

## PR-B1F Full Track R/P

0.240" SINGLE CHANNEL  
PROFESSIONAL SERIES



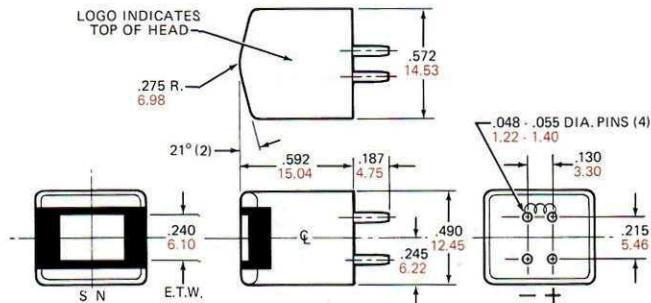
### PR-B1F – PROFESSIONAL SERIES

ELECTRICAL	MODEL NUMBER								
	PR-B1F 14R	PR-B1F 11R	PR-B1F 5N	PR-B1F 8R	PR-B1F 4R	PR-B1F 9K	PR-B1F 6N	PR-B1F 7K	PR-B1F 2K
Head Function (Typical)	Record Only	Record Only	Record/Playback	Record Only	Record Only	Playback	Record/Playback	Playback	Playback
Inductance - 1 kHz - millihenrys	2	4	5.5	10	50	10	200	400	650
Impedance - 1 kHz - ohms	13	27	32	65	320	70	1,300	2,500	4,200
Resistance, D.C., ohms	2.4	3.35	5	10	60	15	85	195	395
Gap Length, microinches	500	500	200	500	500	100	200	100	100
Average 15.0 IPS constant current record/playback characteristics using 3M 201 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation.									
Peak Bias Current, 100 kHz, ma	14	9.3	12	4.8	.98	—	3.6	—	—
Bias Voltage, RMS, 100 kHz, volts	13	27	22	23	45	—	125	—	—
Record Current, microamps	920	565	700	360	160	—	110	—	—
1 kHz Output, millivolts	—	—	.7	—	—	.58	3.3	3.7	4.3
10 kHz/1 kHz Ratio, dB	—	—	+10	—	—	+9	+10	+10	+10
Average 7.5 IPS constant current record/playback characteristics using 3M 201 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation.									
Peak Bias Current, 100 kHz, ma	12	9	11	4.6	.93	—	3.3	—	—
Bias Voltage, RMS, 100 kHz, volts	11	25	20	22	43	—	120	—	—
Record Current, microamps	900	540	640	350	150	—	100	—	—
1 kHz Output, millivolts	—	—	.5	—	—	.55	3.0	3.5	4.0
10 kHz/1 kHz Ratio, dB	—	—	+3	—	—	+2	+1	+3	+3

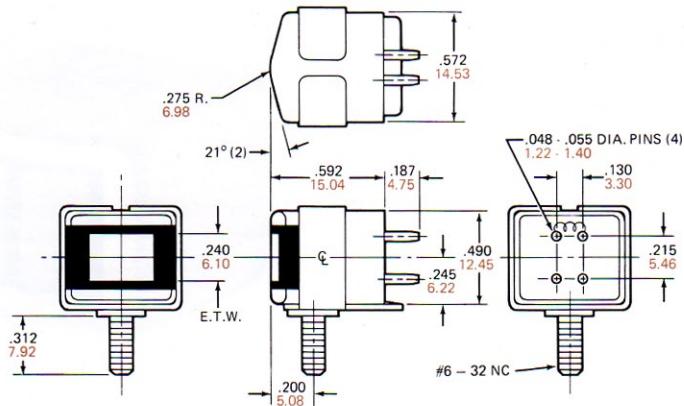
### PHYSICAL CONFIGURATION

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

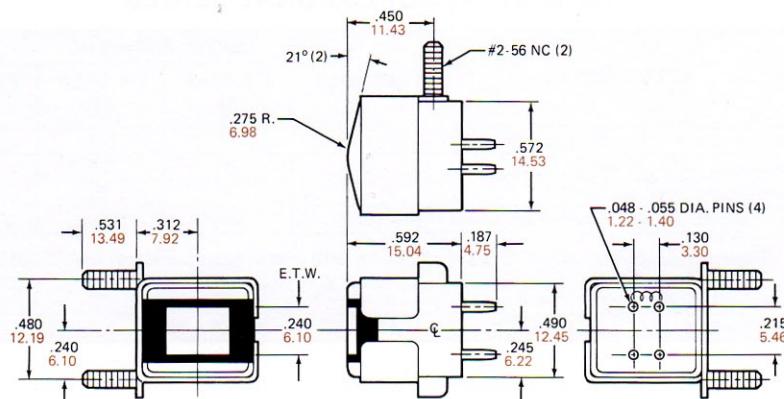
### BASIC HEAD CONFIGURATION – NO MOUNT



### HEAD WITH BASE MOUNT CONFIGURATION

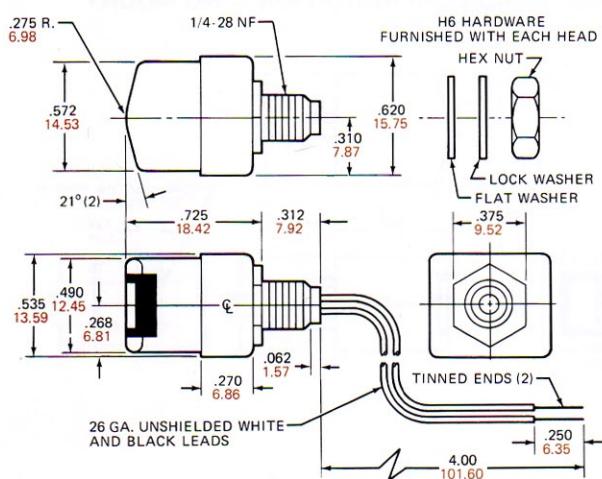


### HEAD WITH SIDE MOUNT CONFIGURATION

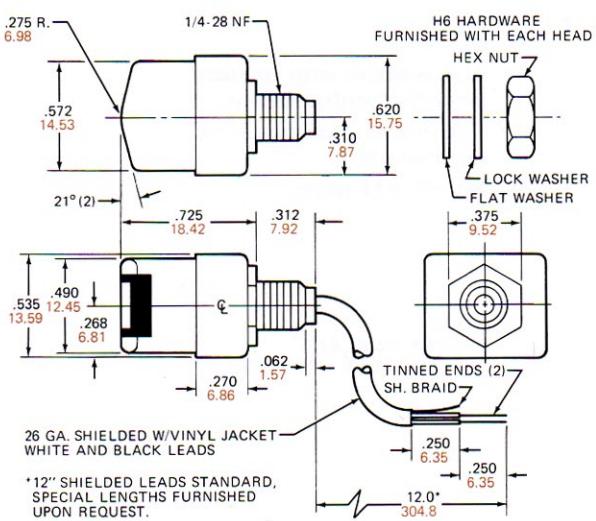


### HEAD WITH REAR MOUNT CONFIGURATION

#### UNSHIELDED LEADS



#### SHIELDED LEADS



# DESIGN DATA

NORTRONICS

AUDIO HEADS

## PR-B1EF Full Track Erase

0.260" SINGLE CHANNEL  
PROFESSIONAL SERIES



### PR-B1EF – PROFESSIONAL SERIES

ELECTRICAL	MODEL NUMBER			
	PR-B1EF <b>4</b>	PR-B1EF <b>9</b>	PR-B1EF <b>15</b>	PR-B1EF <b>17</b>
Inductance - 1 kHz - millihenrys	1.0	1.7	.500	.120
Resistance, D.C., ohms	6.6	26	3.0	0.7
Track Width, Inches	.26	.26	.26	.26
Gap Length, Double Gap (each), Inches	.003	.003	.003	.003
<b>Typical characteristics for 70 dB erasure of a 400 cycle saturated signal on 3M201 tape</b>				
Erase Voltage @ 100 kHz, volts	55	70	40	17
Erase Current, ma	88	66	125	290

### PHYSICAL CONFIGURATION

#### BASIC HEAD CONFIGURATION – NO MOUNT

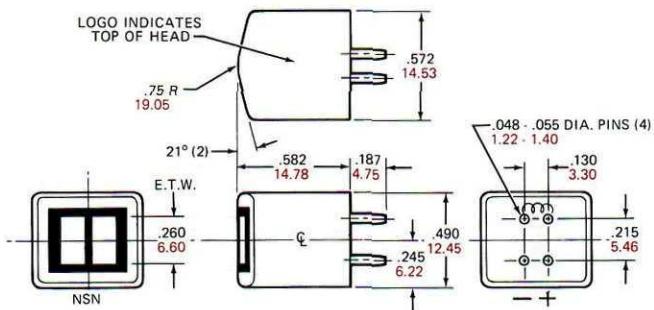
##### NOTE:

Also available with standard  
mounting configurations.

Side mount, base mount or  
rear mounts.

See PR-B1F pages.

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR



# DESIGN DATA

## NORTRONICS

AUDIO HEADS

### MEF Full Track Erase

#### PHYSICAL CONFIGURATIONS

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

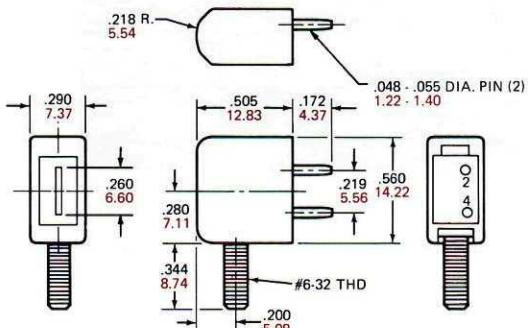
ELECTRICAL	MODEL NUMBER			
	MEF 1	MEF 2	MEF 4	MEF 9
Inductance - 1 kHz - millihenrys	40	.085	4	2.5
Resistance, D.C., ohms	88	1.3	20	17
Track Width, inches	.260	.260	.260	.260
Gap Length, Double Gap, each	.003	.003	.003	.003
Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape				
Erase Voltage - 60 kHz, volts	120	7	40	32
Erase Current, ma	12	300	40	50
Impedance - 60 kHz, ohms	12,000	17	810	600

#### NOTE:

Basic head available in "B"  
size case also, see page 40

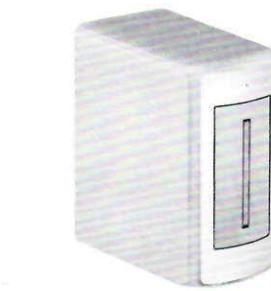
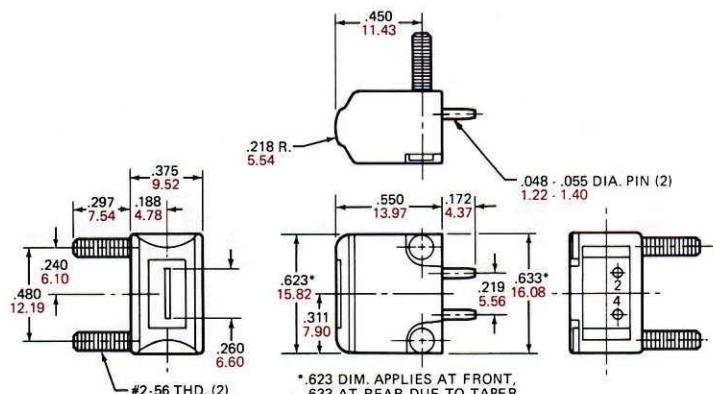
#### HEAD WITH BASE MOUNT CONFIGURATION

SPECIFY: SMEF\_\_ -B3



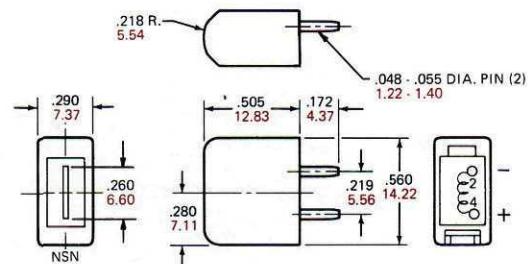
#### HEAD WITH SIDE MOUNT CONFIGURATION

SPECIFY: LMEF\_\_ -S23



#### BASIC HEAD CONFIGURATION – NO MOUNT

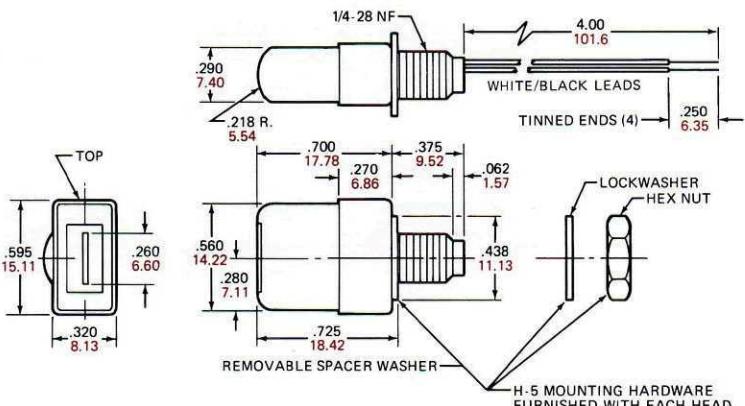
SPECIFY: SMEF\_\_ -N9



#### HEAD WITH REAR MOUNT CONFIGURATION

SPECIFY: LMEF\_\_ -R-4U

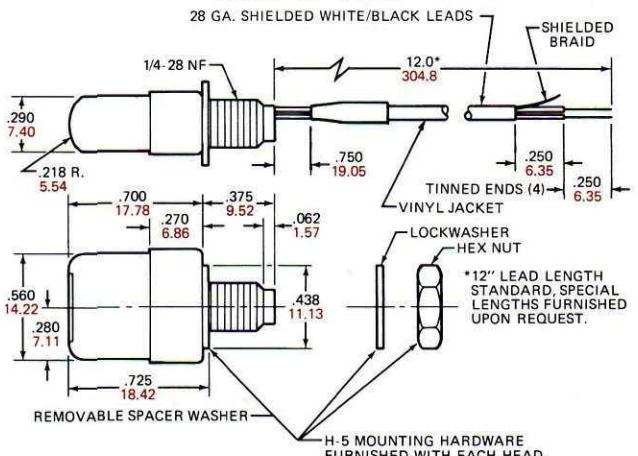
UNSHIELDED LEADS



#### HEAD WITH REAR MOUNT CONFIGURATION

SPECIFY: SMEF\_\_ -R-12S

SHIELDED LEADS



## PR-B2H Half Track Stereo R/P

0.080" TWO CHANNEL  
PROFESSIONAL SERIES



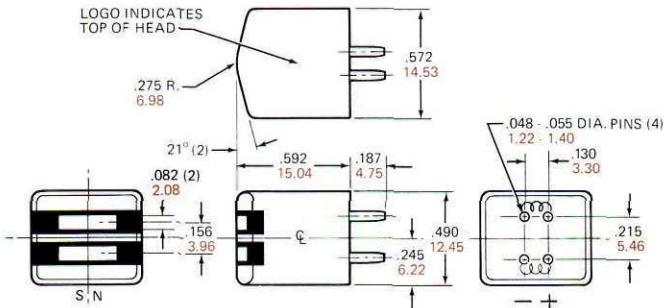
### PR-B2H – PROFESSIONAL SERIES

ELECTRICAL	MODEL NUMBERS							
	PR-B2H <b>14R</b>	PR-B2H <b>11R</b>	PR-B2H <b>8R</b>	PR-B2H <b>4R</b>	PR-B2H <b>8K</b>	PR-B2H <b>4K</b>	PR-B2H <b>7K</b>	PR-B2H <b>12K</b>
Head Function (Typical)	Record Only	Record Only	Record Only	Record Only	Playback	Record/ Playback	Record/ Playback	Playback
Inductance - 1 kHz - millihenrys	2.0	4.5	10	50	20	100	400	650
Impedance - 1 kHz - ohms	18	33	68	330	130	640	2,500	4,200
Resistance, D.C., Stereo, ohms	10	15	24	95	22	100	300	400
Gap Length, microinches	500	500	500	500	100	100	100	100
1 kHz Crosstalk Rejection, dB	60	60	60	60	60	60	60	60
<b>Average 15 IPS constant current record/playback characteristics using 3M201 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>								
Peak Bias Current, 100 kHz, ma	7.9	6.0	3.4	.67	3.5	—	1.4	—
Bias Voltage, RMS, 100 kHz, volts	7.0	19	16	32	20	—	90	—
Record Current, microamps	540	370	200	84	170	—	60	—
1 kHz Output, millivolts	—	—	—	—	.54	—	2.1	2.9
10 kHz/1 kHz ratio, dB	—	—	—	—	+10	—	+10	+10
<b>Average 7.5 IPS constant current record/playback characteristics using 3M201 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>								
Peak Bias Current, 100 kHz, ma	7.5	5.8	3.3	.65	3.0	1.0	1.25	—
Bias Voltage, RMS, 100 kHz, volts	6.0	18	14	30	15	38	80	—
Record Current, microamps	510	360	190	82	160	105	55	—
1 kHz Output, millivolts	—	—	—	—	.48	1.1	2.0	2.5
10 kHz/1 kHz Ratio, dB	—	—	—	—	+3	+3	+3	+3

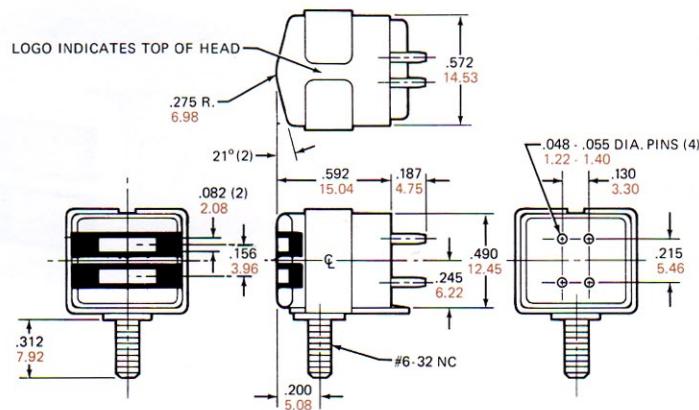
### PHYSICAL CONFIGURATION

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

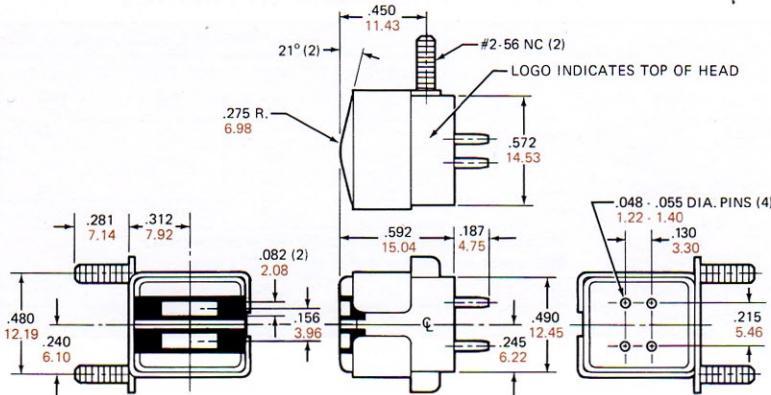
### BASIC HEAD CONFIGURATION – NO MOUNT



## HEAD WITH BASE MOUNT CONFIGURATION

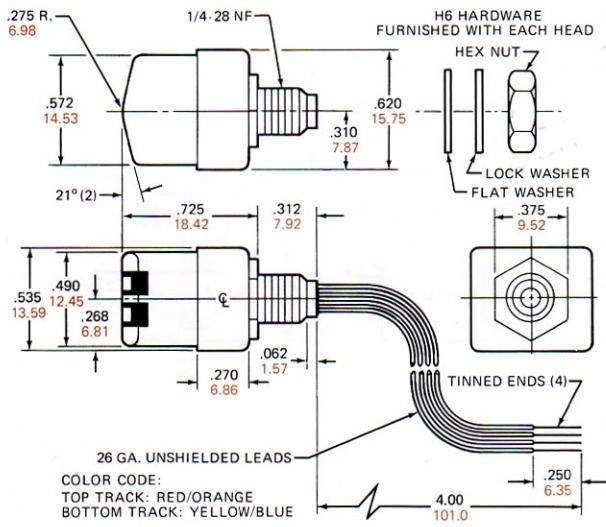


## HEAD WITH SIDE MOUNT CONFIGURATION

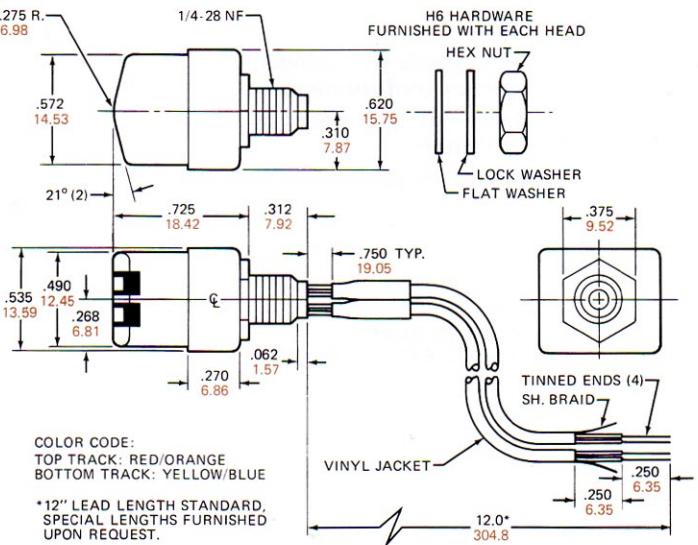


## HEAD WITH REAR MOUNT CONFIGURATION

### UNSHIELDED LEADS



### SHIELDED LEADS



# DESIGN

# DATA

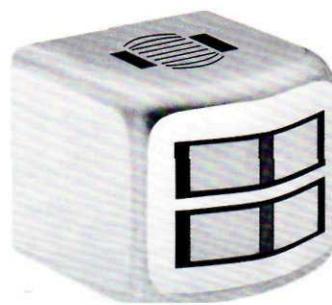
NORTRONICS

AUDIO HEADS

## PR-B2EH

### Half Track Stereo Erase

0.100" TWO CHANNEL  
PROFESSIONAL SERIES



### PR-B2EH – PROFESSIONAL SERIES

ELECTRICAL	MODEL NUMBER				
	PR-B2EH <b>4</b>	PR-B2EH <b>5</b>	PR-B2EH <b>14</b>	PR-B2EH <b>15</b>	PR-B2EH <b>16</b>
Inductance - 1 kHz - millihenrys	5.0	2.0	.200	.500	.010
Resistance, D.C., ohms	35	25	4.0	6.5	0.2
Track Width (Inches)	.100	.100	.100	.100	.100
Gap Length, Double Gap (each), Inches	.003	.003	.003	.003	.003
Typical characteristics for 70 dB erasure of a 400 cycle saturated signal on 3M201 tape					
Erase Voltage @ 100 kHz, volts	70	46	14	24	5
Erase Current, ma	25	42	130	85	600

### PHYSICAL CONFIGURATION

### BASIC HEAD CONFIGURATION – NO MOUNT

#### NOTE:

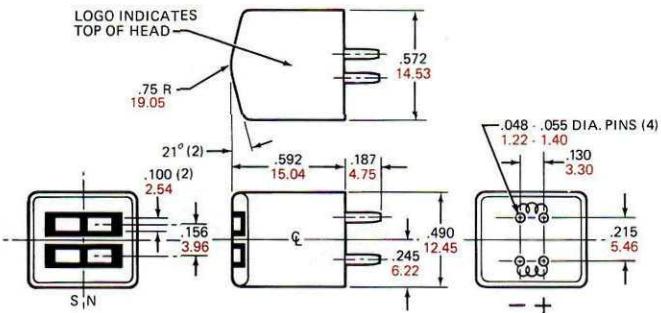
Also available with standard mounting configurations:

Side mount, base mount or rear mounts.

See PR-B2H pages.

#### NOTE:

INCHES IN BLACK  
MILLIMETERS IN COLOR



**WP-B2H**  
**Half Track Stereo R/P**  
**0.080" TWO CHANNEL**  
**PROFESSIONAL SERIES**

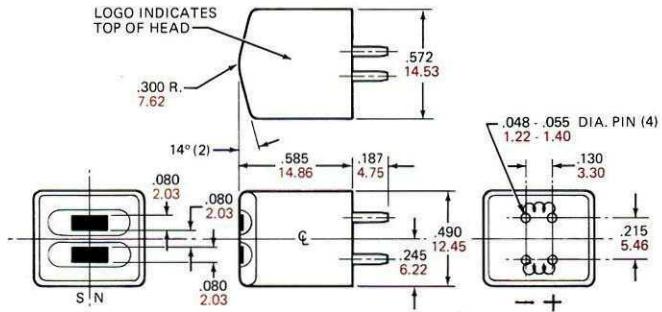


**WP-B2H – PROFESSIONAL SERIES**

ELECTRICAL	MODEL NUMBER				
	WP-B2H 9K	WP-B2H 8K	WP-B2H 6K	WP-B2H 7K	WP-B2H 7F
Head Function (Typical)	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback	Playback Only
Inductance - 1 kHz - millihenrys	10	20	200	400	400
Impedance - 1 kHz - ohms	75	110	1,300	2,500	2,500
Resistance, D.C. Stereo, ohms	20	28	190	350	310
Gap Length, microinches	100	100	100	100	50
1 kHz Crosstalk Rejection, dB	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	2.5	1.9	.54	.38	—
Bias Voltage, RMS, 60 kHz, volts	7.0	10	35	45	—
Record Current, microamps	195	145	45	30	—
1 kHz Output, millivolts	.37	.64	1.4	2.0	2.0
10 kHz/1 kHz Ratio, dB	+1	+1	+1	+1	+5
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	2.3	1.7	.48	.33	—
Bias Voltage, RMS, 60 kHz, volts	6.0	8	30	40	—
Record Current, microamps	190	130	42	28	—
1 kHz Output, millivolts	.32	.5	1.3	1.9	1.7
10 kHz/1 kHz Ratio, dB	-9	-9	-9	-9	-8

**PHYSICAL CONFIGURATION**

**BASIC HEAD CONFIGURATION – NO MOUNT**



# DESIGN DATA

NORTRONICS

AUDIO HEADS

## B2H & P-B2H Half Track Stereo R/P

.080" TWO CHANNEL



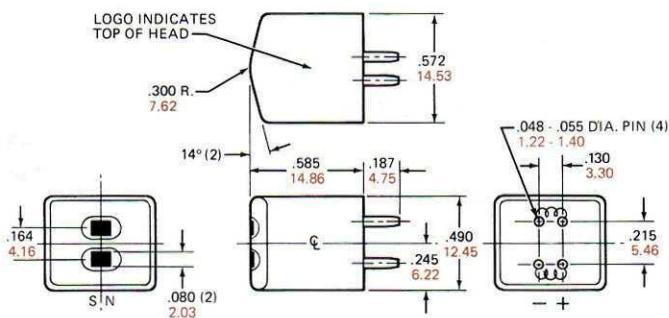
### B2H – STANDARD SERIES

ELECTRICAL	MODEL NUMBER				
	B2H 8R	B2H 4K	B2H 6K	B2H 7K	B2H 2K
Head Function (Typical)	Record Only	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	10	100	200	400	800
Impedance - 1 kHz - ohms	75	650	1,300	2,650	5,000
Resistance, D.C. Stereo, ohms	28	130	245	410	720
Gap Length, microinches	500	100	100	100	100
1 kHz Crosstalk Rejection, dB	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	2.2	1.2	0.8	0.53	0.4
Bias Voltage, RMS, 60 kHz, volts	4.9	23	30	42	65
Record Current, microamps	135	65	60	32	25
1 kHz Output, millivolts	—	1.1	1.7	2.1	3.4
10 kHz/1 kHz Ratio, dB	—	-1	-1	-1	-1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	2.0	1.1	0.7	0.44	0.3
Bias Voltage, RMS, 60 kHz, volts	4.5	18	25	36	45
Record Current, microamps	126	60	44	30	22
1 kHz Output, millivolts	—	0.9	1.1	1.9	2.2
10 kHz/1 kHz Ratio, dB	—	-11	-11	-11	-11

### PHYSICAL CONFIGURATION

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

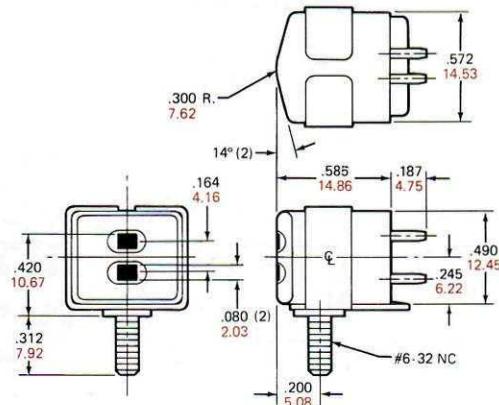
### BASIC HEAD CONFIGURATION – NO MOUNT SPECIFY: NO



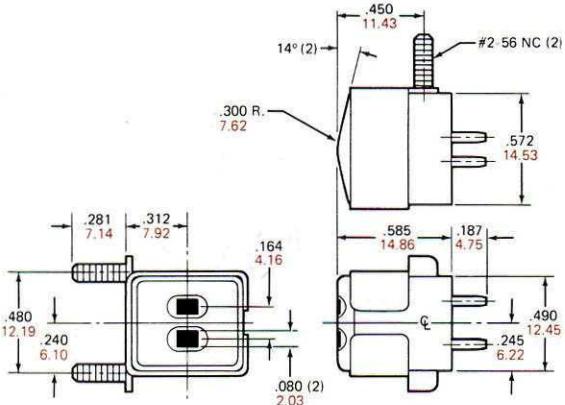
## P-B2H – PREMIUM SERIES

ELECTRICAL	MODEL NUMBER								
	P-B2H 11R	P-B2H 8K	P-B2H 8R	P-B2H 4K	P-B2H 4R	P-B2H 6K	P-B2H 7K	P-B2H 7F	P-B2H 2K
Head Function (Typical)	Record Only	Record/Playback	Record Only	Record/Playback	Record Only	Record/Playback	Record/Playback	Playback Only	Playback Only
Inductance - 1 kHz - millihenrys	1.5	20	10	100	50	200	400	400	800
Impedance - 1 kHz - ohms	15	150	75	650	330	1,300	2,550	2,500	5,000
Resistance, D.C. Stereo, ohms	4	28	28	120	115	210	410	410	720
Gap Length, microinches	500	100	500	100	500	100	100	50	100
1 kHz Crosstalk Rejection, dB	50	50	50	50	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>									
Peak Bias Current, 60 kHz, ma	5	1.8	1.9	.65	.72	.40	.22	.25	.25
Bias Voltage, RMS, 60 kHz, volts	2	7	5	17	11.5	30	36	.35	56
Record Current, microamps	370	180	170	58	68	45	30	31	21
1 kHz Output, millivolts	—	0.5	—	1.5	—	1.8	2.4	2.5	3.6
10 kHz/1 kHz Ratio, dB	—	0	—	+1	—	+1	+1	+2	+3
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>									
Peak Bias Current, 60 kHz, ma	4	1.5	1.7	.55	.68	.30	.20	.22	.23
Bias Voltage, RMS, 60 kHz, volts	1.8	6	4.5	14	10.5	25	32	42	49
Record Current, microamps	300	150	160	51	65	40	28	30	20
1 kHz Output, millivolts	—	0.4	—	1.2	—	1.2	2.1	2	2.4
10 kHz/1 kHz Ratio, dB	—	-8	—	-9	—	-9	-9	-7	-5

### BASE MOUNT CONFIGURATION SPECIFY: B

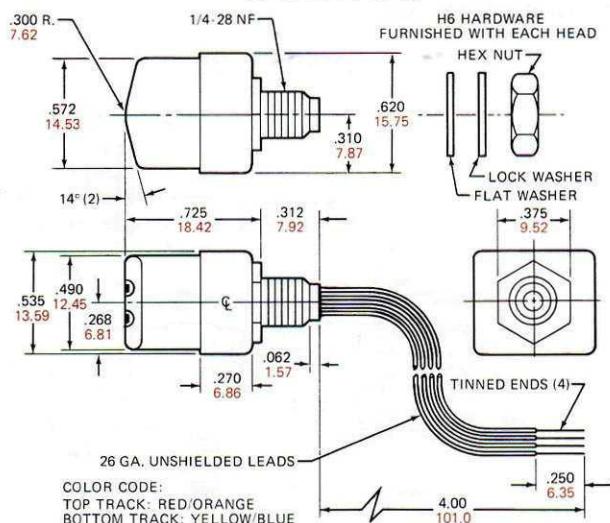


### SIDE MOUNT CONFIGURATION SPECIFY: S

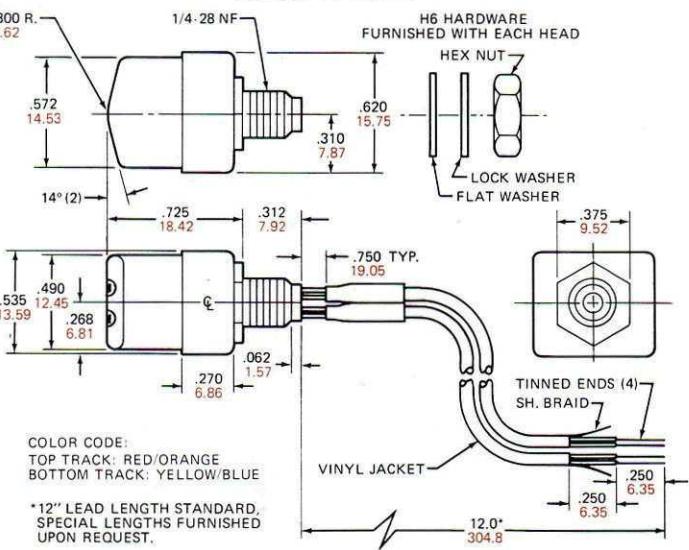


### REAR MOUNT CONFIGURATION

#### SPECIFY: R-4U



#### SPECIFY: R-12S

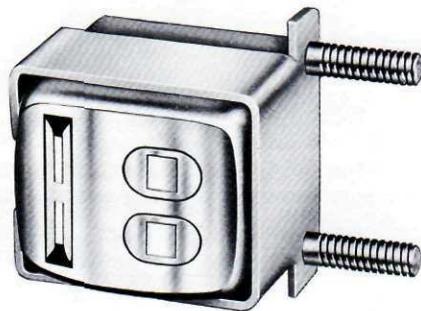


UNSHIELDED LEADS

SHIELDED LEADS

**P-A2H & A2H**  
**Half Track Stereo**  
**Combination Erase**  
**and R/P**

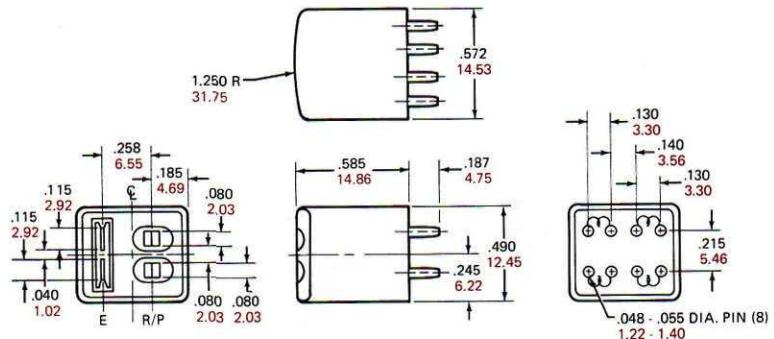
0.080" TWO CHANNEL



## PHYSICAL CONFIGURATIONS

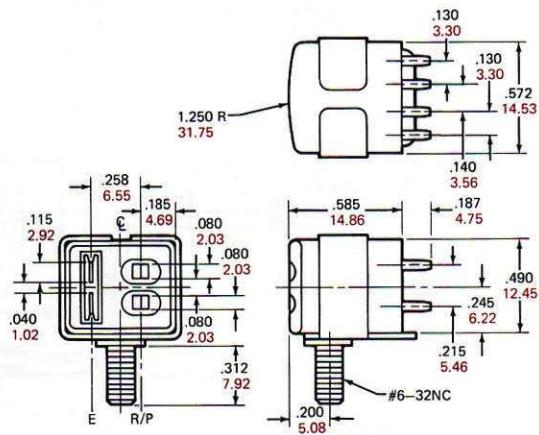
NOTE:  
 INCHES IN BLACK  
 MILLIMETERS IN COLOR

**BASIC HEAD CONFIGURATION – NO MOUNT**  
**SPECIFY: NO**

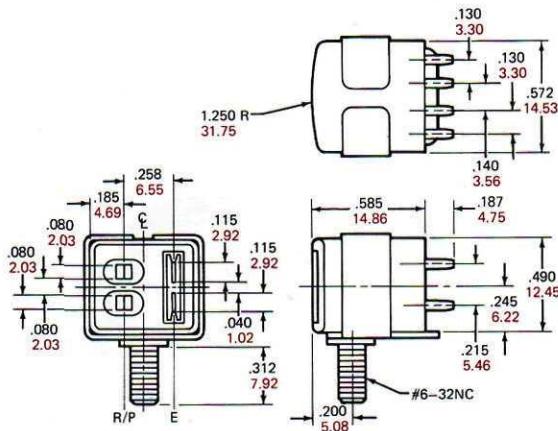


## HEAD WITH BASE MOUNT CONFIGURATION

**SPECIFY: BL**

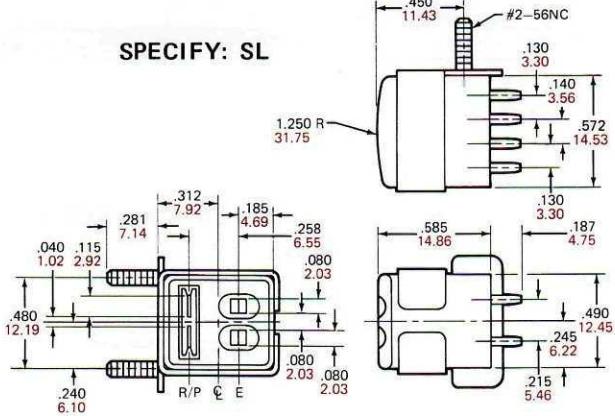


**SPECIFY: BR**

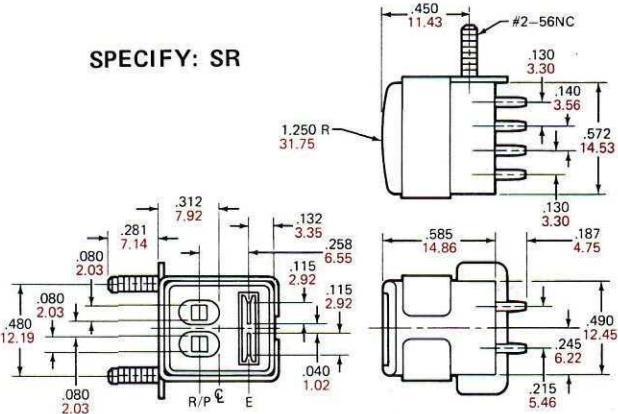


#### **HEAD WITH SIDE MOUNT CONFIGURATION**

SPECIFY: SL

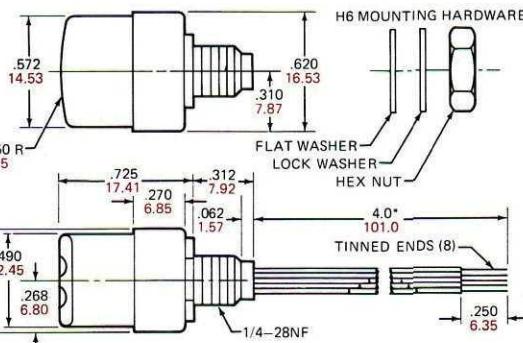
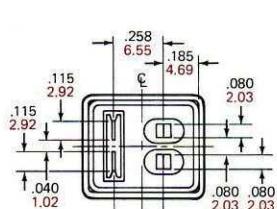


SPECIFY: SR



## HEAD WITH REAR MOUNT CONFIGURATION

SPECIFY: R-4U



COLOR CODE:  
ERASE TOP: WHITE/BLACK  
ERASE BOTTOM: BROWN/GREEN  
R/P TOP: ORANGE/RED  
R/P BOTTOM: YELLOW/BLUE

## ZJ2H & X-ZJ2H

Half Track Stereo

Z COMBO®

Erase and R/P

0.080" TWO CHANNEL



ELECTRICAL (R/P SECTION)	MODEL NUMBERS		
	ZJ2H 44R	ZJ2H X-ZJ2H 46K	X-ZJ2H 356L
Head Function	Record Only	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	50	260	350
Resistance, D.C., ohms	100	240	350
Impedance - 1 kHz, ohms	300	1,700	3,000
Gap Length, microinches	500	100	160
ELECTRICAL (ERASE SECTION)			
Inductance - 1 kHz, millihenrys	0.8	0.9	2
Resistance, D.C., ohms	8	8	12
Average 3.75 IPS constant current record/playback characteristics using 3M 150 tape biased @ 1 kHz and recorded 12 dB below tape saturation, with R/P shunt capacitor of 200 pf. See "Z" combo application notes.			
Erase Bias Current, 60 kHz, ma	40	40	25*
Erase Bias Voltage, RMS, 60 kHz, volts	11	11	13*
Record Current, microamps	60	40	25*
1 kHz Output, millivolts	—	1.5	1.1*
10 kHz/1 kHz Ratio, dB	—	-11	-11*†

\* 1.875 IPS Data

† 5 kHz/1 kHz Ratio, dB

## PHYSICAL CONFIGURATIONS

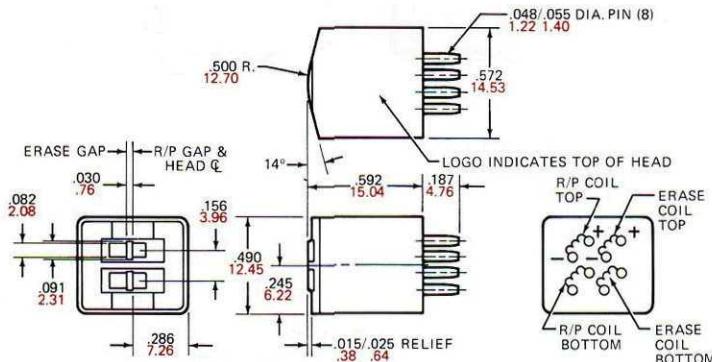
NOTE:

INCHES IN BLACK

MILLIMETERS IN COLOR

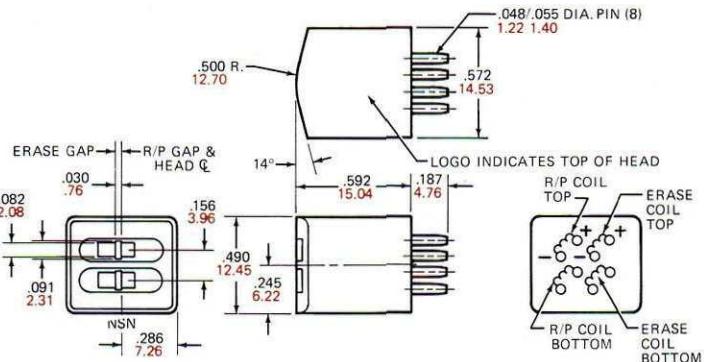
### BASIC HEAD CONFIGURATION – NO MOUNT

X-ZJ2H



### BASIC HEAD CONFIGURATION – NO MOUNT

Z-J2H



# DESIGN DATA

## AUDIO HEADS

NORTRONICS

### SEH Half Track Stereo Erase

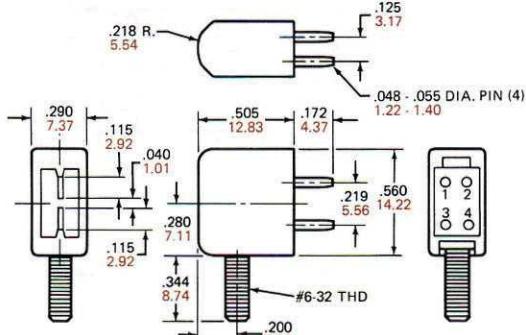


ELECTRICAL	MODEL NUMBER		
	SEH 1	SEH 2	SEH 4
Inductance - 1 kHz - millihenrys	50	0.2	10
Resistance, D.C., ohms	130	1.8	27
Track Width, inches	.110	.110	.110
Gap Length, Double Gap, each	.003	.003	.003
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>			
Erase Voltage - 60 kHz, volts	120	6	40
Erase Current, ma	10	120	20
Impedance - 60 kHz, ohms	12,000	55	2,500

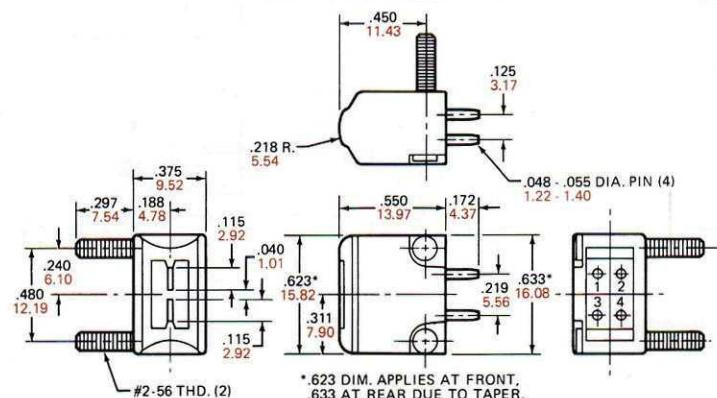
**NOTE:**

Head also available in "B"  
size case also, see page 40

#### HEAD WITH BASE MOUNT CONFIGURATION SPECIFY: SSEH\_\_\_\_-B3



#### HEAD WITH SIDE MOUNT CONFIGURATION SPECIFY: LSEH\_\_\_\_-S23

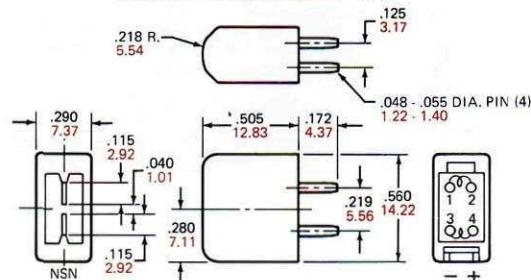


#### PHYSICAL CONFIGURATIONS

**NOTE:**  
INCHES IN BLACK  
MILLIMETERS IN COLOR

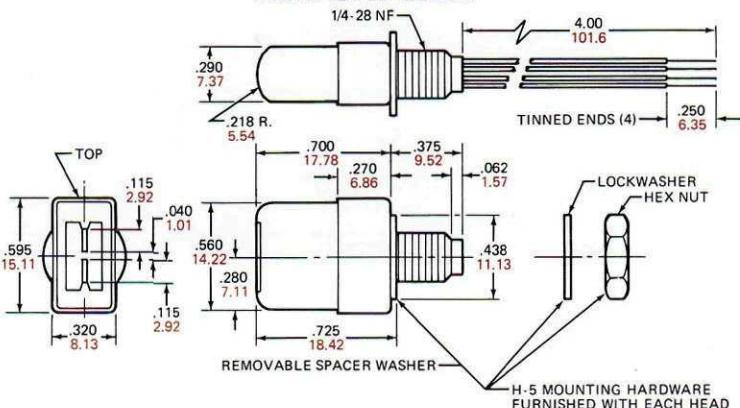
#### BASIC HEAD CONFIGURATION - NO MOUNT

SPECIFY: SSEH\_\_\_\_-N9



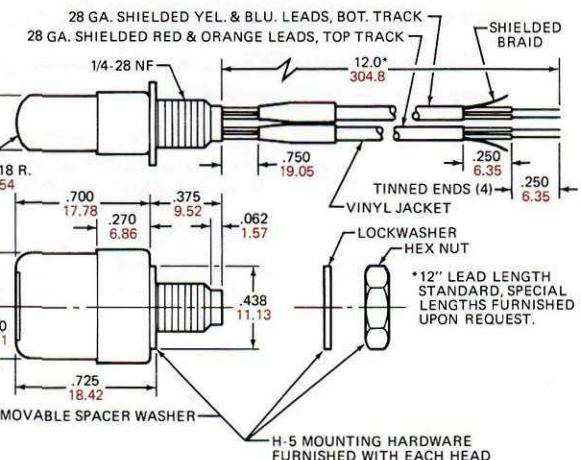
#### HEAD WITH REAR MOUNT CONFIGURATION

SPECIFY: SSEH\_\_\_\_-R-4U  
UNSHIELDED LEADS



#### HEAD WITH REAR MOUNT CONFIGURATION

SPECIFY: SSEH\_\_\_\_-R-12S  
SHIELDED LEADS



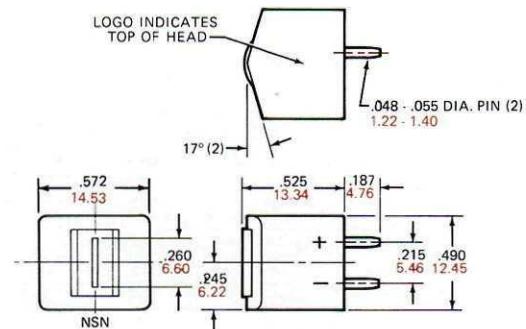
# DESIGN DATA

NORTRONICS  
AUDIO HEADS

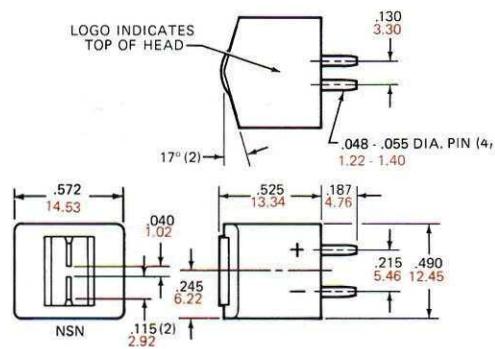
## B1EF, B2EH, B2EQ "B" Case Erase Fulltrack, 2 Track Stereo, 4 Track Stereo



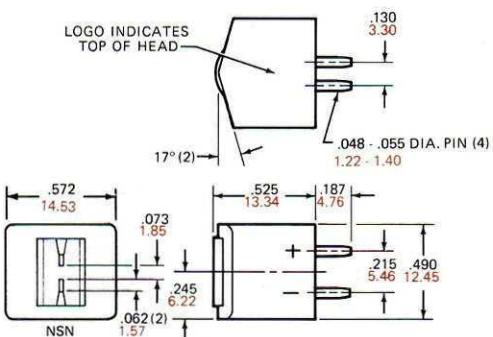
ELECTRICAL	MODEL NUMBER			
	B1EF 1	B1EF 2	B1EF 4	B1EF 9
Inductance - 1 kHz - millihenrys	40	.085	4	2.5
Resistance, D.C., ohms	88	1.3	20	17
Track Width, inches	.260	.260	.260	.260
Gap Length, Double Gap, each	.003	.003	.003	.003
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>				
Erase Voltage - 60 kHz, volts	120	7	29	25
Erase Current, ma	12	300	36	40
Impedance - 60 kHz, ohms	12,000	17	810	600



ELECTRICAL	MODEL NUMBER		
	B2EH 1	B2EH 2	B2EH 4
Inductance - 1 kHz - millihenrys	50	0.2	10
Resistance, D.C., ohms	130	1.8	27
Track Width, inches	.110	.110	.110
Gap Length, Double Gap, each	.003	.003	.003
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>			
Erase Voltage - 60 kHz, volts	80	4.0	36
Erase Current, ma	6	75	17
Impedance - 60 kHz, ohms	12,000	55	2,500



ELECTRICAL	MODEL NUMBER		
	B2EQ 1	B2EQ 2	B2EQ 4
Inductance - 1 kHz - millihenrys	80	0.13	10
Resistance, D.C., ohms	240	1.8	31
Track Width, inches	.062	.062	.062
Gap Length, Double Gap, each	.004	.004	.004
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>			
Erase Voltage - 60 kHz, volts	120	5	25
Erase Current, ma	5	120	8
Impedance - 60 kHz, ohms	30,000	40	3,250



### NOTE:

While heads are only shown as no mount,  
all standard "B" case mountings are available

### NOTE: INCHES IN BLACK MILLIMETERS IN COLOR



**WP-B1HY**  
**Half Track Mono R/P**  
**0.080" SINGLE CHANNEL**  
**PROFESSIONAL SERIES**

**WP-B1HY – PROFESSIONAL SERIES**

ELECTRICAL	MODEL NUMBER				
	WP-B1HY 9K	WP-B1HY 8K	WP-B1HY 6K	WP-B1HY 7K	WP-B1HY 2K
Head Function (Typical)	Duplicating Rec/Playback	Duplicating Rec/Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	12	20	200	400	800
Impedance - 1 kHz - ohms	75	110	1300	2500	5000
Resistance, D.C. Mono, ohms	20	28	95	138	325
Gap Length, microinches	100	100	100	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	2.5	1.9	.54	.38	.34
Bias Voltage, RMS, 60 kHz, volts	7	10	35	45	66
Record Current, microamps	195	145	45	30	28
1 kHz Output, millivolts	.37	.64	1.4	2.0	2.5
10 kHz/1 kHz Ratio, dB	+1	+1	+1	+1	+2
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	2.3	1.7	.48	.33	.30
Bias Voltage, RMS, 60 kHz, volts	6	8	30	40	58
Record Current, microamps	190	130	42	28	25
1 kHz Output, millivolts	.32	.5	1.3	1.9	2.2
10 kHz/1 kHz Ratio, dB	-9	-9	-9	-9	-8

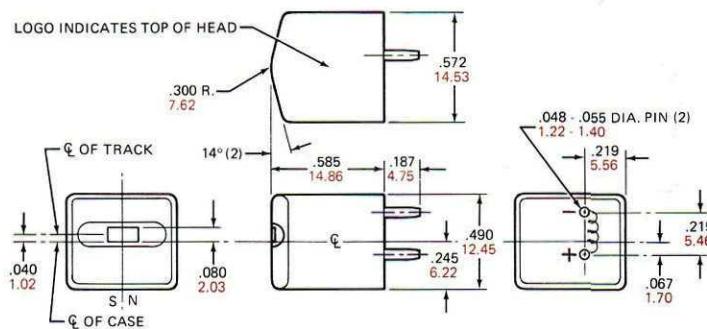
**PHYSICAL CONFIGURATION**

**NOTES:**

Head shown no mount,  
however all standard "B"  
case mounts are available

**INCHES IN BLACK  
MILLIMETERS IN COLOR**

**BASIC HEAD CONFIGURATION – NO MOUNT**



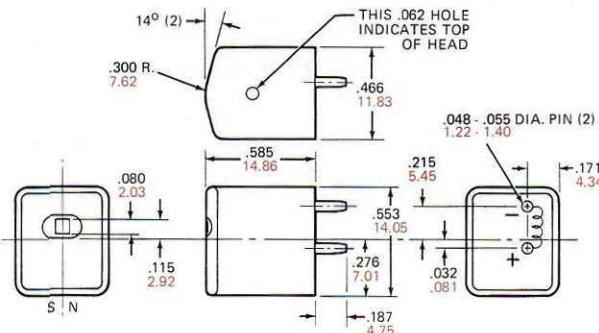
**G1H & P-G1H  
Half Track Mono R/P  
0.080" SINGLE CHANNEL**



## G1H – STANDARD SERIES

ELECTRICAL	MODEL NUMBER			
	G1H 4K	G1H 4R	G1H 7K	G1H 2K
Head Function	Record/ Playback	Record Only	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	100	50	400	800
Impedance - 1 kHz - ohms	650	340	2650	5000
Resistance, D.C., Mono, ohms	70	70	160	400
Gap Length, microinches	100	500	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	1.2	0.9	0.53	0.4
Bias Voltage, RMS, 60 kHz, volts	23	11	42	65
Record Current, microamps	65	63	32	25
1 kHz Output, millivolts	1.1	—	2.1	3.4
10 kHz/1 kHz ratio, dB	-1.0	—	-1.0	-1.0
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	1.1	0.85	0.44	0.3
Bias Voltage, RMS, 60 kHz, volts	18	10	36	45
Record Current, microamps	60	60	30	22
1 kHz Output, millivolts	0.9	—	1.9	2.2
10 kHz/1 kHz ratio, dB	-11	—	-11	-11

## BASIC HEAD CONFIGURATION – NO MOUNT

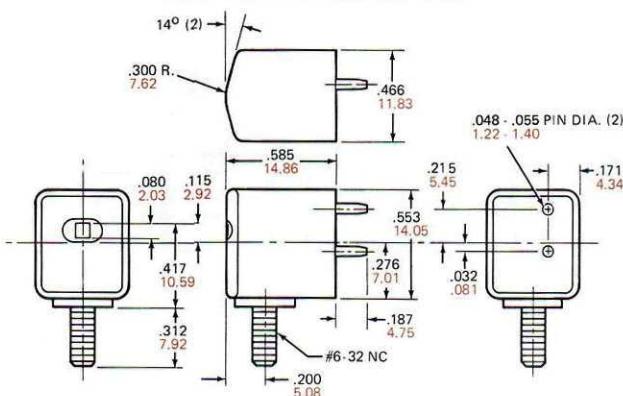


## **PHYSICAL CONFIGURATIONS**

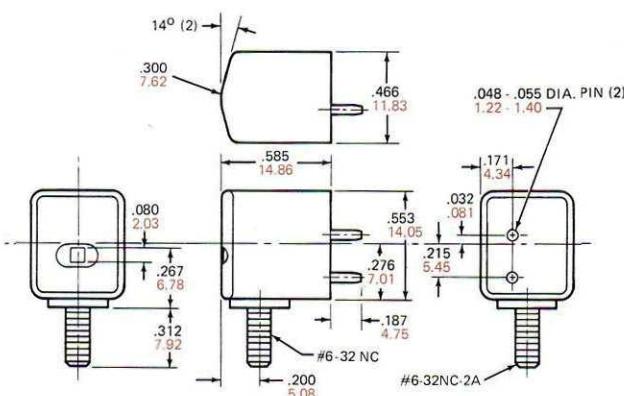
**NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR**

## HEAD WITH BASE MOUNT CONFIGURATION

SPECIFY: -B3U  
TRACK ABOVE CENTER LINE



SPECIFY: -B3D  
TRACK BELOW CENTER LINE

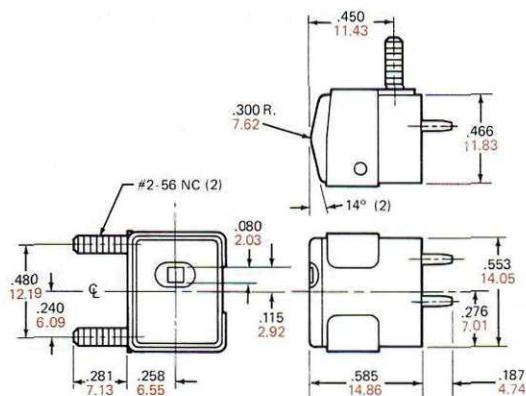


## P-G1H – PREMIUM SERIES

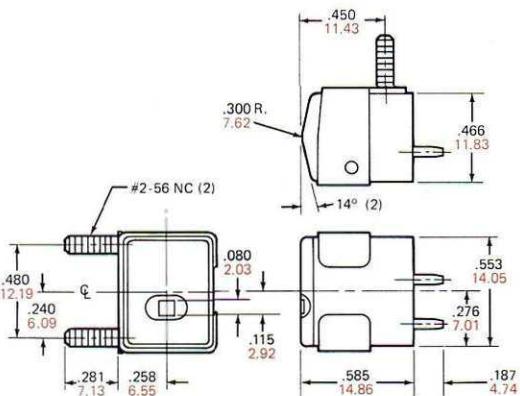
ELECTRICAL	MODEL NUMBER			
	P-G1H 4K	P-G1H 4R	P-G1H 7K	P-G1H 2K
Head Function	Record/ Playback	Record Only	Record/ Playback	Record/ Playback
Inductance – 1 kHz - millihenrys	100	50	400	800
Impedance – 1 kHz - ohms	650	320	2550	5000
Resistance, D.C., Mono, ohms	70	70	160	400
Gap Length, microinches	100	500	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	0.65	0.70	0.22	0.25
Bias Voltage, RMS, 60 kHz, volts	17	9.0	36	56
Record Current, microamps	58	75	30	21
1 kHz Output, millivolts	1.5	—	2.4	3.6
10 kHz/1 kHz ratio, dB	+1.0	—	+1.0	+3
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	0.55	0.60	0.20	0.23
Bias Voltage, RMS, 60 kHz, volts	14	8.0	32	49
Record Current, microamps	51	65	28	20
1 kHz Output, millivolts	1.2	—	2.1	2.4
10 kHz/1 kHz ratio, dB	-9	—	-9	-5

### HEAD WITH SIDE MOUNT CONFIGURATION

SPECIFY: –SU  
TRACK ABOVE CENTER LINE

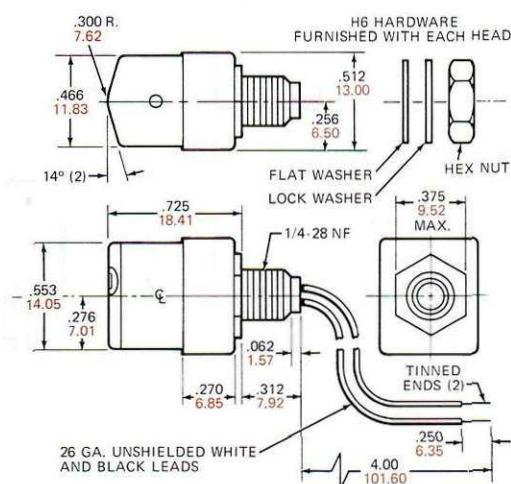


SPECIFY: – SD  
TRACK BELOW CENTER LINE

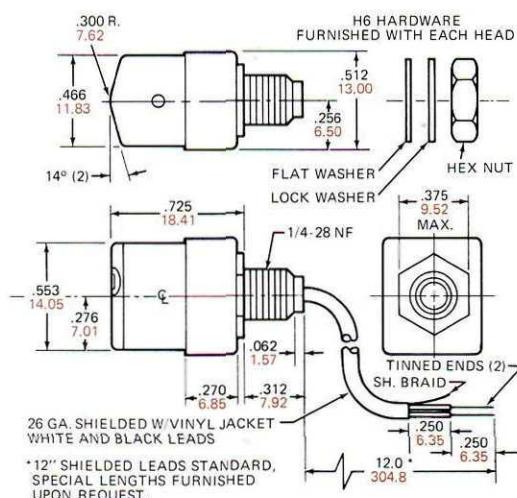


### HEAD WITH REAR MOUNT CONFIGURATION

#### UNSHIELDED LEADS



#### SHIELDED LEADS



## G1HY Half Track Mono R/P

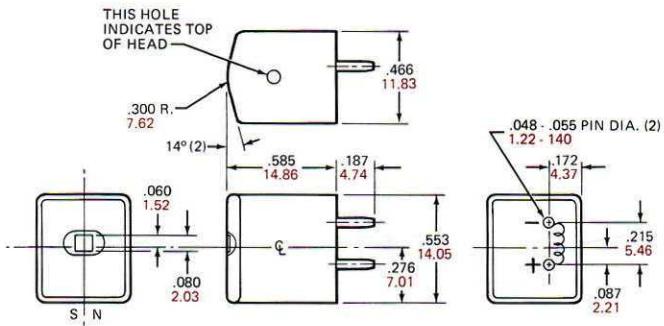
0.080" SINGLE CHANNEL  
STANDARD SERIES



### PHYSICAL CONFIGURATIONS

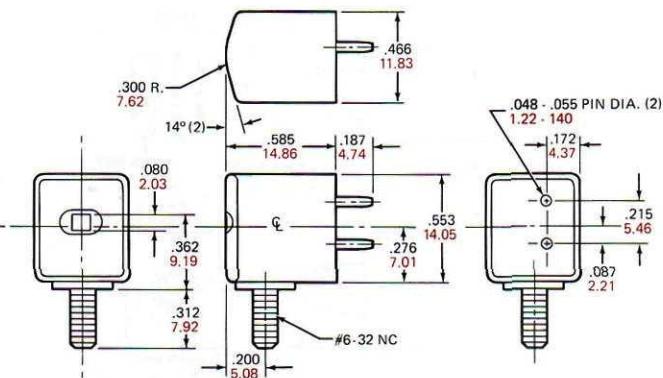
NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

#### BASIC HEAD CONFIGURATION – NO MOUNT

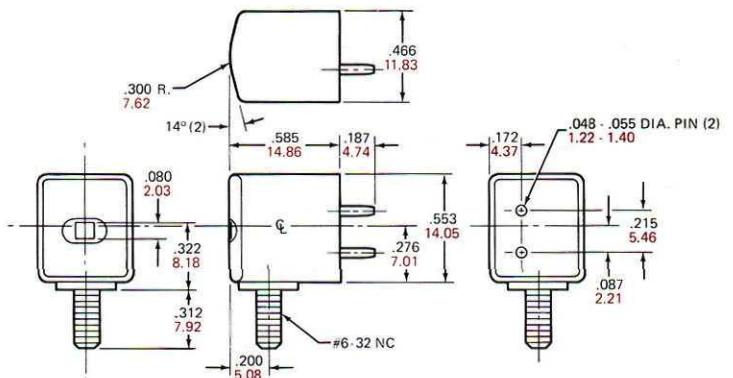


#### HEAD WITH BASE MOUNT CONFIGURATION

SPECIFY:—B3U  
TRACK ABOVE CENTER LINE



SPECIFY:—B3D  
TRACK BELOW CENTER LINE

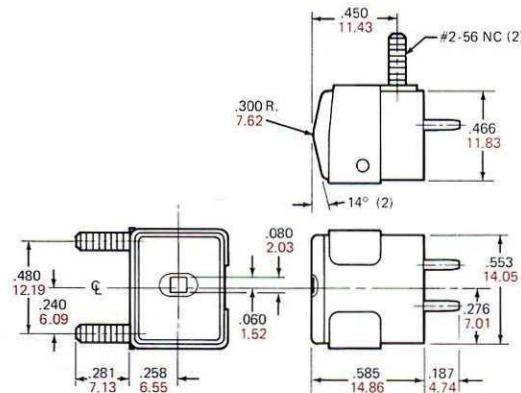


## G1HY – STANDARD SERIES

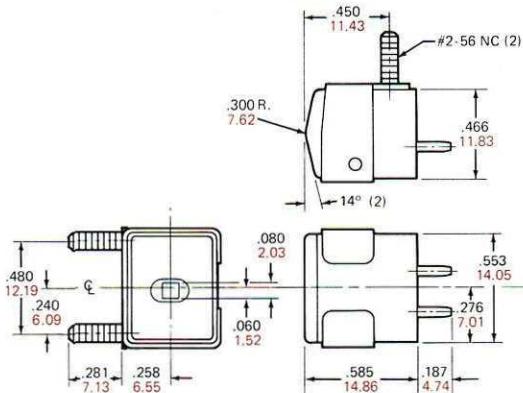
ELECTRICAL	MODEL NUMBER		
	G1HY 5L	G1HY 7K	G1HY 2K
Head Function	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	450	400	800
Impedance - 1 kHz - ohms	3,000	2650	5000
Resistance, D.C. Mono, ohms	340	410	400
Gap Length, microinches	160	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>			
Peak Bias Current, 60 kHz, ma	0.30	0.53	0.4
Bias Voltage, RMS, 60 kHz, volts	36	42	65
Record Current, microamps	24	32	25
1 kHz Output, millivolts	2.6	2.1	3.4
10 kHz/1 kHz Ratio, dB	-7	-1.0	-1.0
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>			
Peak Bias Current, 60 kHz, ma	.25	0.44	0.3
Bias voltage, RMS, 60 kHz, volts	30	36	45
Record Current, microamps	21	30	22
1 kHz Output, millivolts	2.4	1.9	2.2
10 kHz/1 kHz Ratio, dB	-12	-11	-11

### HEAD WITH SIDE MOUNT CONFIGURATION

SPECIFY:—SU  
TRACK ABOVE CENTER LINE

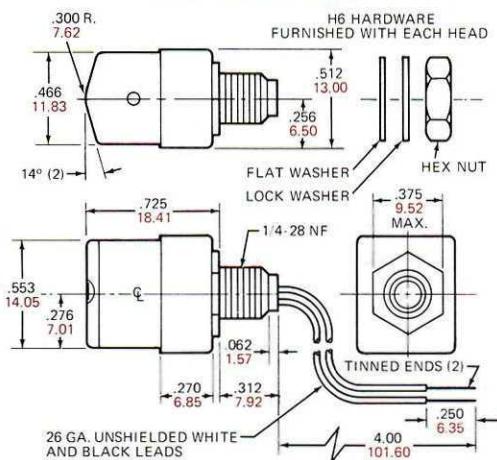


SPECIFY:—SD  
TRACK BELOW CENTER LINE

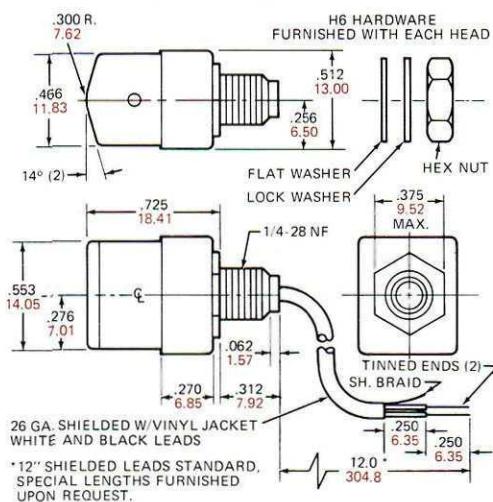


### HEAD WITH REAR MOUNT CONFIGURATION

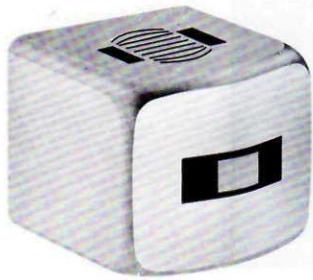
#### UNSHIELDED LEADS



#### SHIELDED LEADS



**B1HC & P-B1HC**  
**Half Track Mono R/P**  
**0.080" SINGLE CHANNEL**



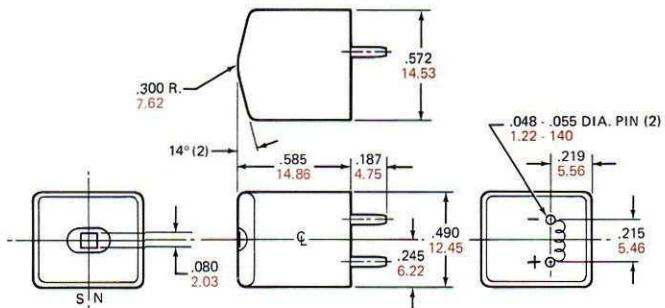
**B1HC – STANDARD SERIES**

ELECTRICAL	MODEL NUMBER			
	B1HC 4K	B1HC 7K	B1HC 27L	B1HC 8R
Head Function – Typical	Record/ Playback	Record/ Playback	Playback	Record Only
Inductance – 1 kHz - millihenrys	100	400	4000	10
Impedance – 1 kHz - ohms	650	2650	17,000	71
Resistance, D.C., Mono, ohms	70	180	2400	28
Gap Length, microinches	100	100	160	500
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	1.2	0.53	—	2.2
Bias Voltage, RMS, 60 kHz, volts	23	42	—	4.9
Record Current, microamps	65	32	—	135
1 kHz Output, millivolts	1.1	2.1	10.0	—
10 kHz/1 kHz ratio, dB	-1.0	-1.0	+1.0	—
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	1.1	0.44	—	2.0
Bias Voltage, RMS, 60 kHz, volts	18	36	—	4.5
Record Current, microamps	60	30	—	126
1 kHz Output, millivolts	0.9	1.9	—	—
10 kHz/1 kHz ratio, dB	-11	-11	—	—

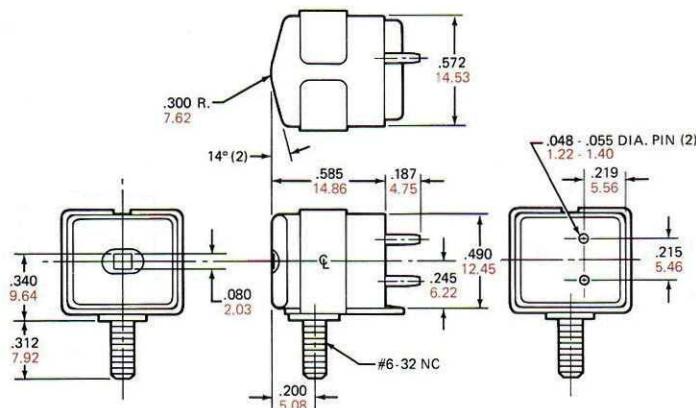
**PHYSICAL CONFIGURATIONS**

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

**BASIC HEAD CONFIGURATION – NO MOUNT**



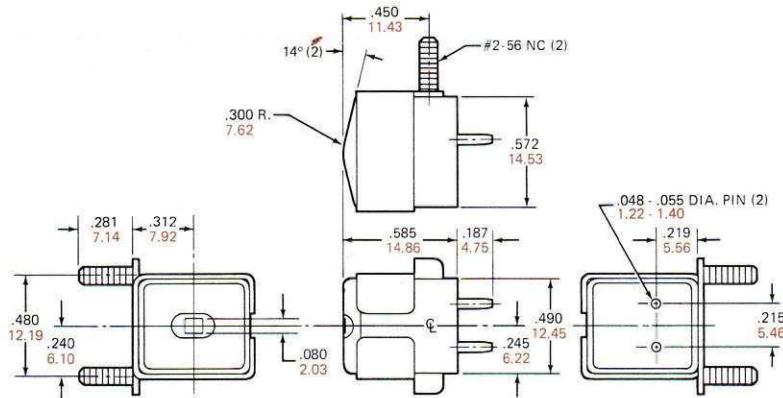
**HEAD WITH BASE MOUNT CONFIGURATION**



P-B1HC – PREMIUM SERIES

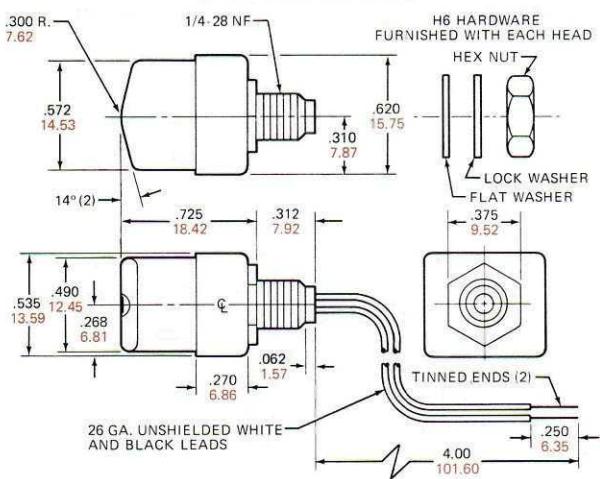
ELECTRICAL	MODEL NUMBER		
	P-B1HC 4K	P-B1HC 4R	P-B1HC 7K
Head Function – Typical	Record/ Playback	Record Only	Record/ Playback
Inductance – 1 kHz - millihenrys	100	50	400
Impedance – 1 kHz - ohms	650	320	2550
Resistance, D.C., Mono, ohms	70	70	160
Gap Length, microinches	100	500	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>			
Peak Bias Current, 60 kHz, ma	0.65	0.70	0.22
Bias Voltage, RMS, 60 kHz, volts	17	9.0	36
Record Current, microamps	58	75	30
1 kHz Output, millivolts	1.5	—	2.4
10 kHz/1 kHz ratio, dB	+1.0	—	+1.0
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>			
Peak Bias Current, 60 kHz, ma	0.55	0.60	0.20
Bias Voltage, RMS, 60 kHz, volts	14	8.0	32
Record Current, microamps	51	65	28
1 kHz Output, millivolts	1.2	—	2.1
10 kHz/1 kHz ratio, dB	-9	—	-9

## **HEAD WITH SIDE MOUNT CONFIGURATION**

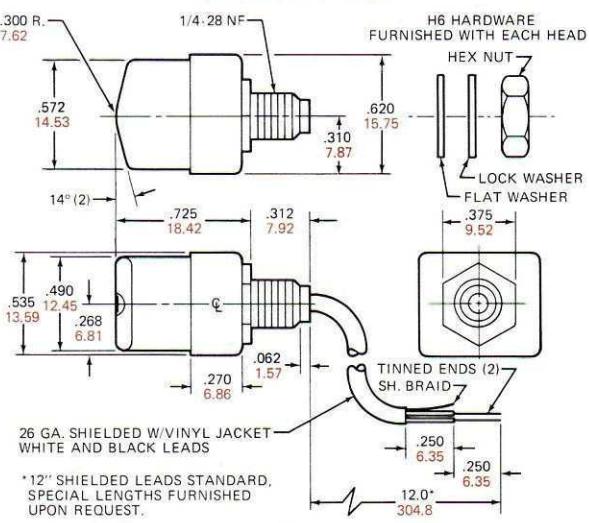


## HEAD WITH REAR MOUNT CONFIGURATION

## **UNSHIELDED LEADS**



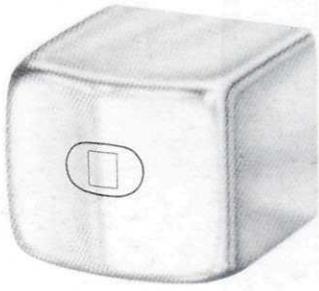
SHIELDED LEADS



# DESIGN DATA

NORTRONICS  
AUDIO HEADS

## B1HY & P-B1HY Half Track Mono R/P 0.080" SINGLE CHANNEL



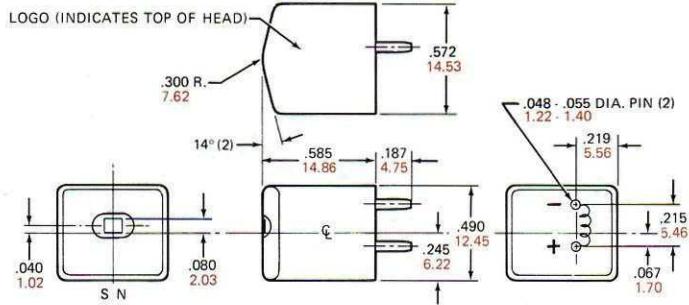
### B1HY – STANDARD SERIES

ELECTRICAL	MODEL NUMBER			
	B1HY 4K	B1HY 4R	B1HY 7K	B1HY 2K
Head Function – Typical	Record/ Playback	Record Only	Record/ Playback	Record/ Playback
Inductance – 1 kHz - millihenrys	100	50	400	800
Impedance – 1 kHz - ohms	650	340	2650	5000
Resistance, D.C., Mono, ohms	70	70	180	400
Gap Length, microinches	100	500	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	1.2	0.9	0.53	0.4
Bias Voltage, RMS, 60 kHz, volts	23	11	42	65
Record Current, microamps	65	63	32	25
1 kHz Output, millivolts	1.1	—	2.1	3.4
10 kHz/1 kHz ratio, dB	-1.0	—	-1.0	-1.0
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	1.1	0.85	0.44	0.3
Bias Voltage, RMS, 60 kHz, volts	18	10	36	45
Record Current, microamps	60	60	30	22
1 kHz Output, millivolts	0.9	—	1.9	2.2
10 kHz/1 kHz ratio, dB	-11	—	-11	-11

### PHYSICAL CONFIGURATIONS

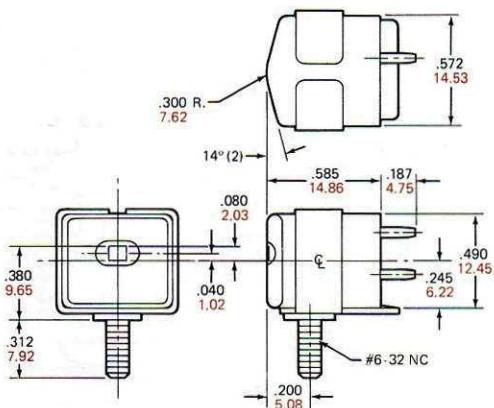
NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

#### BASIC HEAD CONFIGURATION – NO MOUNT

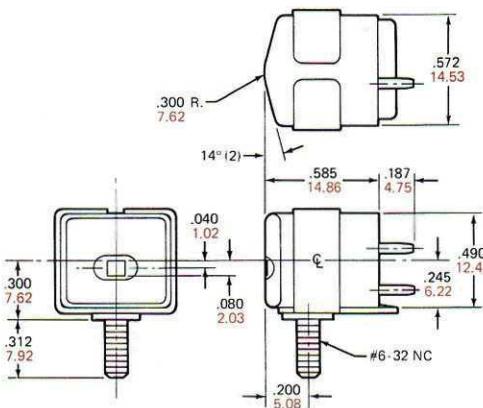


#### HEAD WITH BASE MOUNT CONFIGURATION

TRACK ABOVE CENTER LINE SPECIFY: BU



TRACK BELOW CENTER LINE SPECIFY: BD



## P-B1HY – PREMIUM SERIES

ELECTRICAL	MODEL NUMBER									
	P-B1HY 4K	P-B1HY 4R	P-B1HY 6K	P-B1HY 7K	P-B1HY 7F	P-B1HY 12K	P-B1HY 8K	P-B1HY 8R	P-B1HY 9K	P-B1HY 14R
Head Function – Typical	Record/ Playback	Record Only	Record/ Playback	Record/ Playback	Playback Only	Record/ Playback	Record/ Playback	Record Only	Record/ Playback	Record Only
Inductance – 1 kHz - millihenrys	100	50	200	400	400	50	20	10	10	2.0
Impedance – 1 kHz - ohms	650	320	1300	2550	2500	350	110	75	65	15
Resistance, D.C., Mono, ohms	70	70	110	160	155	50	24	28	20	5
Gap Length, microinches	100	500	100	100	50	100	100	500	100	500
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>										
Peak Bias Current, 60 kHz, ma	0.65	0.70	0.40	0.22	.25	1.3	1.9	1.9	2.9	4.3
Bias Voltage, RMS, 60 kHz, volts	17	9.0	30	36	35	16	10	5.0	7.5	3.3
Record Current, microamps	58	75	45	30	31	80	145	170	210	280
1 kHz Output, millivolts	1.5	—	1.8	2.4	2.5	0.8	.64	—	.40	—
10 kHz/1 kHz ratio, dB	+1.0	—	+1.0	+1.0	+2.0	0	+1	—	0	—
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>										
Peak Bias Current, 60 kHz, ma	0.55	0.60	0.30	0.20	.22	1.1	1.7	1.7	2.5	4.0
Bias Voltage, RMS, 60 kHz, volts	14	8.0	25	32	42	14.5	8	4.5	6.5	2.9
Record Current, microamps	51	65	40	28	31	75	130	160	200	260
1 kHz Output, millivolts	1.2	—	1.2	2.1	2.0	0.65	.5	—	.32	—
10 kHz/1 kHz ratio, dB	-9	—	-9	-9	-7	-9	-9	—	-9	—

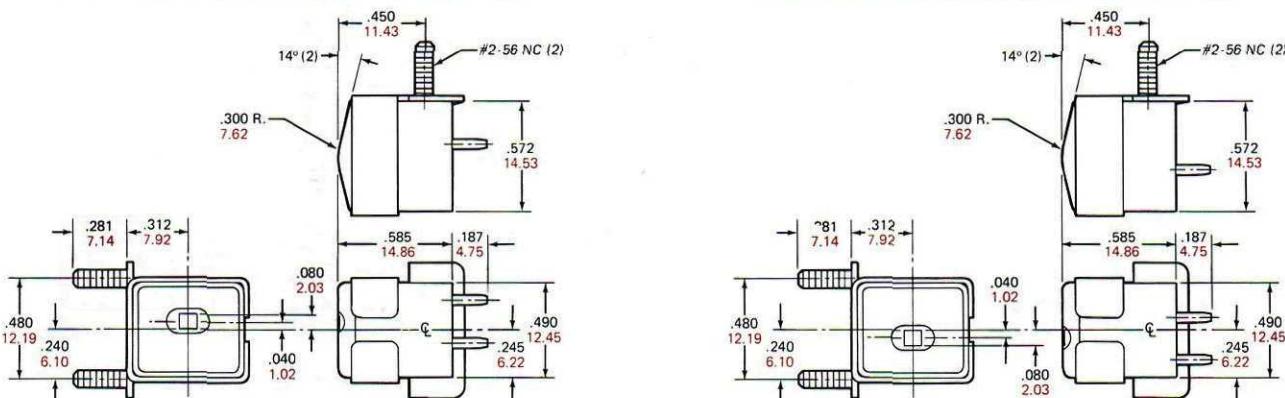
### HEAD WITH SIDE MOUNT CONFIGURATION

TRACK ABOVE CENTER LINE

SPECIFY: SU

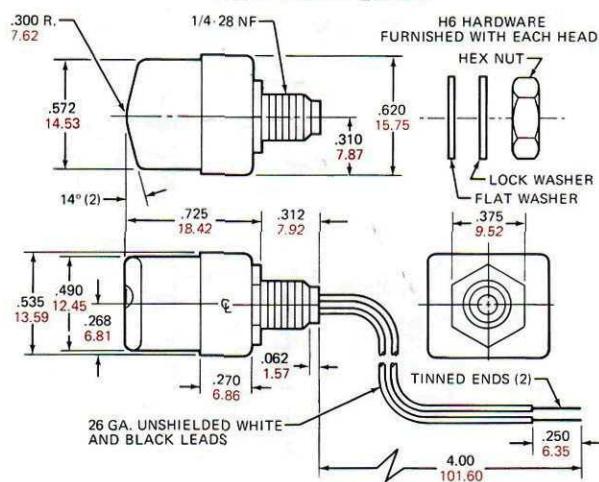
TRACK BELOW CENTER LINE

SPECIFY: SD

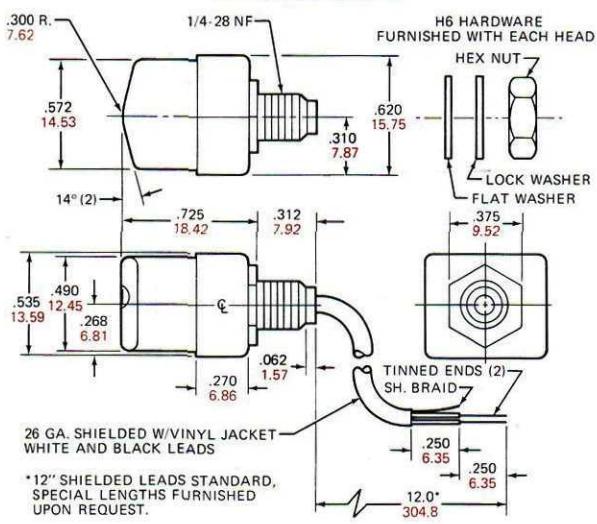


### HEAD WITH REAR MOUNT CONFIGURATION

#### UNSHIELDED LEADS



#### SHIELDED LEADS



# DESIGN DATA

NORTRONICS

AUDIO HEADS

**P-A1HC & A1HC**  
**Half Track Mono**  
**Combination Erase**  
**and R/P**

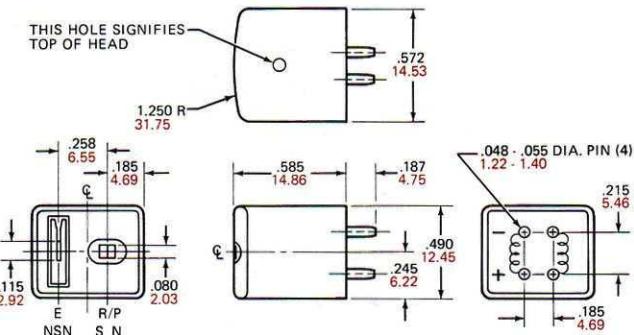
**0.080" SINGLE CHANNEL**



## PHYSICAL CONFIGURATIONS

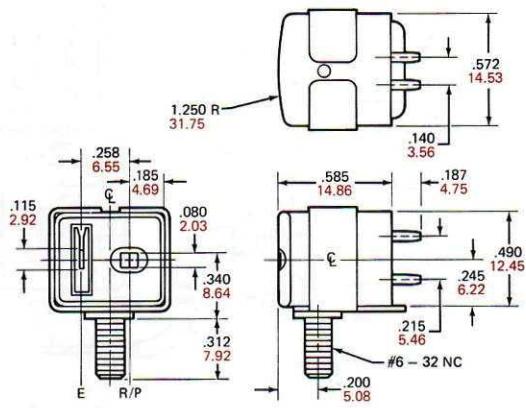
**NOTE:**  
**INCHES IN BLACK**  
**MMILLIMETERS IN COLOR**

### BASIC HEAD CONFIGURATION – NO MOUNT

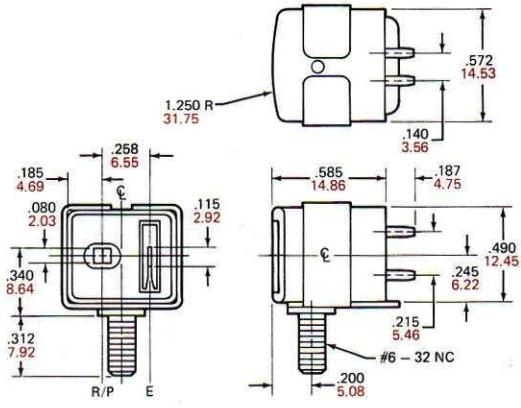


### HEAD WITH BASE MOUNT CONFIGURATION

SPECIFY: -BL

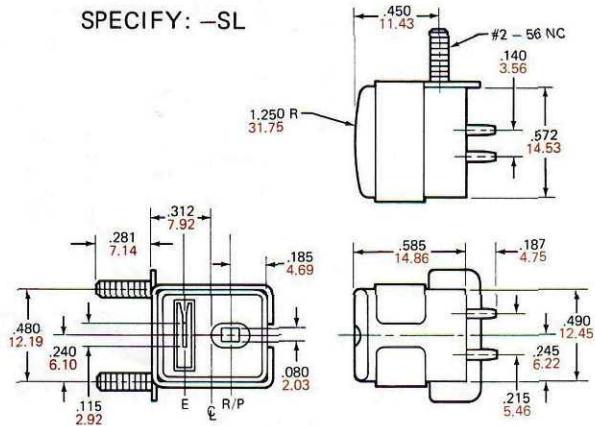


SPECIFY: -BR

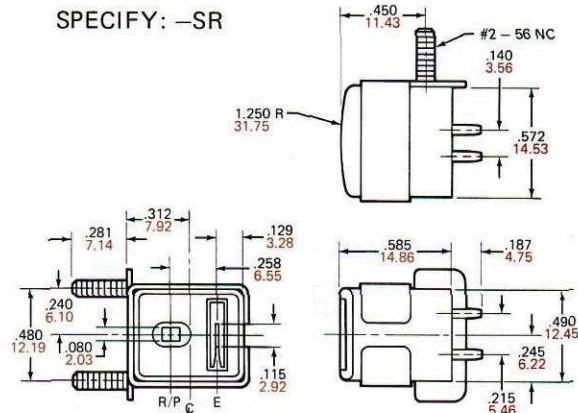


#### **HEAD WITH SIDE MOUNT CONFIGURATION**

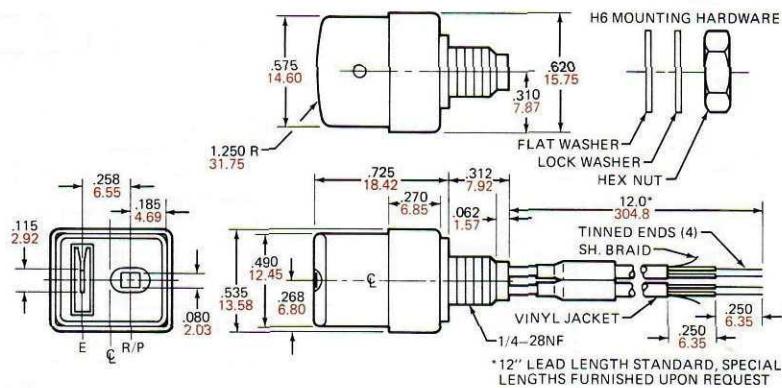
SPECIFY: -SL



SPECIFY: -SR



## HEAD WITH REAR MOUNT CONFIGURATION



COLOR CODE:  
ERASE: WHITE/BLACK  
B/P: RED/ORANGE

# DESIGN DATA

## NORTRONICS

### AUDIO HEADS

#### MEH Half Track Mono Erase

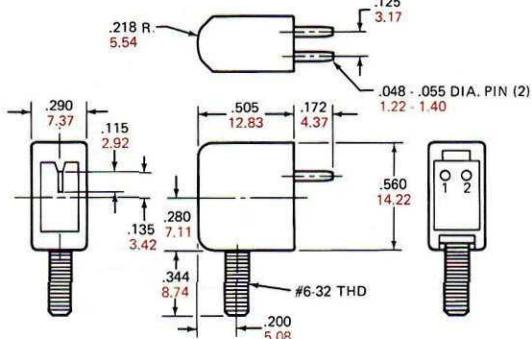


ELECTRICAL	MODEL NUMBER		
	MEH 1	MEH 2	MEH 4
Inductance - 1 kHz - millihenrys	50	0.2	10
Resistance, D.C., ohms	130	1.8	27
Track Width, inches	.110	.110	.110
Gap Length, Double Gap, each	.003	.003	.003
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>			
Erase Voltage - 60 kHz, volts	120	6	40
Erase Current, ma	10	100	20
Impedance - 60 kHz, ohms	12,000	55	2,500

NOTE: Head also available in "B" size case, see page 40

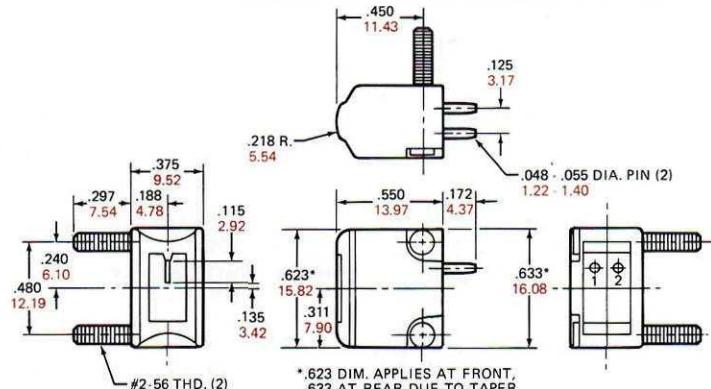
#### HEAD WITH BASE MOUNT CONFIGURATION

HEAD WITH BASE MOUNT CONFIGURATION  
AS SHOWN TRACK UP - SPECIFY: -B3U  
FOR ERASE TRACK IN LOWER POSITION SPECIFY: -B3D



#### HEAD WITH SIDE MOUNT CONFIGURATION

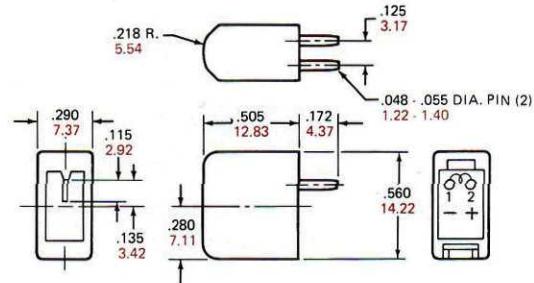
HEAD WITH SIDE MOUNT CONFIGURATION  
AS SHOWN SPECIFY: -SU  
FOR ERASE TRACK IN LOWER POSITION SPECIFY: -SD



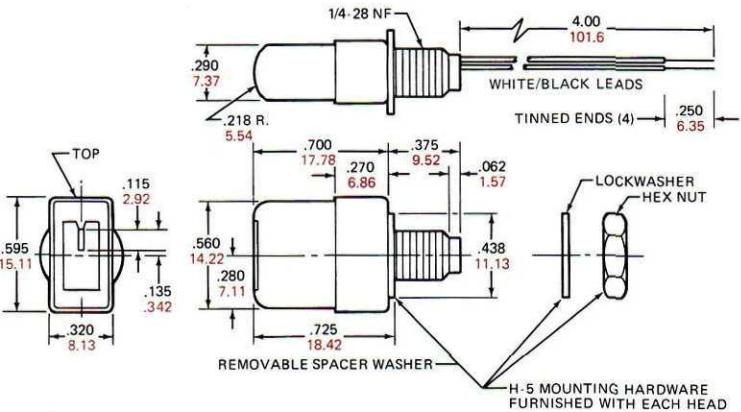
#### PHYSICAL CONFIGURATIONS

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

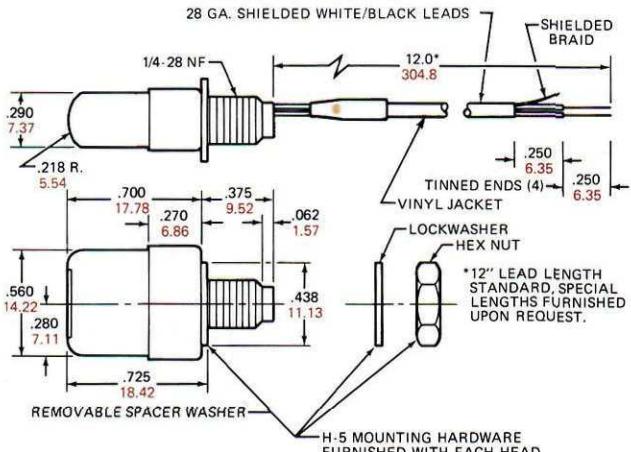
#### BASIC HEAD CONFIGURATION - NO MOUNT



#### HEAD WITH REAR MOUNT CONFIGURATION UNSHIELDED LEADS



#### HEAD WITH REAR MOUNT CONFIGURATION SHIELDED LEADS



**WP-B2Q**  
**Quarter Track Stereo R/P**

**0.043" TWO CHANNEL  
PROFESSIONAL SERIES**



WP-B2Q – PROFESSIONAL SERIES

ELECTRICAL	MODEL NUMBER					
	WP-B2Q 8K	WP-B2Q 4K	WP-B2Q 6K	WP-B2Q 7K	WP-B2Q 7F	WP-B2Q 2K
Head Function (Typical)	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	20	100	200	400	500	800
Impedance - 1 kHz - ohms	140	750	1,300	2,500	3,300	5,000
Resistance, D.C. Stereo, ohms	30	100	190	350	315	640
Gap Length, microinches	100	100	100	100	50	100
1 kHz Crosstalk Rejection, dB	50	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1kHz and recorded 12 dB below tape saturation</b>						
Peak Bias Current, 60 kHz, ma	.15	.70	.46	.23	.33	.17
Bias Voltage, RMS, 60 kHz, volts	7	18	23	35	40	48
Record Current, microamps	120	45	36	27	40	17
1 kHz Output, millivolts	0.35	0.8	1.2	1.6	1.7	2.2
10 kHz/1 kHz Ratio, dB	+1	+1	+1	+1	+2	+1
<b>3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>						
Peak Bias Current, 60 kHz, ma	1.4	.50	.41	.21	.30	.15
Bias Voltage, RMS, 60 kHz, volts	6	14	20	31	34	42
Record Current, microamps	110	40	35	26	34	17
1 kHz Output, millivolts	0.3	0.7	1.0	1.4	1.2	2.0
10 kHz/1 kHz Ratio, dB	-9	-9	-9	-9	-8	-9

#### **PHYSICAL CONFIGURATION**

## BASIC HEAD CONFIGURATION – NO MOUNT

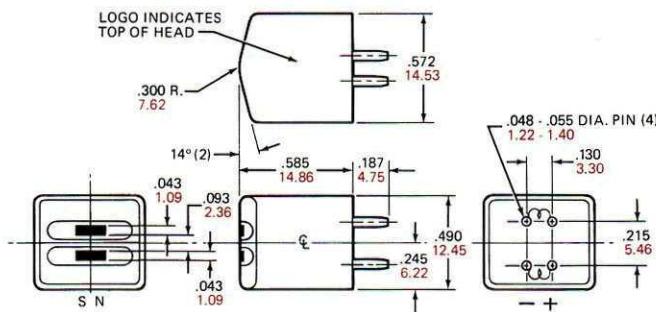
**NOTES:**

**Also available with standard mounting configurations:**

#### **Side mount, base mount or rear mounts.**

See B2Q/P-B2Q pages.

**INCHES IN BLACK  
MILLIMETERS IN COLOR**



**DESIGN  
DATA**

NORTRONICS

AUDIO HEADS

**B2Q & P-B2Q  
Quarter Track Stereo R/P**

.043" TWO CHANNEL



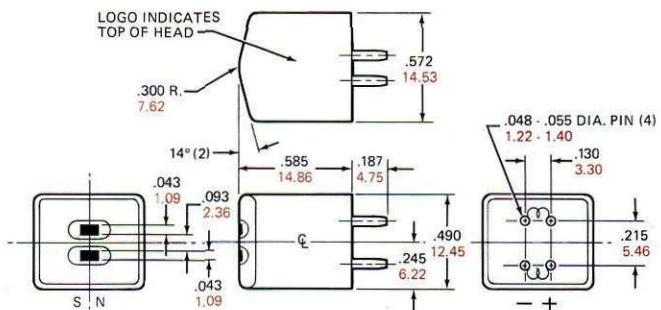
**B2Q – STANDARD SERIES**

ELECTRICAL	MODEL NUMBER					
	B2Q 8K	B2Q 4K	B2Q 4L	B2Q 6K	B2Q 7K	B2Q 2K
Head Function (Typical)	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	20	100	85	200	400	800
Impedance - 1 kHz - ohms	170	700	560	1,400	2,300	5,000
Resistance, D.C. Stereo, ohms	30	85	105	210	400	750
Gap Length, microinches	100	100	160	100	100	100
1 kHz Crosstalk Rejection, dB	50	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>						
Peak Bias Current, 60 kHz, ma	1.7	1.1	.70	.60	.42	.30
Bias Voltage, RMS, 60 kHz, volts	8.0	17	12	24	30	45
Record Current, microamps	140	48	50	31	25	21
1 kHz Output, millivolts	0.33	0.8	0.9	1.2	1.6	2.4
10 kHz/1 kHz Ratio, dB	-1	-1	-1	-1	-1	-2
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>						
Peak Bias Current, 60 kHz, ma	1.5	0.9	.60	.50	.34	.24
Bias Voltage, RMS, 60 kHz, volts	7.0	15	10	20	25	35
Record Current, microamps	130	45	50	30	22	20
1 kHz Output, millivolts	0.30	0.6	0.8	0.9	1.3	2.0
10 kHz/1 kHz Ratio, dB	-12	-11	-11	-11	-11	-10

**PHYSICAL CONFIGURATION**

**NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR**

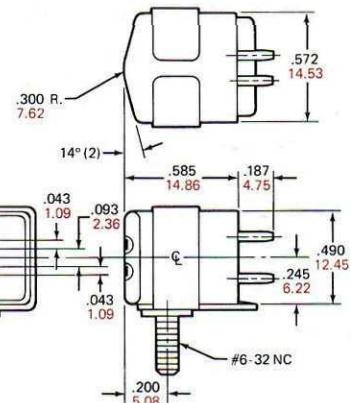
**BASIC HEAD CONFIGURATION – NO MOUNT**



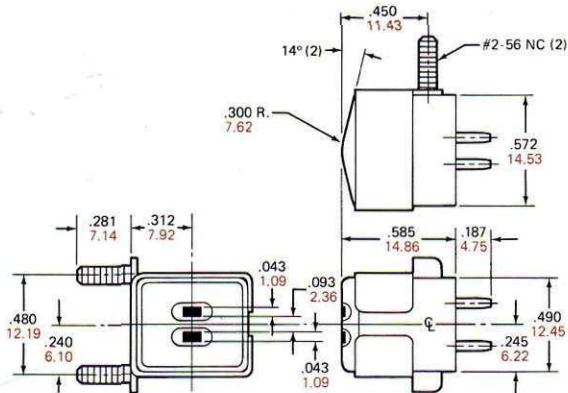
## P-B2Q – PREMIUM SERIES

ELECTRICAL	MODEL NUMBER									
	P-B2Q 14R	P-B2Q 8K	P-B2Q 8F	P-B2Q 8R	P-B2Q 4R	P-B2Q 4K	P-B2Q 6K	P-B2Q 7K	P-B2Q 7F	P-B2Q 2K
Head Function (Typical)	Record Only	Record/Playback	Record/Playback	Record Only	Record Only	Record/Playback	Record/Playback	Record/Playback	Record/Playback	Record/Playback
Inductance - 1 kHz - millihenrys	2.0	20	20	10	50	100	200	400	500	800
Impedance - 1 kHz - ohms	15	170	150	70	400	650	1,300	2,500	3,300	3,800
Resistance, D.C. Stereo, ohms	6.0	32	32	32	100	100	200	400	315	750
Gap Length, microinches	500	100	50	500	500	100	100	100	50	100
1 kHz Crosstalk Rejection, dB	50	50	50	50	50	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>										
Peak Bias Current, 60 kHz, ma	3.5	1.7	1.6	1.3	.55	.70	.38	.25	.33	.14
Bias Voltage, RMS, 60 kHz, volts	3.1	8.0	7.0	3.5	8.0	18	21	35	40	44
Record Current, microamps	250	140	140	110	45	60	31	25	40	15
1 kHz Output, millivolts	—	0.35	0.4	—	—	0.9	1.3	1.6	1.7	2.5
10 kHz/1 kHz Ratio, dB	—	+1	+2	—	—	0	+1	+1	+2	+1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>										
Peak Bias Current, 60 kHz, ma	3.0	1.5	1.4	1.2	.50	.50	.30	.20	.30	.12
Bias Voltage, RMS, 60 kHz, volts	2.7	7.0	6.0	3.2	7.0	13	16	25	34	37
Record Current, microamps	220	130	130	100	45	50	30	25	34	14
1 kHz Output, millivolts	—	0.3	0.3	—	—	0.7	1.0	1.4	1.2	2.0
10 kHz/1 kHz Ratio, dB	—	—9	—8	—	—	—10	—9	—9	—8	—9

### BASE MOUNT CONFIGURATION

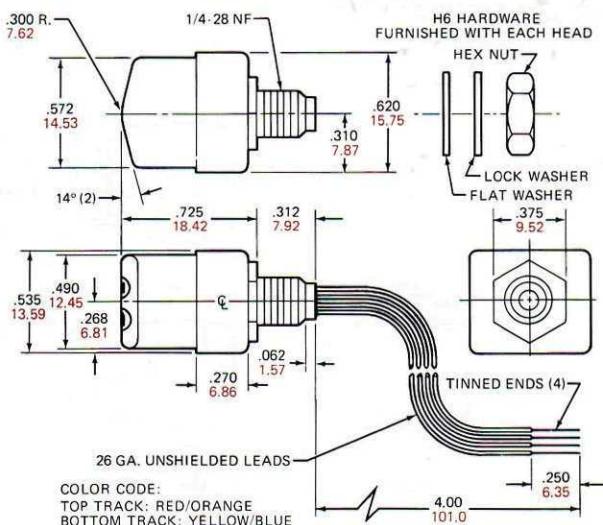


### SIDE MOUNT CONFIGURATION

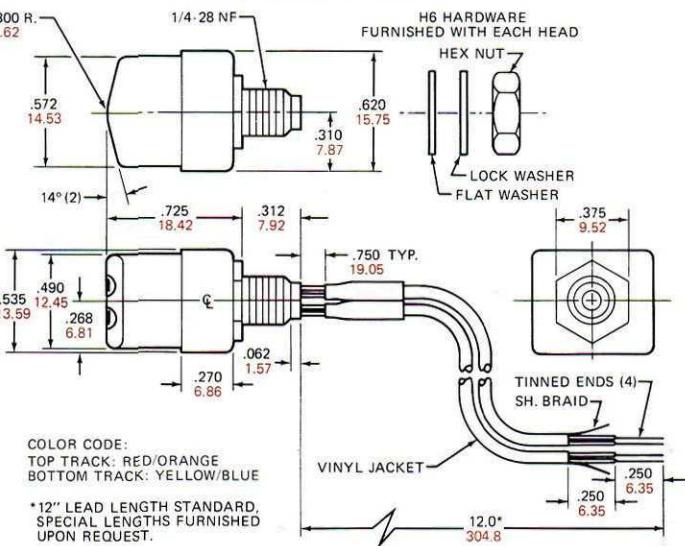


### REAR MOUNT CONFIGURATION

#### SHIELDED LEADS



#### UNSHIELDED LEADS



# DESIGN DATA

NORTRONICS

## AUDIO HEADS

### P-A2Q & A2Q Quarter Track Stereo Combination Erase and R/P

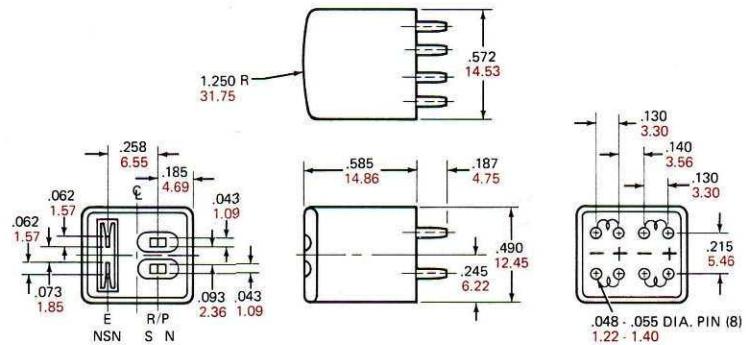
0.043" TWO CHANNEL



#### PHYSICAL CONFIGURATIONS

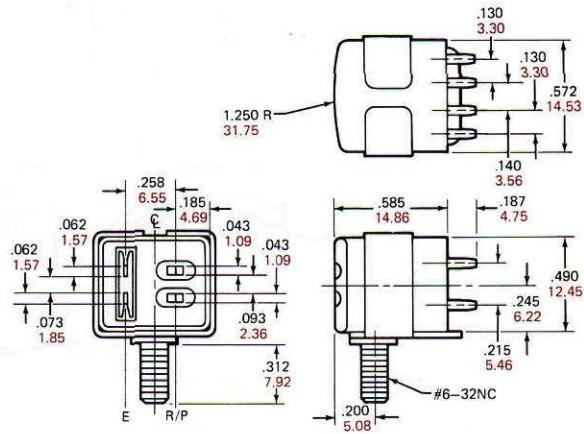
NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

#### BASIC HEAD CONFIGURATION – NO MOUNT

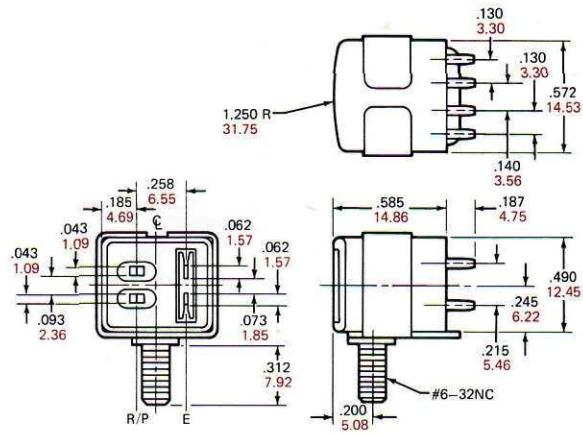


#### HEAD WITH BASE MOUNT CONFIGURATIONS

SPECIFY: -BL



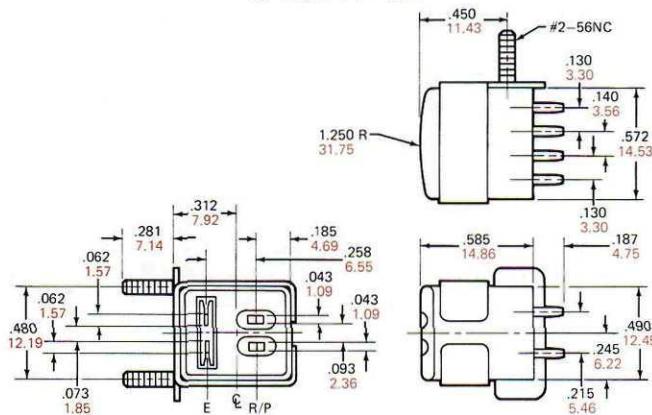
SPECIFY: -BR



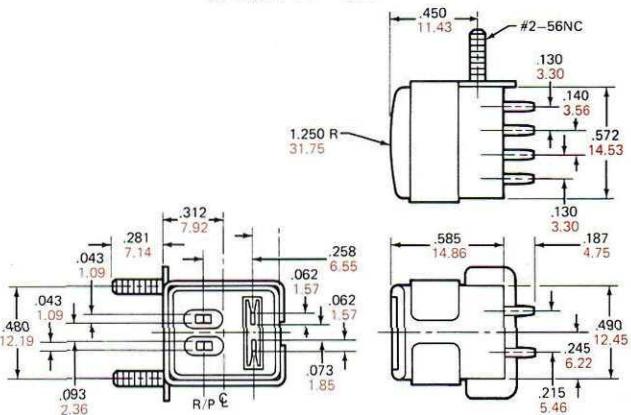
ELECTRICAL (R/P SECTION)	PREMIUM SERIES					STANDARD SERIES		
	MODEL NUMBER					MODEL NUMBER		
	P-A2Q 48R	P-A2Q 44R	P-A2Q 44K	P-A2Q 46K	P-A2Q 47K	A2Q 44K	A2Q 46K	A2Q 47K
Head Function (Typical)	Record Only	Record Only	Record/Playback	Record/Playback	Record/Playback	Record/Playback	Record/Playback	Record/Playback
Inductance - 1 kHz - millihenrys	10	50	100	200	400	100	200	400
Impedance - 1 kHz - ohms	70	400	650	1,400	2,500	700	1,400	2,300
Resistance, D.C. Stereo, ohms	32	100	100	210	400	100	210	400
Gap Length, microinches	500	500	100	100	100	100	100	100
1 kHz Crosstalk Rejection, dB	50	50	50	50	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>								
Peak Bias Current, 60 kHz, ma	1.3	.50	.70	.38	.25	1.1	.60	.42
Bias Voltage, RMS, 60 kHz, volts	3.5	8.0	18	21	35	17	24	30
Record Current, microamps	110	45	60	31	25	48	31	25
1 kHz Output, millivolts	—	—	0.9	1.3	1.6	0.8	1.2	1.6
10 kHz/1 kHz Ratio, dB	—	—	0	+1	+1	-1	-1	-1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>								
Peak Bias Current, 60 kHz, ma	1.2	.45	.50	.30	.20	0.9	.50	.34
Bias Voltage, RMS, 60 kHz, volts	3.2	7.0	13	16	25	15	20	25
Record Current, microamps	100	45	50	30	25	45	30	22
1 kHz Output, millivolts	—	—	0.7	1.0	1.4	0.6	0.9	1.3
10 kHz/1 kHz Ratio, dB	—	—	-10	-9	-9	-11	-11	-11
<b>ELECTRICAL (ERASE SECTION)</b>								
Inductance - 1 kHz - millihenrys	10	10	10	10	10	10	10	10
Resistance, D.C., ohms	31	31	31	31	31	31	31	31
Track Width, inches	.062	.062	.062	.062	.062	.062	.062	.062
Gap Length, Double Gap, each	.003	.003	.003	.003	.003	.003	.003	.003
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>								
Erase Voltage - 60 kHz, volts	40	40	40	40	40	40	40	40
Erase Current, ma	12	12	12	12	12	12	12	12
Impedance, 60 kHz, ohms	3,250	3,250	3,250	3,250	3,250	3,250	3,250	3,250

### HEAD WITH SIDE MOUNT CONFIGURATIONS

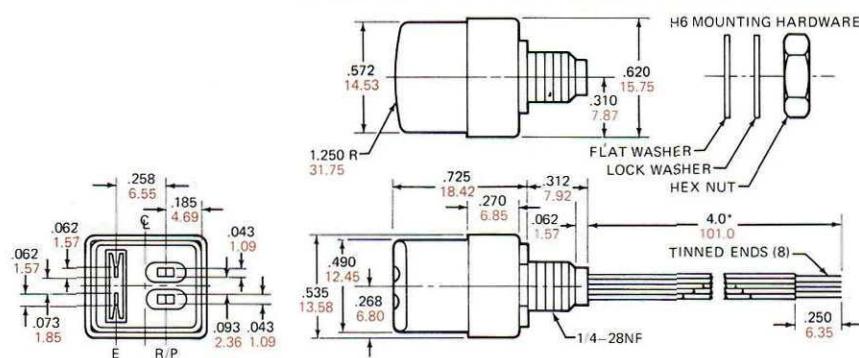
SPECIFY: -SL



SPECIFY: -SR



### HEAD WITH REAR MOUNT CONFIGURATION



COLOR CODE:  
TOP ERASE: WHITE/BLACK  
BOTTOM ERASE: BROWN/GREEN  
TOP R/P: ORANGE/RED  
BOTTOM R/P: YELLOW/BLUE

**C2Q & P-C2Q  
Quarter Track Stereo R/P  
0.043" TWO CHANNEL  
STANDARD & PREMIUM SERIES**



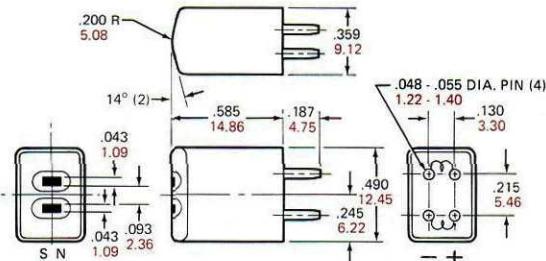
**PHYSICAL CONFIGURATION**

INCHES IN BLACK  
MILLIMETERS IN COLOR

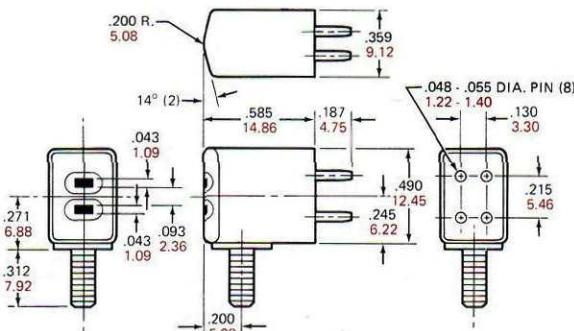
**C2Q STANDARD SERIES – P-C2Q PREMIUM SERIES**

ELECTRICAL	MODEL NUMBER			
	STANDARD SERIES	PREMIUM SERIES		
		C2Q 7K	P-C2Q 4K	P-C2Q 6K
Head Function (Typical)	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	400	100	200	400
Impedance - 1 kHz - ohms	2,300	650	1,300	2,500
Resistance, D.C. Stereo, ohms	400	100	200	400
Gap Length, microinches	100	100	100	100
1 kHz Crosstalk Rejection, dB	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	.42	.7	.38	.25
Bias Voltage, RMS, 60 kHz, volts	30	18	21	35
Record Current, microamps	25	60	31	25
1 kHz Output, millivolts	1.6	0.9	1.3	1.6
10 kHz/1 kHz Ratio, dB	-1	0	+1	+1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	.34	.50	.30	.20
Bias Voltage, RMS, 60 kHz, volts	25	13	16	25
Record Current, microamps	22	50	30	25
1 kHz Output, millivolts	1.3	0.7	1.0	1.4
10 kHz/1 kHz Ratio, dB	-11	-10	-9	-9

**BASIC HEAD CONFIGURATION – NO MOUNT**



**HEAD WITH BASE MOUNT CONFIGURATION**



# DESIGN DATA

NORTRONICS

AUDIO HEADS

**SEQ**

## Quarter Track Stereo Erase

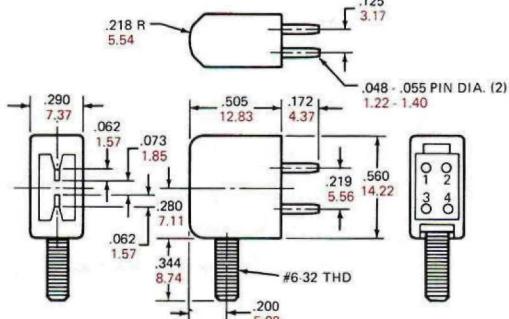


ELECTRICAL	MODEL NUMBER		
	SEQ 1	SEQ 2	SEQ 4
Inductance - 1 kHz - millihenrys	80	0.13	10
Resistance, D.C., ohms	240	1.8	31
Track Width, inches	.062	.062	.062
Gap Length, Double Gap, each	.003	.003	.003
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M150 tape</b>			
Erase Voltage - 60 kHz, volts	120	5	40
Erase Current, ma	5	120	12
Impedance - 60 kHz, ohms	30,000	40	3,250

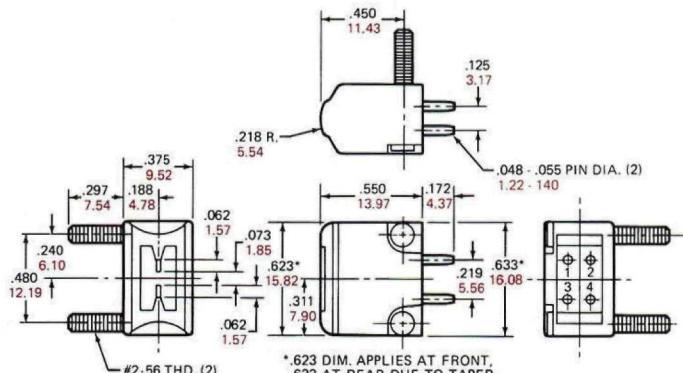
### NOTES:

1. Head also available as mono-single track version, on a custom order basis—contact Nortronics
2. Head also available in "B" size case, see page 40

### HEAD WITH BASE MOUNT CONFIGURATION SPECIFY: SSEQ\_\_\_\_-B3



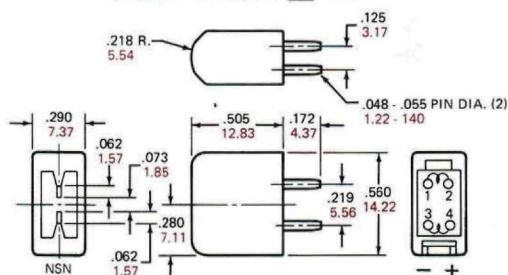
### HEAD WITH SIDE MOUNT CONFIGURATION SPECIFY: LSEQ\_\_\_\_-S23



### PHYSICAL CONFIGURATIONS

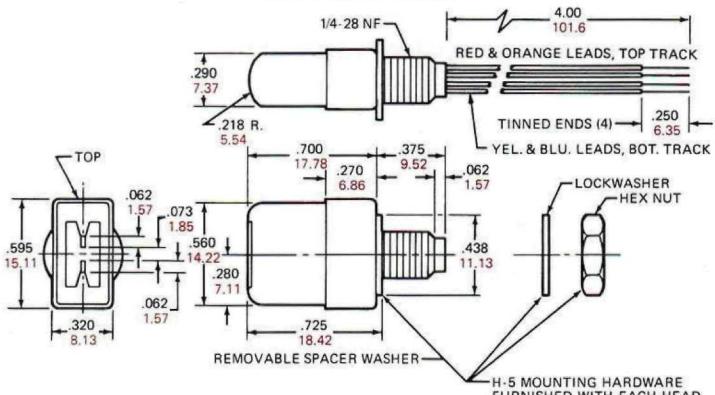
NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

### BASIC HEAD CONFIGURATION – NO MOUNT SPECIFY: SSEQ\_\_\_\_-N9



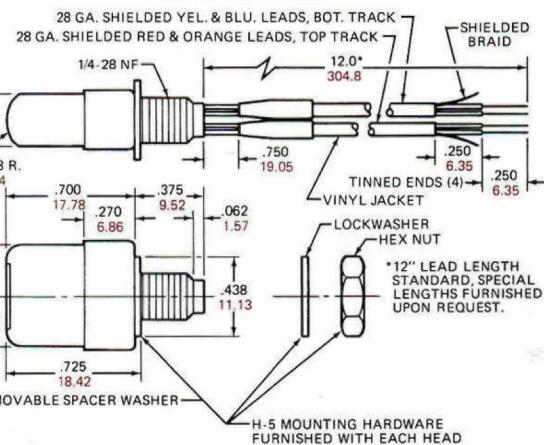
### HEAD WITH REAR MOUNT CONFIGURATION SPECIFY: SSEQ\_\_\_\_-R-4U

UNSHIELDED LEADS



### HEAD WITH REAR MOUNT CONFIGURATION SPECIFY: SSEQ\_\_\_\_-R-12S

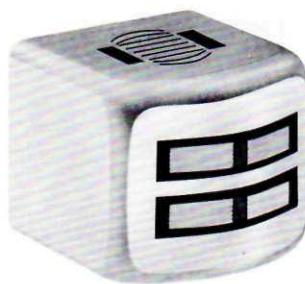
SHEIELDED LEADS



### PR-B2EQ

### Quarter Track Stereo Erase

0.062" TWO CHANNEL  
PROFESSIONAL SERIES



MODEL NUMBER	
PR-B2EQ	4
<b>ELECTRICAL</b>	
Inductance - 1 kHz - millihenrys	3.0
Resistance, D.C., ohms	28
Track Width, inches	.062
Gap Length, Double Gap (each), inches	.003
Typical characteristics for 70 dB erasure of a 400 cycle saturated signal on 3M 150 tape	
Erase Voltage - 100 kHz, volts	35
Erase Current, ma	20

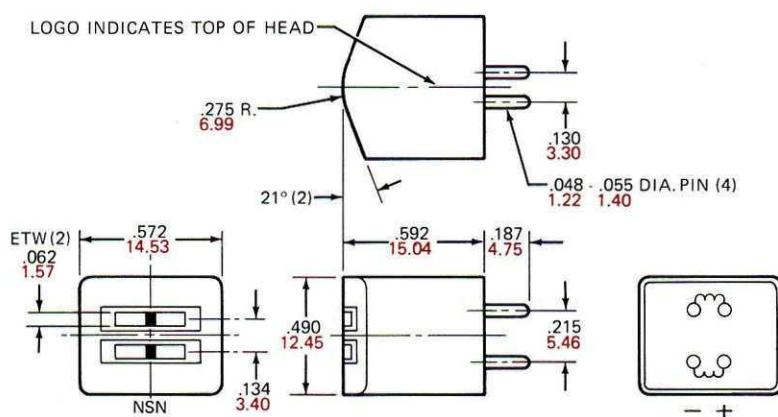
### PHYSICAL CONFIGURATIONS

#### NOTES:

Head is shown as no mount,  
however, all standard "B"  
case mounts are available

INCHES IN BLACK  
MILLIMETERS IN COLOR

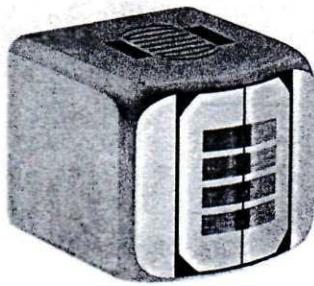
#### BASIC HEAD CONFIGURATION – NO MOUNT



## PC-B4EQ

### Quarter Track Four Channel Erase

.050" FOUR CHANNEL  
PROFESSIONAL SERIES



	MODEL NUMBERS		
	PC-B4EQ	PC-B4EQ	PC-B4EQ
ELECTRICAL	2	22	8
Inductance - 1 kHz, millihenrys	0.2	0.8	8.0
Resistance, D.C., ohms	2.2	9.0	45.0
Impedance - 100 kHz, ohms	130	400	3,000
Track Width, inches	.050	.050	.050
Gap Length, Double Gap (each), inches	.003	.003	.003
Typical characteristics for 70 dB erasure of a 400 cycle saturated signal on 3M 150 tape			
Erase Voltage - 100 kHz, volts	6	13	30
Erase Current, ma	53	25	11

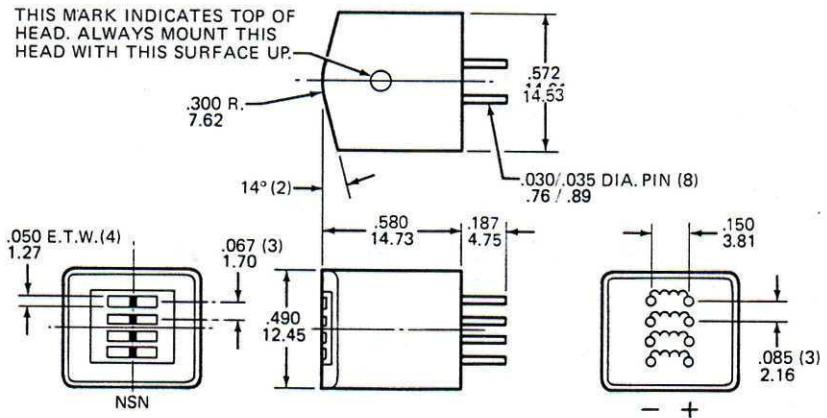
### PHYSICAL CONFIGURATIONS

#### NOTES:

Head is shown as no mount, however, all standard "B" case mounts are available

INCHES IN BLACK  
MILLIMETERS IN COLOR

#### BASIC HEAD CONFIGURATION – NO MOUNT



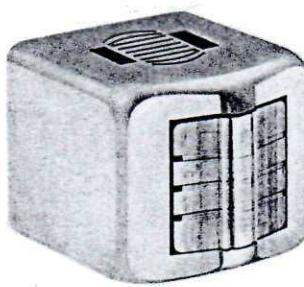
# DESIGN DATA

NORTRONICS  
AUDIO HEADS

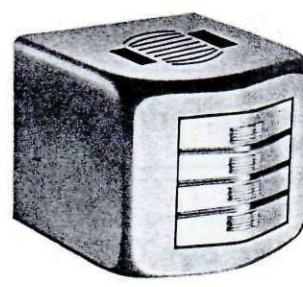
## P-B4Q & P-BQQ

### Four Track, Four Channel

.042/.037" FOUR CHANNEL



P-B4Q



P-BQQ

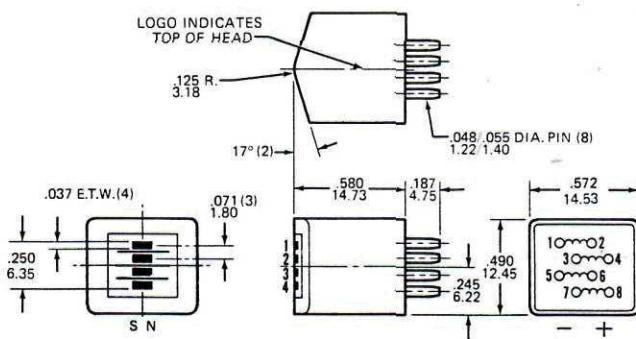
ELECTRICAL - SEE NOTE*	MODEL NUMBERS						
	B4Q P-BQQ 10R	B4Q P-BQQ 23R	P-B4Q P-BQQ 4R	P-B4Q P-BQQ 9K	P-B4Q P-BQQ 4K	P-B4Q P-BQQ 4L	P-B4Q P-BQQ 7K
Head Function	Record Only	Record Only	Record Only	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz, millihenrys	4.0	12	50	10	100	100	400
Impedance - 1 kHz, ohms	38	100	380	74	600	600	2,700
Resistance, D.C., ohms	32	55	220	40	245	245	760
Gap Length, microinches	500	500	500	100	100	160	100
Average 7.5 IPS constant current record/playback characteristics using 3M 150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation							
Peak Bias Current, 60 kHz, ma	2.9	1.5	.61	2.1	.55	.5	.2
Bias Voltage, RMS, 60 kHz, volts	3.5	5.8	9.8	5.4	17	15	32
Record Current, microamps	210	110	54	160	50	47	22
1 kHz Output, millivolts	-	-	-	.22	.7	.75	1.5
10 kHz/1 kHz Ratio, dB	-	-	-	+1	+2	0	+1
Average 3.75 IPS constant current record/playback characteristics using 3M 150 tape peak biased - 1 kHz and recorded 12 dB below tape saturation							
Peak Bias Current, 60 kHz, ma	2.6	1.35	.58	1.9	.45	.4	.17
Bias Voltage, RMS, 60 kHz, volts	3.2	5.5	9.2	4.8	15	13	27
Record Current, microamps	200	100	51	150	45	43	22
1 kHz Output, millivolts	-	-	-	.20	.6	.65	1.25
10 kHz/1 kHz Ratio, dB	-	-	-	-9	-9	-11	-9

\*NOTE: Electrical data shown for Models P-BQQ. Data for Models P-B4Q similar except because of track width (.042") changes slightly. Models BQQ and BQQN also available—consult Nortronics.

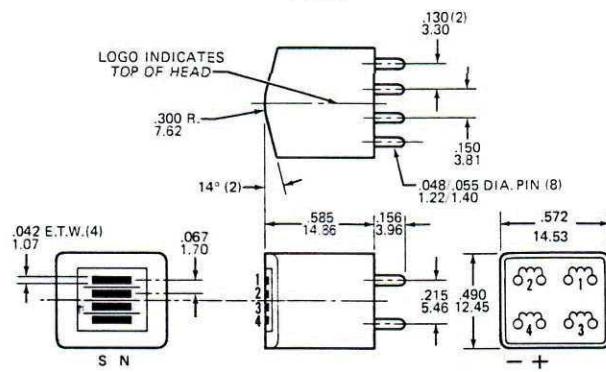
## PHYSICAL CONFIGURATIONS

NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR

### BASIC HEAD CONFIGURATION – NO MOUNT P-BQQ

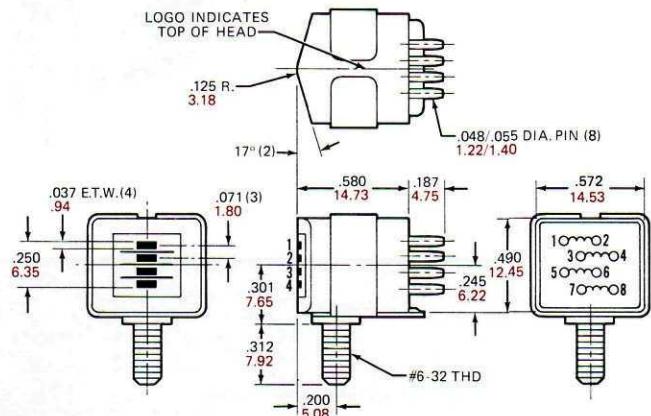


### BASIC HEAD CONFIGURATION – NO MOUNT P-B4Q



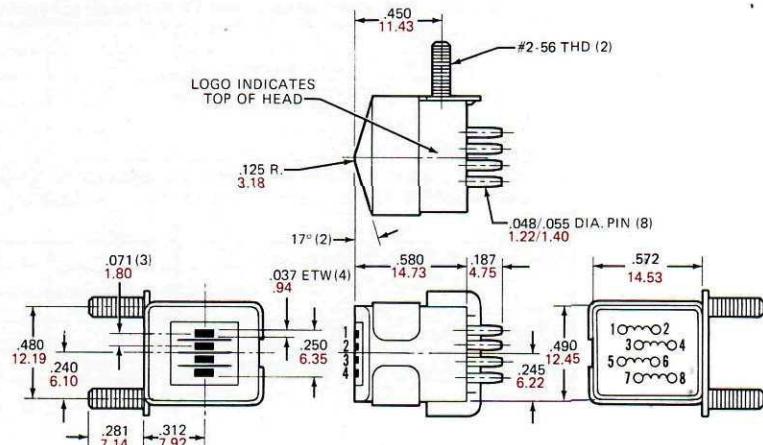
## HEAD WITH BASE MOUNT CONFIGURATION

P-BQQ



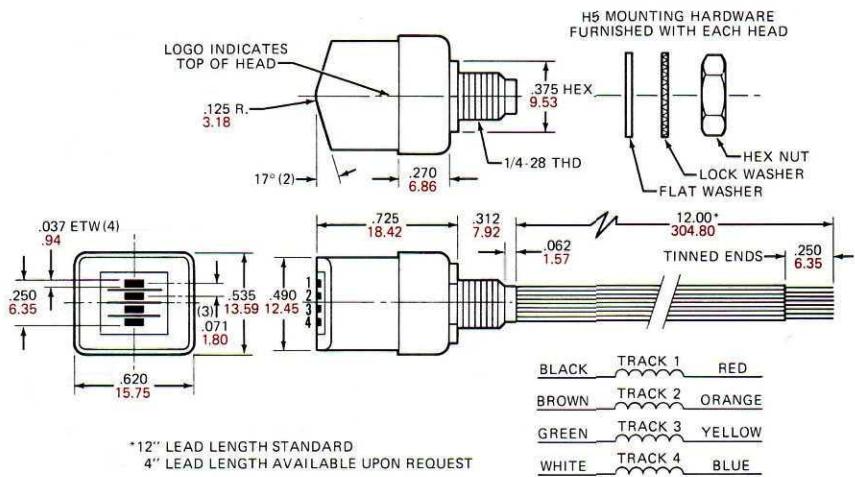
#### **HEAD WITH SIDE MOUNT CONFIGURATION**

P-B00



## **HEAD WITH REAR MOUNT CONFIGURATION**

P-BQQ



## P-A1QC & A1QC Quarter Track Mono Combination Erase and R/P



ELECTRICAL (R/P SECTION)	STANDARD SERIES		PROFESSIONAL SERIES	
	MODEL NUMBERS		MODEL NUMBERS	
	A1QC 17K	A1QC 47K	P-A1QC 44R	P-A1QC 46K
Head Function	Record/ Playback	Record/ Playback	Record Only	Record Playback
Inductance - 1 kHz, millihenrys	400	400	50	200
Impedance - 1 kHz - ohms	2,300	2,300	400	1,300
Resistance, D.C., mono, ohms	240	240	100	135
Gap Length, microinches	100	100	500	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M 150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	.42	.42	.55	.38
Bias Voltage, RMS, 60 kHz, volts	30	30	8.0	21
Record Current, microamps	25	25	45	31
1 kHz Output, millivolts	1.6	1.6	—	1.3
10 kHz/1 kHz Ratio, dB	-1	-1	—	+1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M 150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>				
Peak Bias Current, 60 kHz, ma	.34	.34	.50	.30
Bias Voltage, RMS, 60 kHz, volts	25	25	.7	16
Record Current, microamps	22	22	45	30
1 kHz Output, millivolts	1.3	1.3	—	1.0
10 kHz/1 kHz Ratio, dB	-10	-10	—	-9
<b>ELECTRICAL (ERASE SECTION)</b>				
Inductance - 1 kHz, millihenrys	80	10	10	10
Resistance, D.C., ohms	240	35	35	35
Track Width, inches	.062	.062	.062	.062
Gap Length, Double Gap (each), inches	.004	.004	.004	.004
<b>Typical characteristics for 60 dB erasure of a 400 Hz saturated signal on 3M 150 tape</b>				
Erase Voltage @ 60 kHz, volts	120	25	25	25
Erase Current, ma	5	8	8	8
Impedance - 60 kHz, ohms	30,000	3,250	3,250	3,250

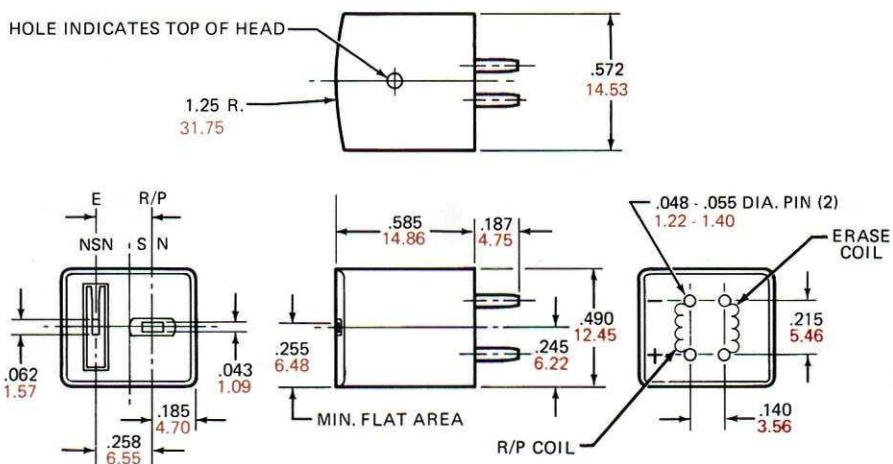
## PHYSICAL CONFIGURATION

### NOTES:

Head is shown no mount, however, all standard "B" case mounts are available

INCHES IN BLACK  
MILLIMETERS IN COLOR

### BASIC HEAD CONFIGURATION – NO MOUNT



**P-B1QY, P-B1QC  
and BIQC  
Quarter Track Mono  
R/P  
0.043" SINGLE CHANNEL**



ELECTRICAL	STANDARD SERIES		PROFESSIONAL SERIES		
	MODEL NUMBERS		MODEL NUMBERS		
	B1QC <b>4K</b>	B1QC <b>7K</b>	P-B1QC <b>4K</b>	P-B1QC <b>4R</b>	P-B1QY <b>6F</b>
Head Function (Typical)	Record/ Playback	Record/ Playback	Record/ Playback	Record Only	Playback Only
Inductance - 1 kHz, millihenrys	100	400	100	50	200
Impedance - 1 kHz, ohms	700	2,300	650	400	1,400
Resistance, D.C. mono, ohms	100	240	100	100	135
Gap Length, microinches	100	100	100	500	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M 150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	1.1	.42	.7	.50	.45
Bias Voltage, RMS, 60 kHz, volts	17	30	18	8.0	29
Record Current, microamps	48	25	60	45	32
1 kHz Output, millivolts	0.8	1.6	0.9	—	1.2
10 kHz/1 kHz Ratio, dB	-1	-1	0	—	+1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M 150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	0.9	.34	.5	.45	.40
Bias Voltage, RMS, 60 kHz, volts	15	25	13	7.0	20
Record Current, microamps	45	22	50	45	30
1 kHz Output, millivolts	0.6	1.3	0.7	—	.9
10 kHz/1 kHz Ratio, dB	-11	-11	-10	—	-7

### PHYSICAL CONFIGURATIONS

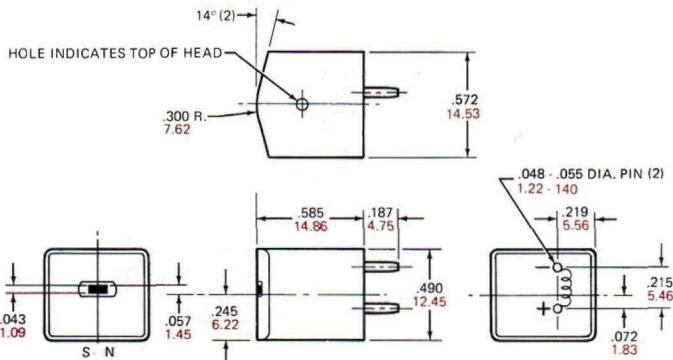
#### NOTES:

Heads are shown no mount, however, all standard "B" case mounts are available

INCHES IN BLACK  
MILLIMETERS IN COLOR

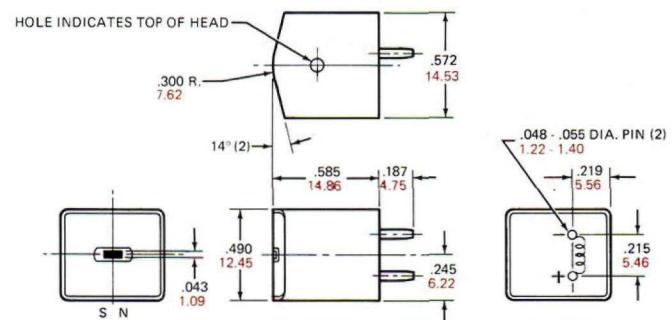
#### BASIC HEAD CONFIGURATION – NO MOUNT

P-B1QY



#### BASIC HEAD CONFIGURATION – NO MOUNT

P-B1QC



## P-B3Q Quarter Track R/P

### 0.043" THREE CHANNEL PREMIUM SERIES

- MEETS NATIONAL ASSOCIATION OF BROADCASTERS SPECIFICATION FOR THREE CHANNELS ON 1/4" TAPE USED IN STEREO CARTRIDGE MACHINES



### P-B3Q – PREMIUM SERIES

ELECTRICAL	MODEL NUMBER				
	P-B3Q 8R	P-B3Q 4R	P-B3Q 4K	P-B3Q 6K	P-B3Q 7K
Head Function (Typical)	Record Only	Record Only	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	10	50	100	200	350
Impedance - 1 kHz - ohms	70	400	650	1,300	2,200
Resistance, D.C. Stereo, ohms	32	100	100	200	800
Gap Length, microinches	500	500	100	100	100
1 kHz Crosstalk Rejection, dB	55	55	55	55	55
Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation					
Peak Bias Current, 60 kHz, ma	1.3	.50	.70	.38	.23
Bias Voltage, RMS, 60 kHz, volts	3.5	8.0	18	21	26
Record Current, microamps	110	45	60	31	25
1 kHz Output, millivolts	—	—	0.9	1.3	1.6
10 kHz/1 kHz Ratio, dB	—	—	0	+1	+1
Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation					
Peak Bias Current, 60 kHz, ma	1.2	.45	.50	.30	.18
Bias Voltage, RMS, 60 kHz, volts	3.2	7.0	13	16	21
Record Current, microamps	100	45	50	30	24
1 kHz Output, millivolts	—	—	0.7	1.0	1.3
10 kHz/1 kHz Ratio, dB	—	—	-10	-9	-9

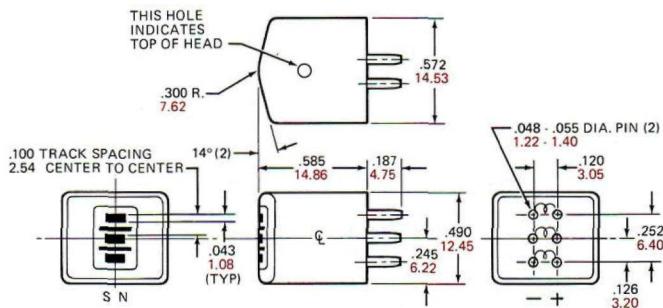
### PHYSICAL CONFIGURATION

#### NOTES:

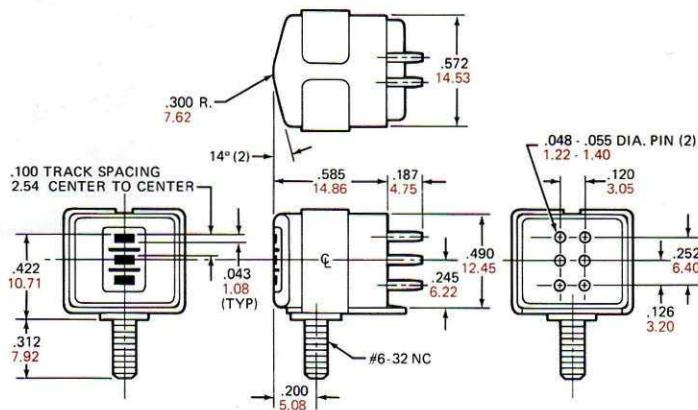
Also available for applications where size is a factor is Model P-C3Q, similar except for case width of 0.359".

INCHES IN BLACK  
MILLIMETERS IN COLOR

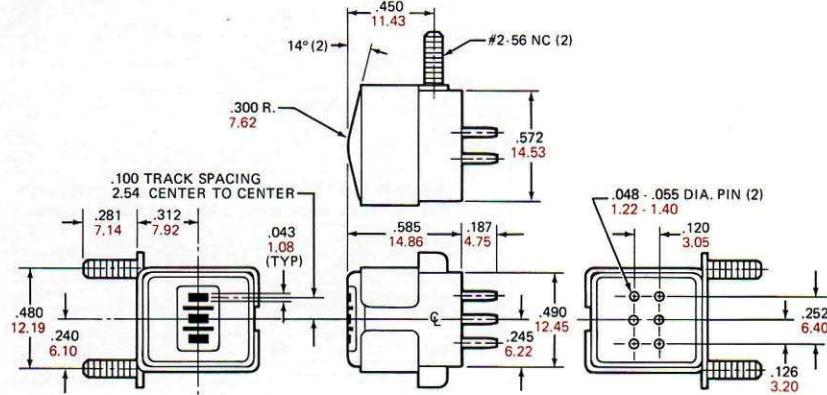
#### BASIC HEAD CONFIGURATION – NO MOUNT



### HEAD WITH BASE MOUNT CONFIGURATION

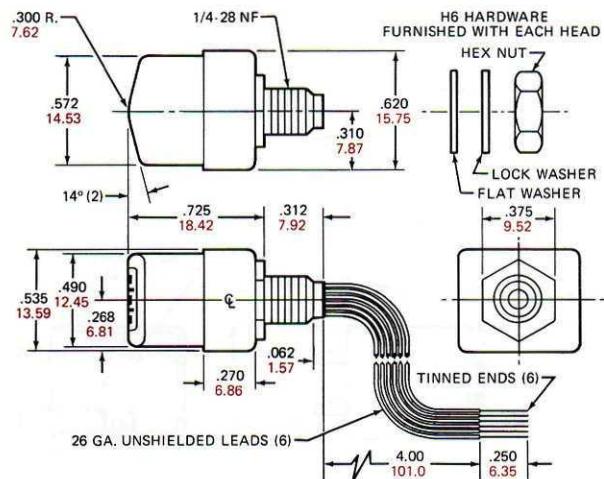


### HEAD WITH SIDE MOUNT CONFIGURATION

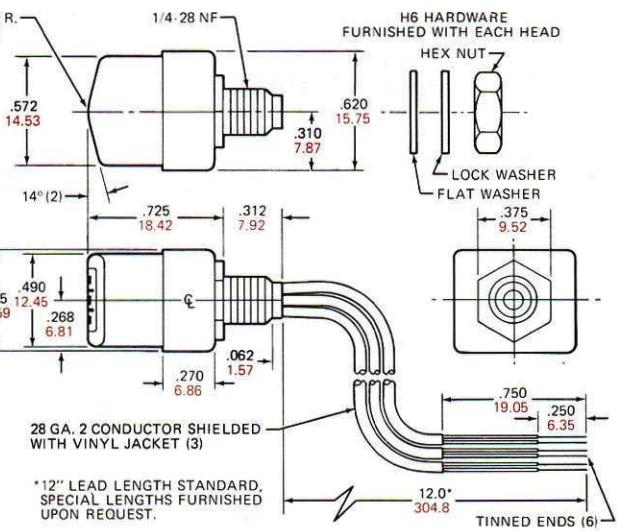


### HEAD WITH REAR MOUNT CONFIGURATION

#### UNSHIELDED LEADS



#### SHIELDED LEADS



**E-B2L & P-B2L  
Eight Track Stereo R/P**

.020" TWO CHANNEL



ELECTRICAL	MODEL NUMBER				
	E-B2L <b>7K</b>	P-B2L <b>8R</b>	P-B2L <b>4R</b>	P-B2L <b>7K</b>	P-B2L <b>8K</b>
Head Function (Typical)	Record/ Playback	Record Only	Record Only	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	400	10	50	450	20
Impedance - 1 kHz - ohms	2,600	73	400	3,000	120
Resistance, D.C., Stereo, ohms	670	30	200	650	35
Gap Length, microinches	100	500	500	100	100
1 kHz Crosstalk Rejection, dB	48	50	50	50	50
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	.28	1.0	.45	.17	1.7
Bias Voltage, RMS, 60 kHz, volts	24	2.9	5.5	27	6
Record Current, microamps	17	85	40	18	120
1 kHz Output, millivolts	1.2	—	—	1.1	.24
10 kHz/1 kHz Ratio, dB	-2	—	—	+3	0
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>					
Peak Bias Current, 60 kHz, ma	.24	—	.42	.12	—
Bias Voltage, RMS, 60 kHz, volts	21	—	5.0	24	—
Record Current, microamps	16	—	37	17	—
1 kHz Output, millivolts	0.9	—	—	1.0	—
10 kHz/1 kHz Ratio, dB	-9	—	—	-9	—

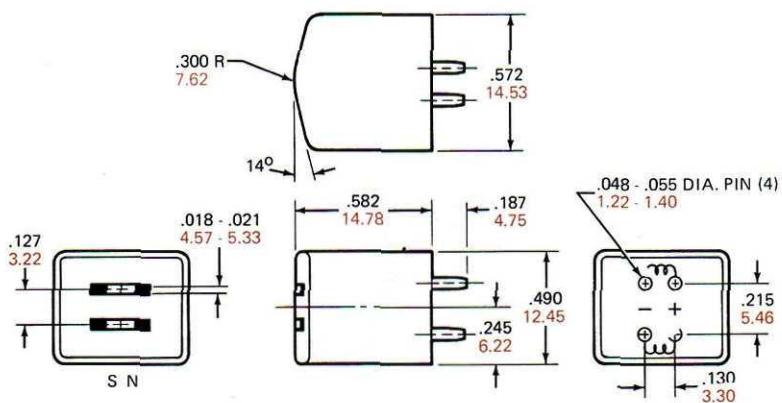
**PHYSICAL CONFIGURATION**

**BASIC HEAD CONFIGURATION – NO MOUNT**

**NOTES:**

Head shown no mount, however all standard "B" case mounts are available

INCHES IN BLACK  
MILLIMETERS IN COLOR



**Z-J2L**  
**Eight Track Stereo**  
**Z COMBO® Erase and R/P**



ELECTRICAL (R/P SECTION)	MODEL NUMBER	
	Z-J2L <b>44R</b>	Z-J2L <b>47K</b>
Head Function (Typical)	Record Only	Record/Playback
Inductance - 1 kHz - millihenrys	50	450
Resistance, D.C. stereo, ohms	150	620
Gap Length, microinches	500	100
ELECTRICAL (ERASE SECTION)		
Inductance - 1 kHz - millihenrys	14	14
Resistance, D.C. ohms	47	45
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape biased @ 1 kHz and recorded 12 dB below tape saturation, with R/P section shunt capacitor of 200 pf. See "Z" combo application notes.</b>		
Erase Bias Current, 60 kHz, ma	4.5	12
Erase Bias Voltage, RMS, 60 kHz, volts	16	27
Record Current, microamps	50	22
1 kHz Output, millivolts	—	0.7
10 kHz/1 kHz Ratio, dB	—	-15

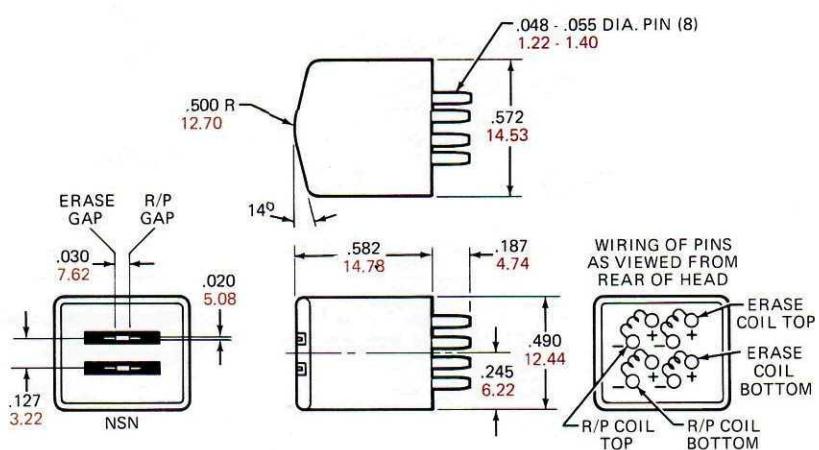
## PHYSICAL CONFIGURATION

### NOTES:

Head shown no mount, however all standard "B" case mounts are available

INCHES IN BLACK  
MILLIMETERS IN COLOR

## BASIC HEAD CONFIGURATION – NO MOUNT



**DESIGN  
DATA**

NORTRONICS

AUDIO HEADS

**P-BQL & PC-BQL**  
**Eight Track, Four Channel R/P**  
**.021" FOUR CHANNEL**



**P-BQL — PREMIUM SERIES**

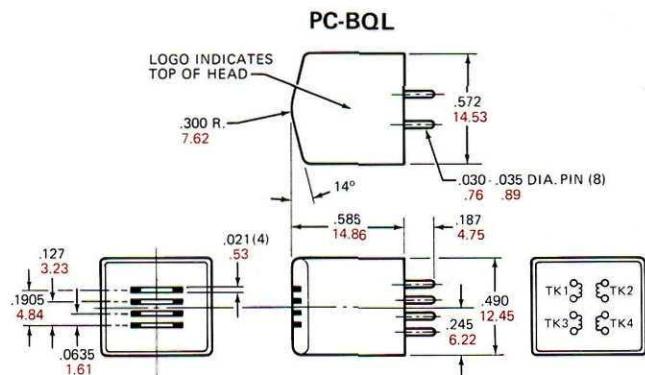
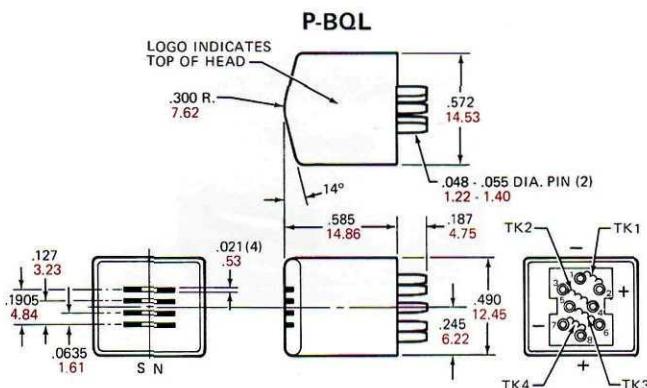
ELECTRICAL	MODEL NUMBER						
	P-BQL 14R	P-BQL 8R	P-BQL 4R	P-BQL 8K	P-BQL 4K	P-BQL 6K	P-BQL 7K
Head Function (Typical)	Record Only	Record Only	Record Only	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz, millihenrys	2.0	10	50	20	100	200	330
Impedance - 1 kHz, ohms	15	95	300	150	600	1350	2800
Resistance, D.C., ohms	15	60	230	45	270	490	760
Gap Length, microinches	500	500	500	100	100	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>							
Peak Bias Current, 100 kHz, ma	3.0	1.6	.48	1.35	.4	0.32	0.24
Bias Voltage, RMS, 100 kHz, volts	3.0	8.3	17	11	25	26	36
Record Current, microamps	200	120	50	95	42	30	24
1 kHz Output, millivolts	—	—	—	0.25	0.5	0.8	0.9
10 kHz/1 kHz Ratio, dB	—	—	—	+1	+1	+1	+1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>							
Peak Bias Current, 100 kHz, ma	2.4	1.5	.42	1.1	.35	0.27	0.22
Bias Voltage, RMS, 100 kHz, volts	2.4	7.4	15	8.8	22	24	33
Record Current, microamps	170	110	42	76	40	28	22
1 kHz Output, millivolts	—	—	—	0.20	0.4	0.6	0.7
10 kHz/1 kHz Ratio, dB	—	—	—	-10	-10	-10	-10

**PC-BQL — HIGH CROSS TALK REJECTION SERIES**

ELECTRICAL	MODEL NUMBER						
	PC-BQL 14R	PC-BQL 8R	PC-BQL 4R	PC-BQL 8K	PC-BQL 4K	PC-BQL 6K	PC-BQL 7K
Head Function (Typical)	Record Only	Record Only	Record Only	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	2.0	10	50	20	100	200	320
Impedance - 1 kHz - ohms	15	95	400	150	700	1400	2600
Resistance, D. C., ohms	10	30	270	45	135	290	440
Gap Length, microinches	500	500	500	100	100	100	100
<b>Average 7.5 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>							
Peak Bias Current, 100 kHz, ma	3.6	1.5	0.5	1.35	0.6	0.4	0.31
Bias Voltage, RMS, 100 kHz, volts	3.5	6.0	18	11	25	35	48
Record Current, microamps	250	110	42	95	42	31	24
1 kHz Output, millivolts	—	—	—	0.22	0.5	0.6	0.75
10 kHz/1 kHz Ratio, dB	—	—	—	+1	+1	+1	+1
<b>Average 3.75 IPS constant current record/playback characteristics using 3M150 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation</b>							
Peak Bias Current, 100 kHz, ma	3.0	1.4	0.45	1.23	0.55	0.3	0.24
Bias Voltage, RMS, 100 kHz, volts	3.1	5.3	16	9.8	22	31	40
Record Current, microamps	230	100	40	90	40	30	23
1 kHz Output, millivolts	—	—	—	0.20	0.4	0.5	0.5
10 kHz/1 kHz Ratio, dB	—	—	—	-8	-8	-8	-8

## PHYSICAL CONFIGURATIONS

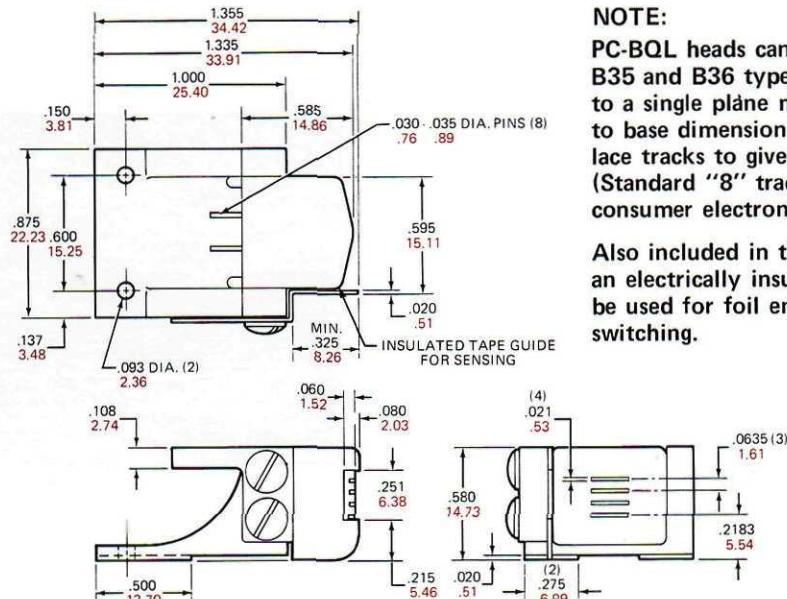
## BASIC HEAD CONFIGURATIONS – NO MOUNT



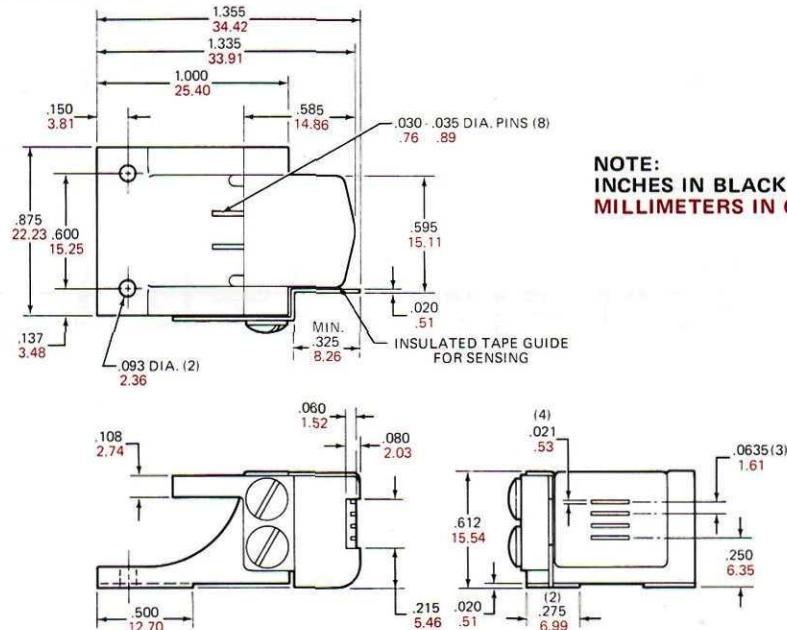
**NOTE:** Heads are shown no mount, however all standard "B" case mounts are available.

#### **PC-BQL WITH PRECISION MOUNTS**

**PC-BQL WITH PRECISION B36 MOUNT**



PC-BQL WITH PRECISION B35 MOUNT



**NOTE:**

PC-BQL heads can be supplied with precision B35 and B36 type mounts for direct mounting to a single plane mounting surface. The track to base dimension is precision ground to interlace tracks to give 8 tracks on 1/4" tape. (Standard "8" track stereo or quad used in consumer electronic cartridge equipment.)

Also included in the B35 and B36 mounts is an electrically insulated tape guide that can be used for foil end of tape sensing or track switching.

**NOTE:  
INCHES IN BLACK  
MILLIMETERS IN COLOR**