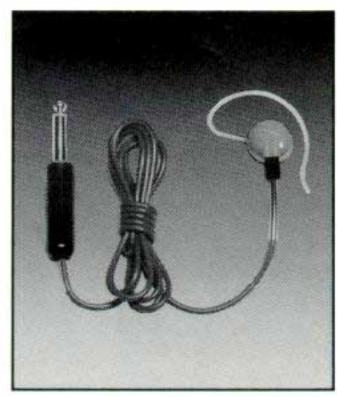
Monitor headphones listen-only, professional headphones.

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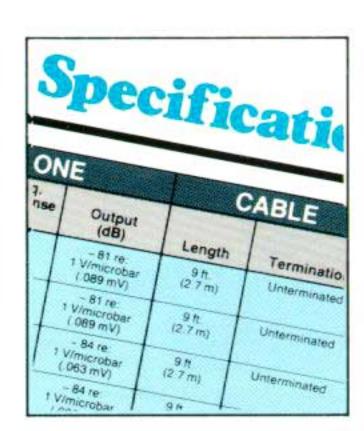
Audiocom intercom headsets— complete line of headsets developed for the Audiocom intercom line.

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Announcer's
earsets— miniature earphones for inconspicuous oncamera listening.

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Specification chart— a complete technical look at the entire family of Telex headsets.

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# PH-24 PH-25 Lightweight

# Model PH-24

# Announcer's Headsets

#### Superb sound with unbelievable comfort that lasts for hours and hours

Television and radio announcers and sportscasters have never before experienced such comfort in a professional headset. Imagine, full studio quality electret condenser microphone sound, plus lightweight comfort that will continue through an exhausting eight hour, on-the-air shift! The PH-24 miniature noise cancelling electret microphone provides an extremely flat frequency response of user's voice with significantly attenuated background noises. The PH-25 achieves the same quality only with an omnidirectional mic.

Vinyl covered

Quick disconnect

boom microphone

repair

assembly for emergency

steel headband

Unbreakable

slip bearing .

for head size

adjustments

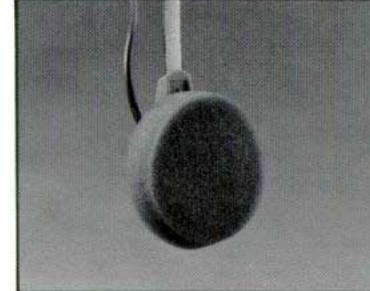
plastic

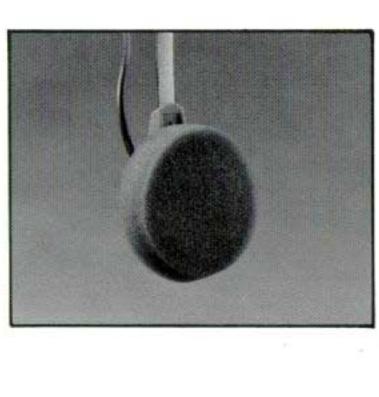
PH-24 Monaural

**PH-25** Binaural

Stainless steel spring assembly

High fidelity dynamic earphone receivers





Boom swivels so that the microphone can be positioned on either side of the head

Miniature electret noise cancelling (PH-24) or omnidirectional (PH-25) microphone with wind screen provided



Removable

foam ear cushion

Flexible Polyolefin microphone boom can be formed with your fingers



In-line push-to-cough button with on/off switch for internal battery or external phantom power

## Announcer's Headsets

#### Improved comfort in popular SPORTSCASTER model

The Telex Sportscaster has long been a favorite of professional announcers. Ideal for studio or on-location sports broadcast from the press box or even from the high noise environment of the playing field. The "flavor" of the crowd noise can be controlled by the proximity of the microphone to the mouth. Both earphone and microphone elements are field replaceable to save time and money.

Soft, foam filled pads covered with supple polyurethane that resists cracking under the hot sun

comfort socks

(not shown)

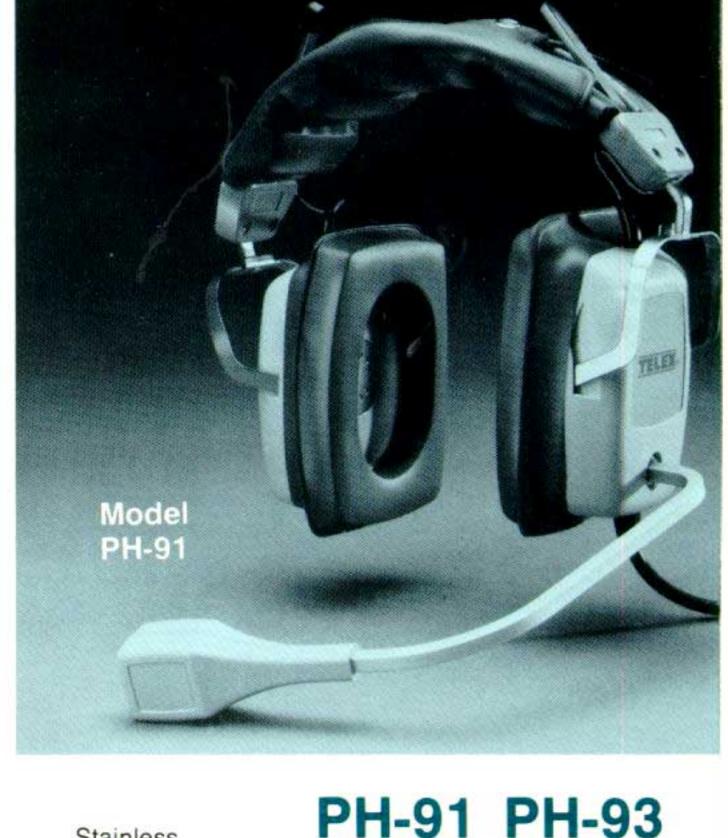
Unidirectional

dynamic (PH-94)

earcups

Vents that allow air to circulate provide day-long comfort Washable nylon are provided for Omnidirectional dynamic microphone (PH-91,92) High fidelity, Omnidirectional electret (PH-93)

low distortion dynamic earphone elements



Stainless steel spring assemblies provide head size adjustment

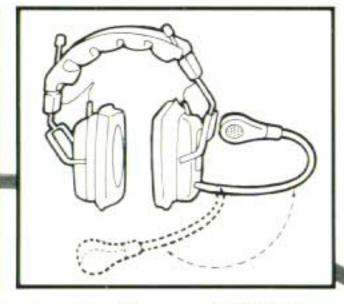
PH-91 300 ohm Binaural

PH-92 PH-94 300 ohm

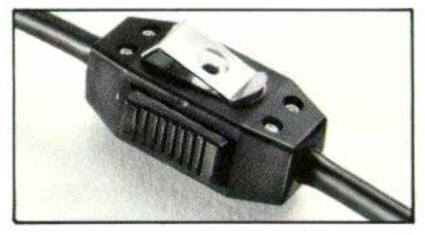
150 ohm

Binaural

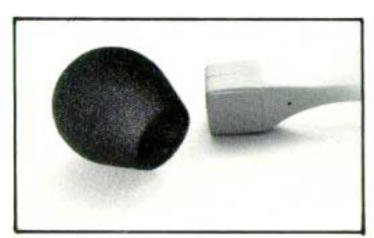
6000 ohm Binaural Binaural



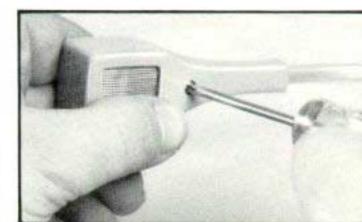
Microphone boom swivels on ball joint a full 310° so that microphone can be worn on either side of the head



In-line push-to-cough switch includes handy clothing clip



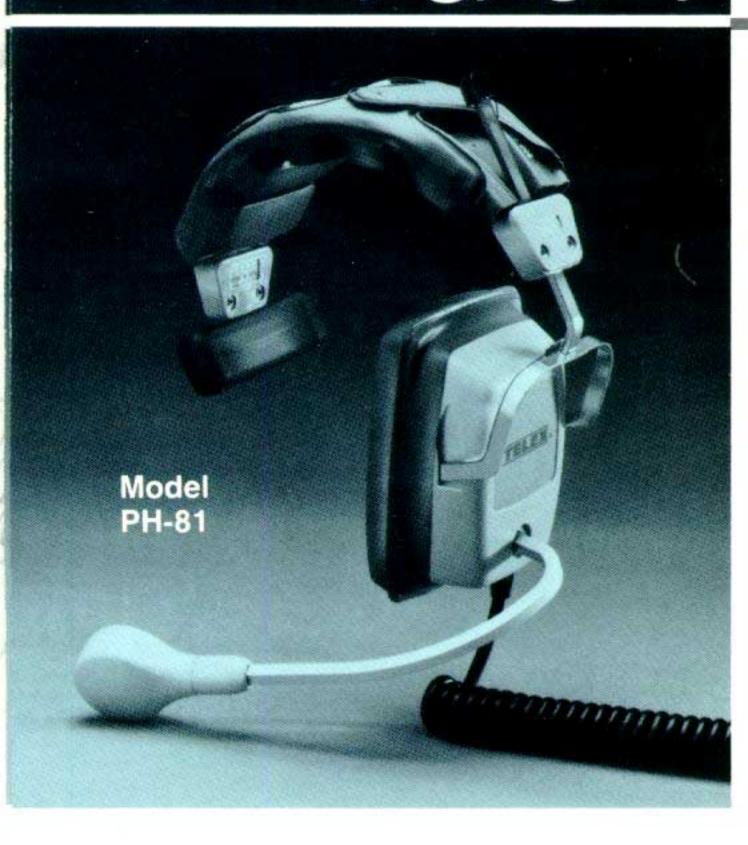
Wind screen provided



Microphone element is field replaceable

# PH-81,83,85,87

### Camera



# Intercom Headsets

This headset series is specifically designed to provide high quality communication through camera intercoms in television studios or remote production locations. They have sensitive carbon microphones with a smooth voice frequency range of 200 to 4000 Hz and are compatible with Western Electric type intercom circuits. The earphones contain highly sensitive magnetic receivers that can be easily removed and replaced in the field for convenience and economy.

Soft, foam filled pads covered with supple polyurethane that resists cracking under the hot sun or studio lights

PH-81 Single-sided, monaural

**PH-83** 

Same as above, but with push-to-talk switch

**PH-85** 

Dual-sided, binaural

**PH-87** 

Same as above, but with push-to-talk switch



earcup by strain relief

# General

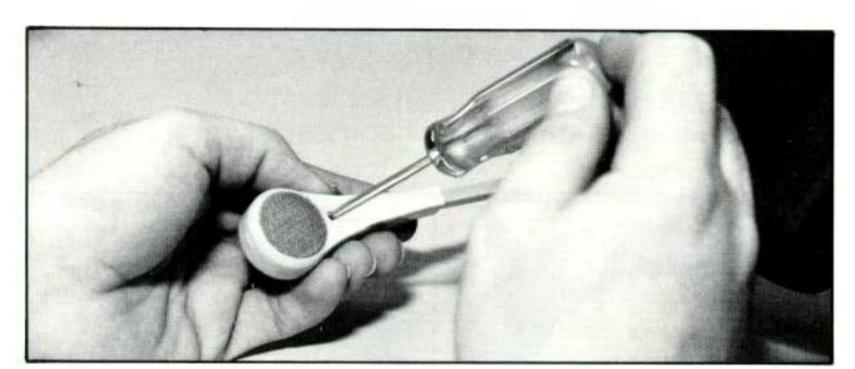
# PH-45,61,62,75,78

# Communication Headsets

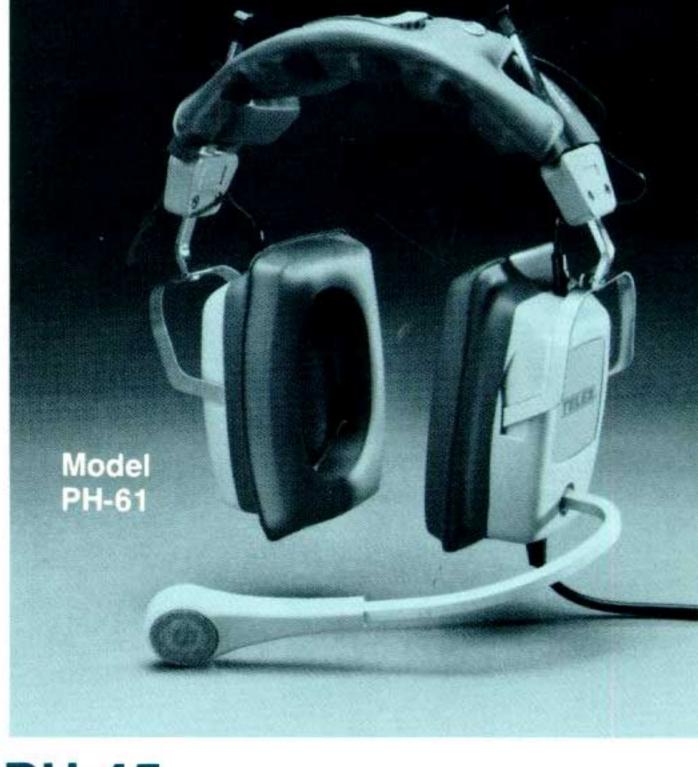
A series of professional communication headsets carefully designed to meet and surpass the most stringent requirements of the industry. With dynamic receivers that are subjected to meticulous quality control and built to resist mechanical shock, moisture and temperature changes.

#### **Typical Applications**

□ General Industrial Intercom	☐ Fire/Policy/Emergency
Dispatchers   Translation Sys	stems Military Intercom
☐ Two-way Radio Communicati	The state of the s



PH-61 and PH-75 dynamic models have economic field replaceable microphone elements. Microphone head adjusts for precise mouth-tomic placement.



#### PH-45

Dual-sided headset for use on systems with circuits requiring carbon mics and dynamic earphones

Same as above, but single-sided

#### **PH-61**

Dual-sided headset with noise-cancelling dynamic mics and dynamic earphones

#### **PH-75**

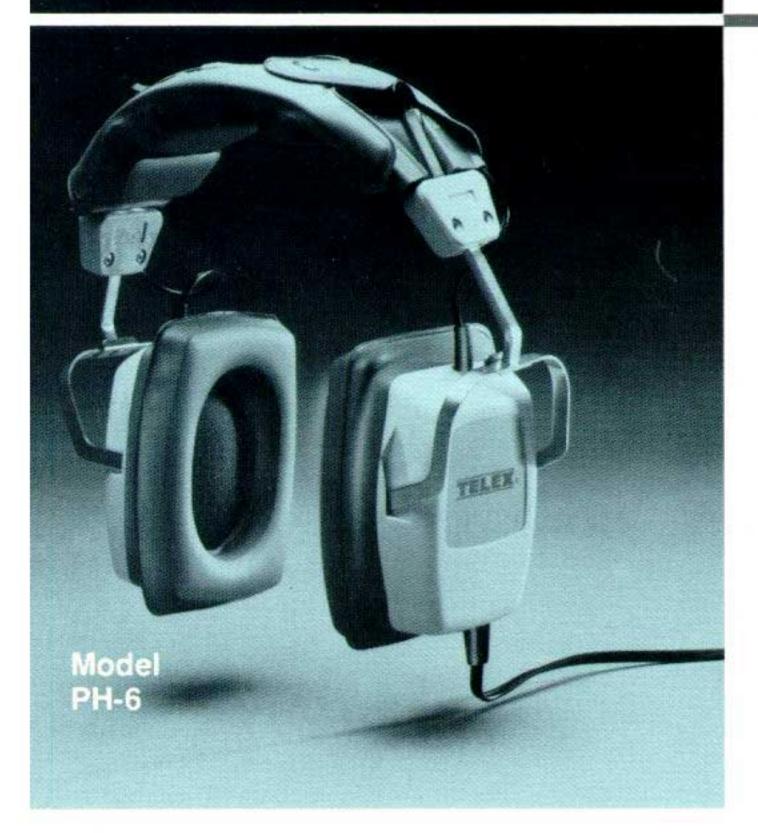
Same as above, but single-sided

#### **PH-62**

Dual-sided headset with noise-cancelling dynamic



# Monitor and Specialty



# Headphones

Telex offers one of the widest selections of monitor headphones in the industry. Each model features durable construction, high quality dynamic earphones and long life cords terminated with a 1/4" phone plug. Choose from full cushion or lightweight models in mono or stereo. Single-sided model also available.

PH-6 Professional stereo headphone
PH-7 Dual-sided monaural headphone
PH-11 Single-sided monaural headphone

PH-35 Lightweight stereo Lightweight mono

For a variety of lightweight private listening applications.

Twinset® Monaural headband style
Tele-Fi® Monaural under-the-chin style
Monoset® Monaural under-the-chin style
PERSONA-PHONE® Monaural acoustic earcup



For full details on these lightweight specialty headphones ask for Telex Forms PA-2472 and PA-2473.

# Audiocom

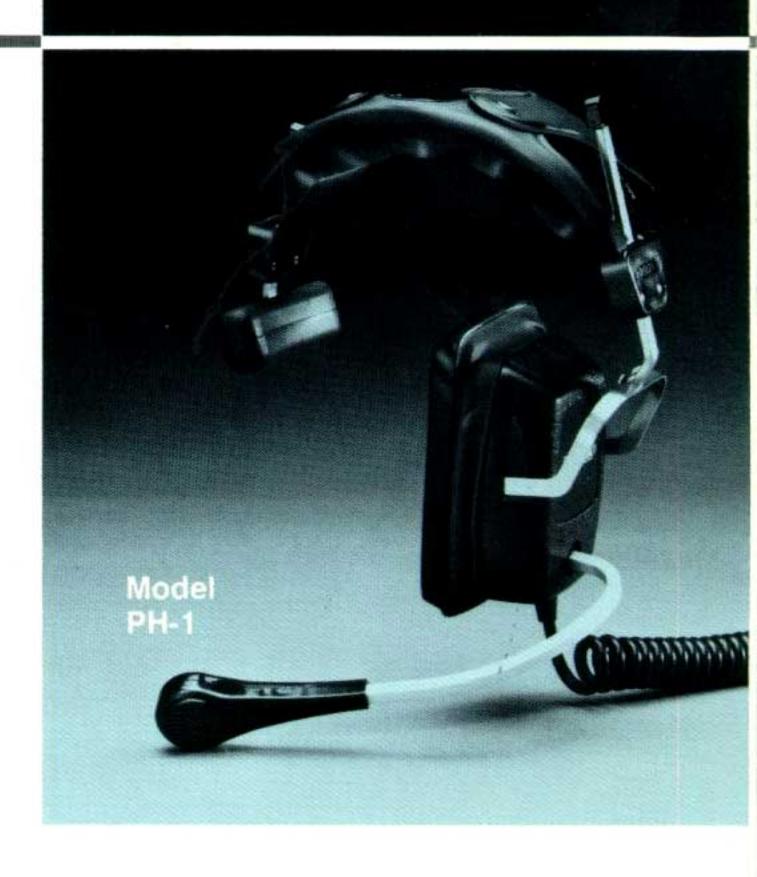
PH-1

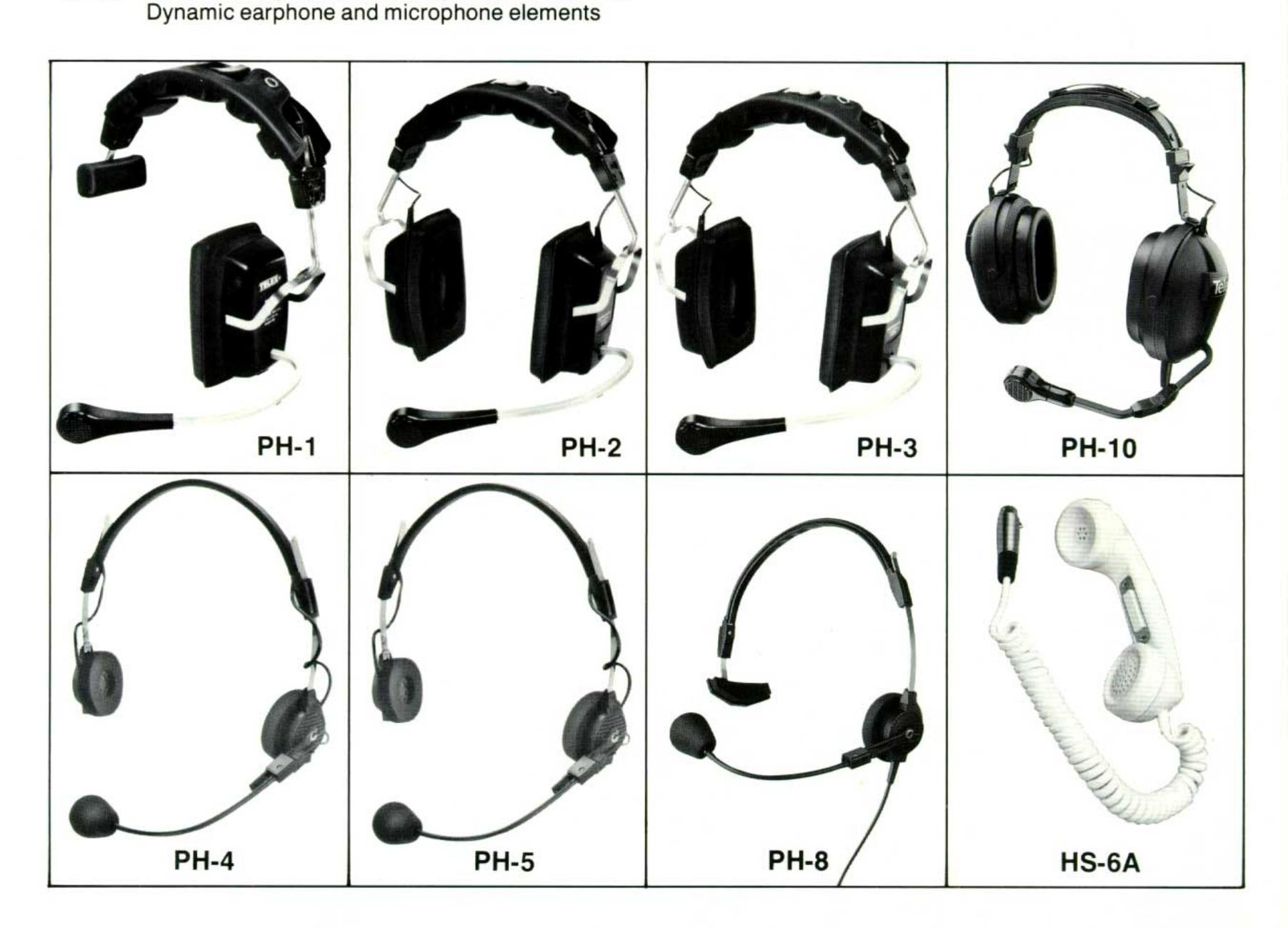
# Intercom Headsets

A complete series of headsets plus a monitor earphone and a handset are available to complement Telex Audiocom™ as well as Clear-Com intercom systems. This professional series features durable construction with high quality dynamic earphone receivers and microphones. Each unit is terminated with a female (XLR type) plug.

Single-sided monaural with dynamic microphone

	on green action author and more priority
PH-2	Dual-sided monaural with dynamic microphone
PH-3	Dual-sided binaural with dynamic microphone
PH-4	Lightweight dual-sided monaural with dynamic microphone
PH-5	Lightweight dual-sided binaural with dynamic microphone
PH-8	Lightweight single-sided monaural with dynamic microphone
PH-10	Dual-sided monaural Hearing Protector type with noise cancelling dynamic microphone.  Environmental Protection Agency Noise
	Reduction Rating (NRR) 24
HS-6A	Telephone style handset with push-to-talk switch

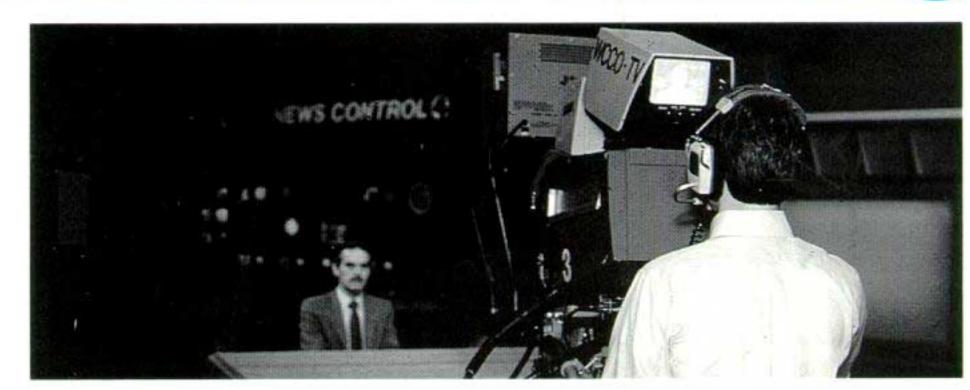




# Announcer's Earset

# EARSET (Includes Receiver Earloop and Cord)

# On-Camera Listening



Used by all major TV networks and stations, is specifically designed for inconspicuous listening on camera. The extremely efficient minature driver element requires only nominal operating power and enables the announcer to hear program cues while working with a live microphone. The unit is also suitable for many other applications. The Telex EARSET is supplied in several impedance variations (see ordering information/specifications at right) and includes a magnetic Telethin receiver, an earloop and cord.

#### **Miniature Receiver**

The Telethin miniature magnetic receiver, available in five different impedances, permits choice of the appropriate impedance for any application. For inconspicuous use, the receiver is extremely small and lightweight.

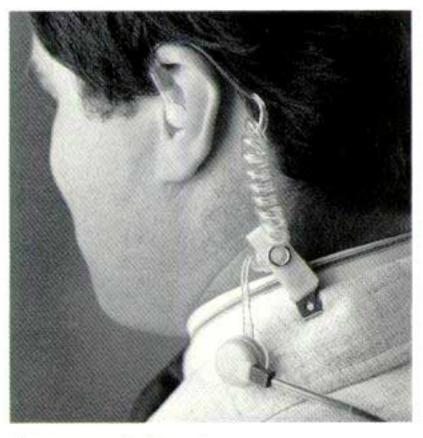
#### **Earmolds and Eartip**

For the utmost in comfort and convenience, three pliable earmolds (small, medium, large) are available for either the left or right ear. The Telethin receiver snaps into the earmold, directing sound into the ear canal and limiting ambient noise. As an alternative to an earmold, a silicone eartip which snaps to the receiver is available. A nylon or plastic covered metal earloop that holds the eartip or receiver in place on the ear can also be ordered.

#### Cords

To minimize reflections on camera, the cord is a low luster grey color. Cords with or without volume control are available. The cord with in-line volume control is equipped with a clothing clip for out of sight waist level positioning. To avoid loss of cues, the volume control will not shut off completely.

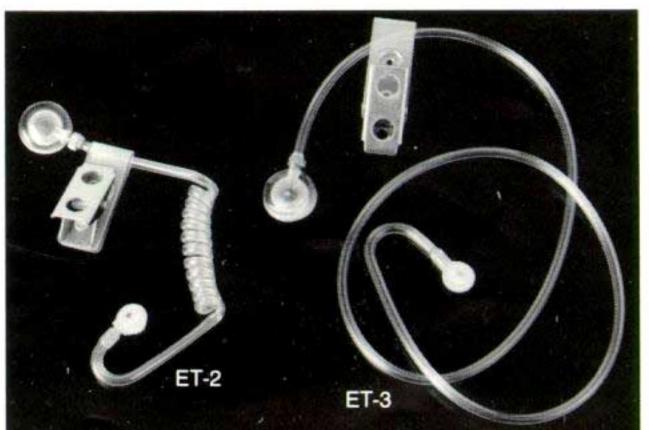




Announcer's Earset with clear plastic eartube

#### Clear Plastic Acoustical Interface Tubes

These inconspicuous clear plastic tubes carry the sound effectively from a Telex Telethin receiver to the talent's ear without revealing the cord to the camera. The clear tubes are available in two versions, the ET-2 is coiled and the ET-3 is straight. Both connect easily to a Telex eartip or any size earmold and have a handy clothing clip to secure the system in place.



# Mix and Match Components



#### ANNOUNCER EARSETS

EMV-2 Low impedance earphone (125

ohms) and 5 ft. (1.52 m) Neutral grey cable with 1/4" (6.4 mm) plug and plastic covered metal earloop.

Catalog No. 60194-001

EMY-2 High impedance earphone (2000

ohms) and 5 ft. (1.52 m) Neutral grey cable with 1/4" (6.4 mm) plug and plastic covered metal earloop.

Catalog No. 60194-004

The Telex Announcer's Earset can be ordered in the two configurations listed below or you can mix and match the components that best fit your application.

Specifications			EARP	CABLE				
Model No.	Catalog No.	Туре	Imped. (Ohms)	Freq. Re- sponse (Hz)	Output (dB)	Length	Termination	
EMV-2	60194-001	Magnetic/ Single	125	100- 3,000	120	5 ft. (1.5 m)	1/4" (6.4 mm) plug	
EMY-2	60194-004	Magnetic/ Single	2000	100- 3,000	120	5 ft (1.5 m)	1/4" (6.4 mm) plug	

#### EARSET COMPONENTS ORDERING INFORMATION

To provide optimum versatility, the Announcer's Earset is made up of interchangeable component parts which simply snap together. Depending on the component pieces selected, the user can construct a version of the Announcer's Earset that best suits his particular need.



#### TELETHIN® RECEIVERS

RTR-04 15 ohms, Catalog No. 60012-000 125 ohms, Catalog No. 60012-003 **RTV-04** 

RTW-04 500 ohms, Catalog No. 60012-005

RTW-04(V) 500 ohms with built-in volume control on surface of receiver

exterior. Catalog No. 60159-036

RTX-04 1000 ohms, Catalog No. 60012-007

**RTY-04** 2000 ohms, Catalog No. 60012-009



#### **EARMOLDS**

EML-1 Large, Right Ear

Catalog No. 35401-014

EML-2 Large, Left Ear

Catalog No. 35401-019

EMM-1 Med., Right Ear

Catalog No. 35401-012

EMM-2 Med., Left Ear

Catalog No. 35401-017

EMS-1 Small, Right Ear

Catalog No. 35401-010

EMS-2 Small, Left Ear

Catalog No. 35401-015



#### EARTIP

ET-1 Soft silicone tip

Catalog No. 35608-000



Bag of 25 Eartips Used with the ET-1 Catalog No. 70594-000



#### **EARLOOPS**

Fits eartip and all Telethin Receivers.

AEF-2 Plastic covered metal

Catalog No. 09252-000

AEF-3 Nylon, Catalog No. 18304-000



#### **EAR TUBES**

ET-2 Coiled acoustic eartube with clip

Catalog No. 70491-000

ET-3 Straight acoustic eartube with clip

Catalog No. 70490-000



#### CORDS WITHOUT VOLUME CONTROL

High flex tinsel cord, 5' (1.52 m) long in neutral grey, single, tamper-proof jacket.

CMT-2 Standard cord with 0.25" (6.35 mm) dia. plug

Catalog No. 60013-000

CMT-92 Cord with miniature right angle phone plug .140" (3.56 mm) dia.

Catalog No. 60013-013

CMT-98 Cord with miniature straight phone

plug. 140" (3.56 mm) dia. Catalog No. 60013-015

CCT-2 Coiled cord, 5' (1.52 m) extended,

0.25"(6.35 mm) dia. plug

Catalog No. 19652-000



CMT-95 Cord with miniature straight .097"

(2.46 mm) dia. plug

Catalog No. 60013-073



#### CORDS WITH VOLUME CONTROL

With clothing clip on control. 5' (1.52 m) long. Standard 0.25" (6.35 mm) dia. plug.

VXT-3 500 ohms, Catalog No. 19616-001

VYT-3 2000 ohms, Catalog No. 19616-000

# Ordering Information and Specifications

				EARP	HONE		MICROPHONE				CABLE	
	Model No.	Catalog No.	Туре	Imped. (Ohms)	Freq. Response (Hz)	Output (dB)	Туре	Imped. (Ohms)	Freq. Response (Hz)	Output (dB)	Length	Termination
Announcers & rtscaster Headsets	PH-24	64356-000	Dynamic/ Dual/ Mono	150	50- 15,000	98	Condenser Noise Cancelling	250	20- 20,000	-81 re: 1 V/microbar (.089 mV)	9 ft. (2.7 m)	Unterminated
	PH-25	70425-000	Dynamic/ Binaural	300/ Side	50- 15,000	98	Condenser Omni- directional	250	20- 22,000	-81 re: 1 V/microbar (.089 mV)	9 ft. (2.7 m)	XLR-3 and 1/4" (6.4 mm) Plug
	PH-91	64390-000	Dynamic/ Binaural	300/ Side	50- 15,000	105	Dynamic Omni- directional	200	50- 15,000	- 84 re: 1 V/microbar (.063 mV)	9 ft. (2.7 m)	Unterminated
Anno	PH-92	64390-001	Dynamic/ Binaural	6000/ Side	50- 15,000	105	Dynamic Omni- directional	200	50- 15,000	-84 re: 1 V/microbar (.063 mV)	9 ft. (2.7 m)	Unterminated
Spo	PH-93	64390-002	Dynamic/ Binaural	150/ side	50- 15,000	105	Condenser Omni- directional	200	20- 20,000	-84 re: 1 V/microbar (.089 mV)	9 ft. (2.7 m)	Unterminated
	PH-94	64390-003	Dynamic/ Binaural	300/ side	50- 15,000	105	Unidirectional dynamic	200	20- 20,000	-84 re: 1 V/microbar (.089 mV)	9 ft. (2.7 m)	Unterminated
ets	PH-81	64438-004	Magnetic/ Single	275	200- 4,000	113	Carbon Omni- directional	20	300- 4,500	- 52 re: 1 V/microbar* (2.5 mV)	6 ft. (1.8 m) coiled	Unterminated
Headsets	PH-83	64438-003	Magnetic/ Single	275	200- 4,000	113	Carbon Omni- directional	20	300- 4,500	- 52 re: 1 V/microbar* (2.5 mV)	6 ft. (1.8 m) coiled	Unterminated with push-to-talk switch
Camera	PH-85	64437-005	Magnetic/ Binaural	625 Right, 275 Left	200- 4,000	113	Carbon Omni- directional	20	300- 4,500	- 52 re: 1 V/microbar* (2.5 mV)	6 ft. (1.8 m) coiled	Unterminated
0	PH-87	64437-004	Magnetic/ Binaural	625 Right, 275 Left	200- 4,000	113	Carbon Omni- directional	20	300- 4,0500	- 52 re: 1 V/microbar* (2.5 mV)	6 ft. (1.8 m) coiled	Unterminated with push-to-talk switch
ıns	PH-45	64437-001	Dynamic/ Dual/ Mono	600	50- 15,000	105	Carbon Omni- directional	20	300- 4,5000	- 52 re: 1 V/microbar (2.5 mV)	5 ft. (1.5 m)	Two 1/4" plugs (6.4 mm)
nicatio	PH-61	64437-002	Dynamic/ Dual/ Mono	600	50- 15,000	105	Dynamic Noise Cancelling	150	100- 8,000	-83 re: 1 V/microbar (.071 mV)	5 ft. (1.5 m)	Two 1/4" plugs (6.4 mm)
Communications	PH-62	70362-000	Dynamic/ Stereo	300/ Side	50- 15,000	98	Dynamic Noise Cancelling	200	50- 10,000	- 89 re: 1 V/microbar (.035 mV)	5 ft. (1.5 m)	Unterminated
General C	PH-75	64438-001	Dynamic/ Single	600	50- 15,000	105	Dynamic Noise Cancelling	150	100- 8,000	-83 re: 1 V/microbar* (.071 mV)	5 ft. (1.5 m)	Two 1/4" plugs (6.4 mm)
Ge	PH-78	64438-002	Dynamic/ Single	600	50- 15,000	105	Carbon Omni- directional	20	300- 4,500	-52 re: 1 V/microbar (2.5 mV)	5 ft. (1.5 m)	Two 1/4" plugs (6.4 mm)
	PH-1	64438-005	Dynamic/ Single	150	50- 15,000	105	Dynamic Noise Cancelling	150	100- 8,000	- 83 re: 1 V/microbar (.071 mV)	6 ft. (1.8 m) coiled	Female XLR-4 type
	PH-2	64437-006	Dynamic/ Dual/ Mono	150	50- 15,000	105	Dynamic Noise Cancelling	150	100- 8,000	- 83 re: 1 V/microbar (.071 mV)	6 ft. (1.8 m) coiled	Female XLR-4 type
Headsets	PH-3	64437-007	Dynamic/ Stereo	150/ Side	50- 15,000	105	Dynamic Noise Cancelling	150	100- 8,000	- 83 re: 1 V/microbar (.071 mV)	6 ft. (1.8 m) coiled	Female XLR-5 type
1183	PH-4	70340-000	Dynamic/ Dual/ Mono	150	50- 15,000	98	Dynamic Noise Cancelling	200	50- 10,000	- 89 re: 1 V/microbar (.035 mV)	5 ft. (1.5 m)	Female XLR-4 type
Audiocom"	PH-5	70350-000	Dynamic/ Binaural	300/ Side	50- 15,000	98	Dynamic Noise Cancelling	200	50- 10,000	- 89 re: 1 V/microbar (.035 mV)	5 ft. (1.5 m)	Female XLR-5 type
Au	HS-6A	96145-000	Dynamic/ Telephone Handset	200	50- 6,000	113	Dynamic Omni- directional	500	100- 5,000	- 74 re: 1 V/microbar (.2 mV)	1 ft. (.3 m) coiled	Female XLR-4 type
	PH-8	70415-001	Dynamic/ Mono	150	50- 15,000	98	Dynamic/ Noise- Cancelling	200	50- 10,000	- 89 re: I V/microbar (.035 mV)	5 ft. (1.5 m) coiled	Female XLR-4 type
	PH-10	70470-003	Dynamic/ Dual Mono	150	50- 15,000	105	Dynamic Noise Cancelling	150	100- 8,000	- 83 re: 1 V/microbar (.071 mV)	6 ft. (1.8 m) coiled	Female XLR-4 type
Headphones	PH-6	64437-003	Dynamic/ Stereo	600/ Side	40- 15,000	105	-	-	-		3 ft. (.9 m) coiled	1/4" plug (6.4 mm)
	PH-7	64437-000	Dynamic/ Dual/Mono	600	50- 15,000	105	-	-		1 2 - 1 X	5 ft. (1.5 m)	1/4" Plug (6.4 mm)
	PH-11	64438-000	Dynamic/ Single	600	50- 15,000	105			-		5 ft. (1.5 m)	1/4" Plug (6.4 mm)
Monitor	PH-35	64359-000	Dynamic/ Stereo	300/ Side	50- 15,000	98	-	-	-	-	5 ft. (1.5 m)	1/4" Plug (6.4 mm)
Mo	PH-36	64353-000	Dynamic/ Dual/Mono	600	50- 15,000	98	-	S=1	-		5 ft. (1.5 m)	1/4" Plug (6.4 mm)

<sup>\*12</sup> VDC supply, 50 ohms load



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TELEX COMMUNICATIONS, INC. • 9600 Aldrich Ave. So., Minneapolis, MN 55420 U.S.A. Telephone 612-887-5550, 884-4051 • telex 6879045 Telexcom • Facsimile 612-884-0043