

W1R & P-W1P Cassette R/P

.056" & .057" SINGLE CHANNEL



W1R

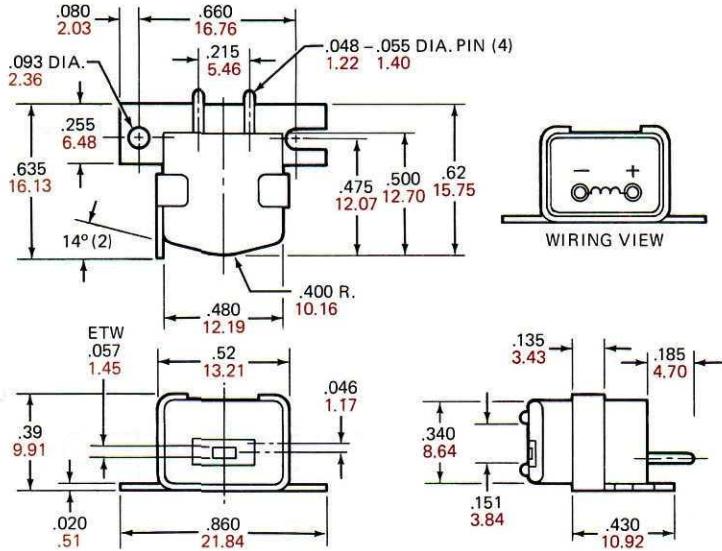
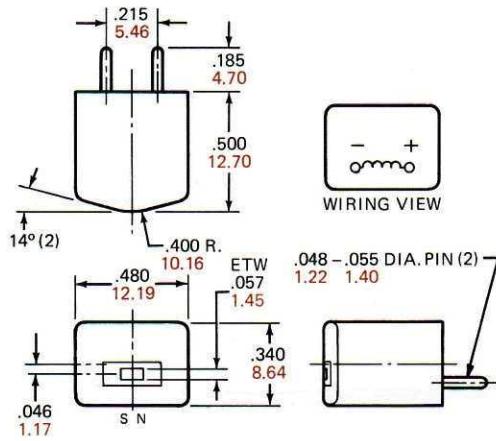
ELECTRICAL	MODEL NUMBERS				
	W1R 8N	W1R 8K	W1R 5K	W1R 4F	W1R 6F
Head Function (Typical)	Record Only	Record/ Playback	Record/ Playback	Record/ Playback	Record/ Playback
Inductance - 1 kHz, millihenrys	10	20	50	80	200
Impedance - 1 kHz, ohms	75	150	300	600	1,200
Resistance, D.C., ohms	35	43	80	110	175
Gap Length, microinches	200	100	100	50	50
Average 1.875 IPS constant current record/playback characteristics using 3M 8109 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation					
Peak Bias Current, 60 kHz, ma	1.7	1.4	0.8	0.6	0.33
Bias Voltage, RMS, 60 kHz, volts	4.1	6.0	9.0	16	18
Record Current, microamps	120	100	70	52	34
1 kHz Output, millivolts	—	0.16	0.27	0.3	0.45
10 kHz/1 kHz Ratio, dB	—	-17	-16	-12	-12

PHYSICAL CONFIGURATIONS

NOTE:
INCHES IN BLACK
MILLIMETERS IN COLOR

HEAD WITH "A" MOUNT CONFIGURATION

BASIC HEAD CONFIGURATION – NO MOUNT



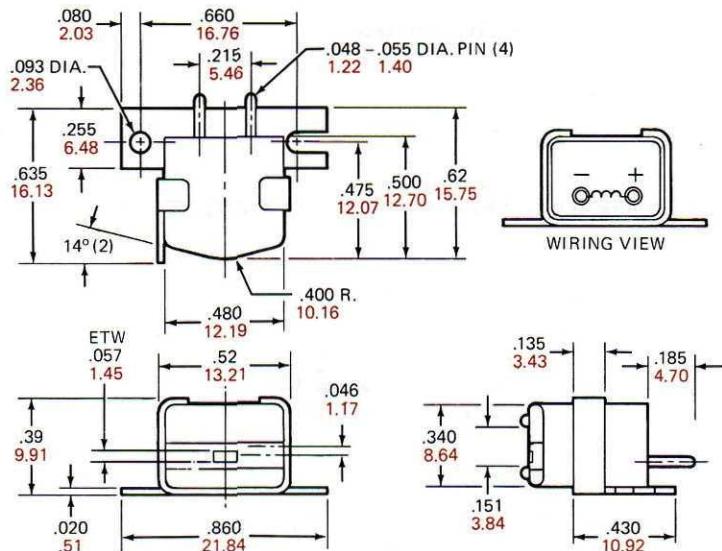
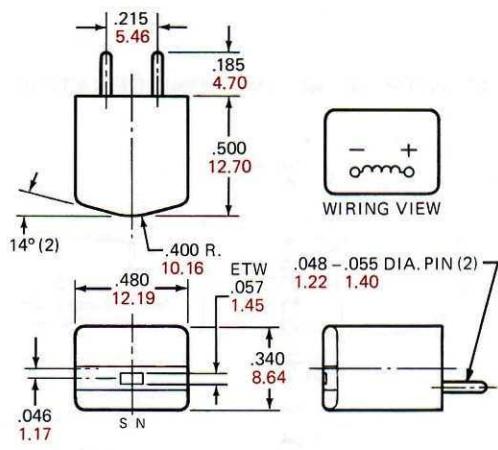
P-W1P DUPLICATING SERIES

ELECTRICAL	MODEL NUMBER						
	P-W1P 2N	P-W1P 11N	P-W1P 11F	P-W1P 9F	P-W1P 8F	P-W1P 4K	P-W1P 4F
Head Function (Typical)	Duplicating Record	Duplicating Record	Duplicating Playback	Duplicating Playback	Duplicating Playback	Record/Playback	Record/Playback
Inductance - 1 kHz, millihenrys	.15	2.0	2.0	10	20	100	70
Impedance - 1 kHz, ohms	1.0	20	20	65	135	500	450
Resistance, D.C. Stereo, ohms	1.0	9.0	14	28	40	178	115
Gap Length, microinches	200	200	50	50	50	100	50
Average 15 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation							
Peak Bias Current, 500 kHz, ma	10.0	2.5	—	—	—	—	—
Bias Voltage, RMS, 500 kHz, volt	4.6	15	—	—	—	—	—
Record Current, microamps	720	250	—	—	—	—	—
1 kHz Output, millivolts	—	—	0.7	0.7	1.1	—	—
10 kHz/1 kHz Ratio, dB	—	—	-9	-9	-12	—	—
Average 1.875 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation							
Peak Bias Current, 60 kHz, ma	10*	2.5	—	—	—	.18	.22
Bias Voltage, RMS, 60 kHz, volts	0.8*	1.6	—	—	—	13	15
Record Current, microamps	700	200	—	—	—	33	45
1 kHz Output, millivolts	—	—	0.04	0.09	0.15	.34	.28
10 kHz/1 kHz Ratio, dB	—	—	-9	-9	-12	-13	-9

*100 kHz bias frequency data

HEAD WITH "A" MOUNT CONFIGURATION

BASIC HEAD CONFIGURATION – NO MOUNT



DESIGN DATA

NORTRONICS
AUDIO HEADS

W2P & P-W2P Cassette R/P 0.057" TWO CHANNEL



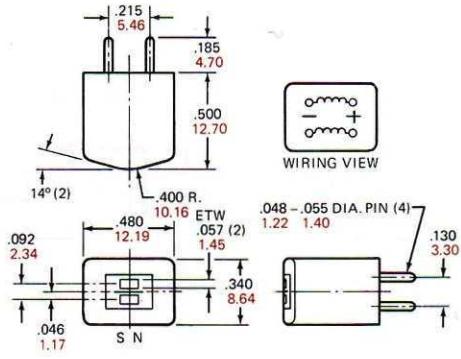
W2P

ELECTRICAL	MODEL NUMBER					
	W2P 11N	W2P 8F	W2P 8K	W2P 8N	W2P 4F	W2P 6F
Head Function (typical)	Record Only	Playback Only	Record/ Playback	Record Only	Record/ Playback	Record/ Playback
Inductance - 1 kHz - millihenrys	2.0	20	20	10	80	200
Impedance - 1 kHz, ohms	20	135	150	80	600	1200
Resistance, D.C. Stereo, ohms	9.0	45	50*	40	110	215
Gap Length, microinches	200	50	100	200	50	50
Average 15 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation						
Peak Bias Current, 500 kHz, ma	6.5	—	—	2.5	—	—
Bias Voltage, RMS, 500 kHz, volts	16	—	—	30	—	—
Record Current, microamps	200	—	—	100	—	—
1 kHz Output, millivolts	—	.75	—	—	—	—
10 kHz/1 kHz Ratio, dB	—	-16	—	—	—	—
Average 1.875 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation						
Peak Bias Current, 60 kHz, ma	3.6	—	0.7	1.0	.50	.30
Bias Voltage, RMS, 60 kHz, volts	1.7	—	4.3	3.0	11	18
Record Current, microamps	260	—	70	95	43	30
1 kHz Output, millivolts	—	.20	.22	—	.38	.50
10 kHz/1 kHz Ratio, dB	—	-9	-17	—	-12	-14

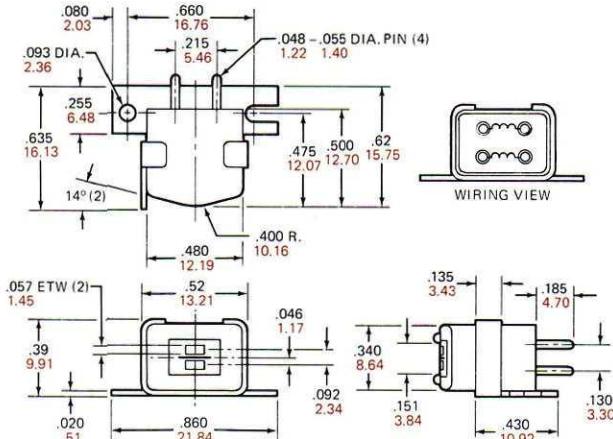
PHYSICAL CONFIGURATIONS

NOTE:
INCHES IN BLACK
MILLIMETERS IN COLOR

BASIC HEAD CONFIGURATION – NO MOUNT



HEAD WITH "A" MOUNT CONFIGURATION





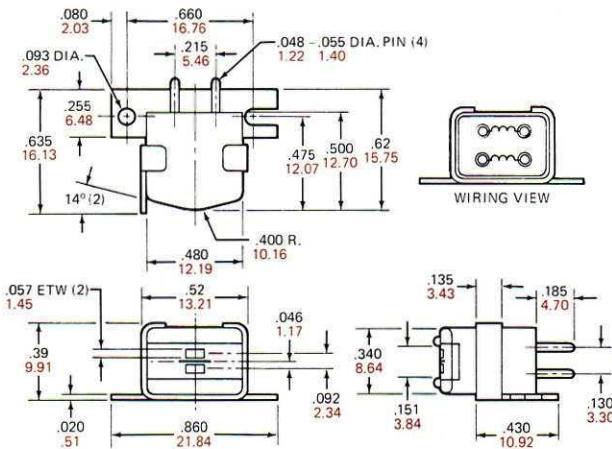
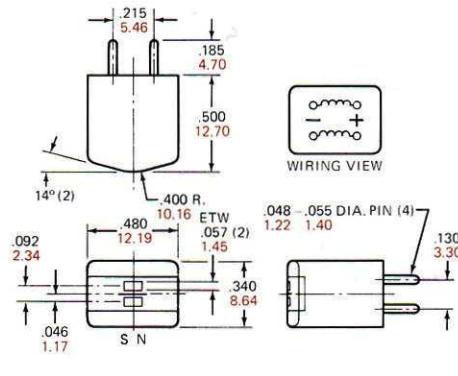
P-W2P DUPLICATING SERIES

ELECTRICAL	MODEL NUMBER						
	P-W2P 2N	P-W2P 11N	P-W2P 11F	P-W2P 9F	P-W2P 8F	P-W2P 4K	P-W2P 4F
Head Function (Typical)	Duplicating Record	Duplicating Record	Duplicating Playback	Duplicating Playback	Duplicating Playback	Record/Playback	Record/Playback
Inductance - 1 kHz, millihenrys	.15	2.0	2.0	10	20	100	70
Impedance - 1 kHz, ohms	1.0	20	20	65	135	500	450
Resistance, D.C. Stereo, ohms	1.0	9.0	14	40	45	178	115
Gap Length, microinches	200	200	50	50	50	100	50
Average 15 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation							
Peak Bias Current, 500 kHz, ma	10.0	2.5	—	—	—	—	—
Bias Voltage, RMS, 500 kHz, volt	4.6	15	—	—	—	—	—
Record Current, microamps	720	250	—	—	—	—	—
1 kHz Output, millivolts	—	—	0.7	0.7	1.1	—	—
10 kHz/1 kHz Ratio, dB	—	—	-9	-9	-12	—	—
Average 1.875 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation							
Peak Bias Current, 60 kHz, ma	10*	2.5	—	—	—	.18	.22
Bias Voltage, RMS, 60 kHz, volts	0.8*	1.6	—	—	—	13	15
Record Current, microamps	700	200	—	—	—	33	45
1 kHz Output, millivolts	—	—	0.04	0.09	0.15	.34	.28
10 kHz/1 kHz Ratio, dB	—	—	-9	-9	-12	-13	-9

*100 kHz bias frequency data

HEAD WITH "A" MOUNT CONFIGURATION

BASIC HEAD CONFIGURATION – NO MOUNT



P-W4J Cassette R/P

.021 " FOUR CHANNEL
PREMIUM SERIES

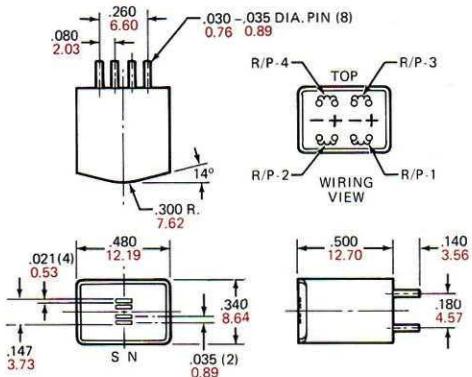


ELECTRICAL	MODEL NUMBER							
	P-W4J 2N	P-W4J 12N	P-W4J 11N	P-W4J 9F	P-W4J 8N	P-W4J 8K	P-W4J 8F	P-W4J 4F
Head Function (Typical)	Duplicating Record	Duplicating Record	Duplicating Record	Playback Only	Record Only	Record/ Playback	Playback Only	Record/ Playback
Inductance - 1 kHz, millihenrys	0.2	0.4	2	10	10	20	20	80
Impedance - 1 kHz, ohms	13	5	30	65	95	150	150	500
Resistance, D.C., Stereo, ohms	2.3	3.5	27	43	60	80	65	335
Gap Length, microinches	200	200	200	50	200	100	50	50
1 kHz Crosstalk Rejection, dB	60	60	67	60	58	57	57	60
Average 15 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation								
Peak Bias Current, 500 kHz, ma	17	15	5.2	—	1.3	—	—	—
Bias Voltage, RMS, 500 kHz, volts	2.6	5.0	14	—	23	—	—	—
Record Current, microamps	850	500	200	—	80	—	—	—
1 kHz Output, millivolts	—	—	—	—	—	—	—	—
10 kHz/1 kHz Ratio, dB	—	—	—	—	—	—	—	—
Average 1.875 IPS constant current record/playback characteristics using 3M277 tape peak biased @ 1 kHz and recorded 12 dB below tape saturation								
Peak Bias Current, 100 kHz, ma	8	6.0	3.6	—	.85	.85	—	.8
Bias Voltage, RMS 100 kHz, volts	.5	1.0	1.1	—	3.3	6.5	—	21
Record Current, microamps	800	450	190	—	75	60	—	50
1 kHz Output, millivolts	—	—	—	.056	—	.1	0.09	0.14
10 kHz/1 kHz Ratio, dB	—	—	—	-13	—	-16	-14	-14

PHYSICAL CONFIGURATIONS

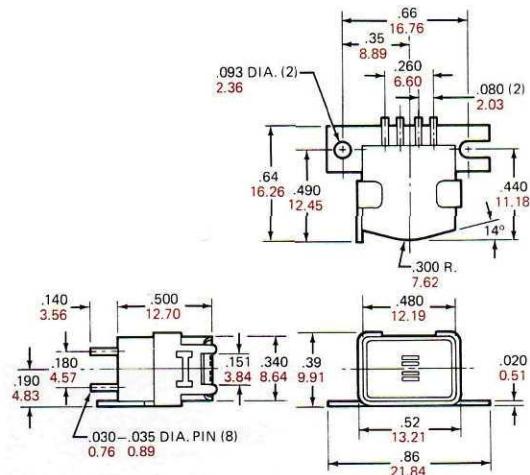
NOTE:
INCHES IN BLACK
MILLIMETERS IN COLOR

BASIC HEAD CONFIGURATION – NO MOUNT



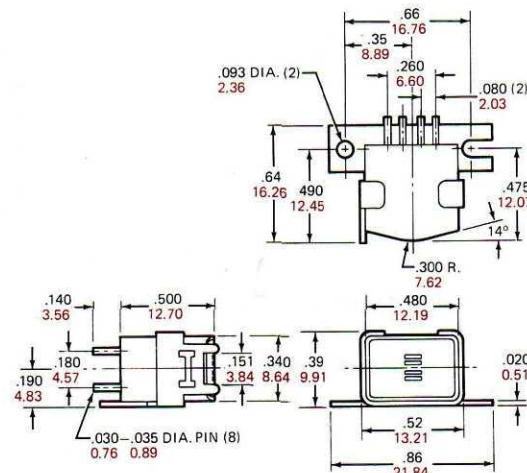
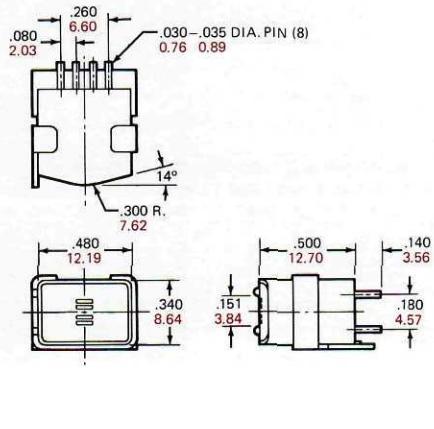
BASIC HEAD CONFIGURATION – BASE MOUNTS

"A" MOUNT STYLE

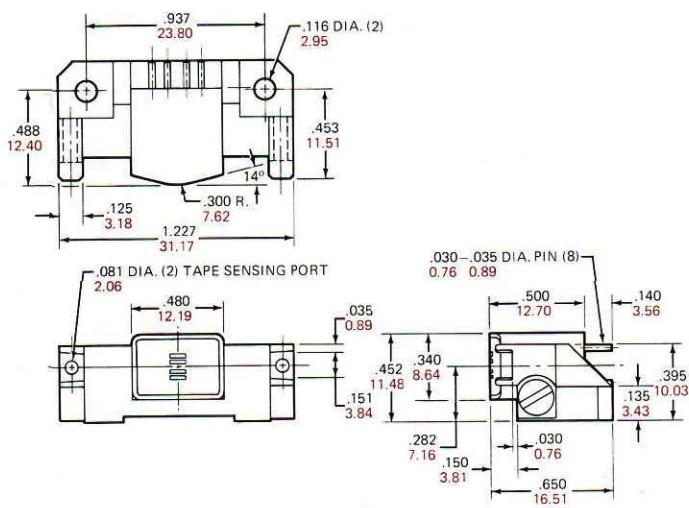


A7 MOUNT STYLE

A11 MOUNT STYLE



A3 MOUNT STYLE



ZW1R & ZW2RK
Cassette Z COMBO®
R/P & Erase Head
ONE AND TWO CHANNEL



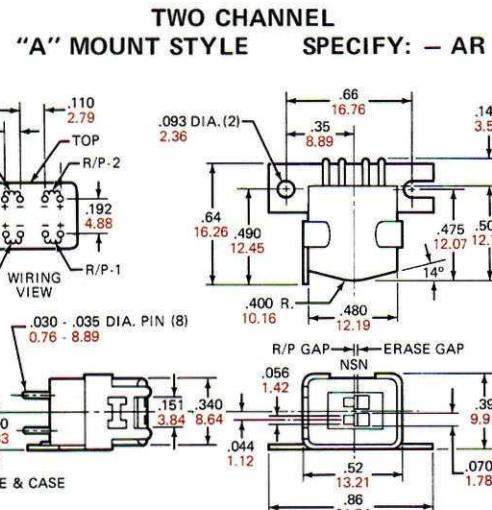
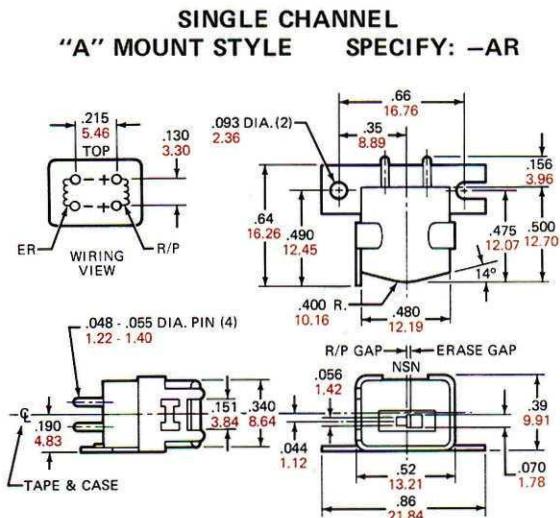
ELECTRICAL (R/P SECTION)	MODEL NUMBER			
	ZW1R ZW2RK 36F	ZW1R ZW2RK 36K	ZW1R ZW2RK 38N	ZW1R ZW2RK 48N
Head Function (Typical)	Record/ Playback	Record/ Playback	Record Only	Record Only
Inductance, 1 kHz, millihenrys	200	200	10	12
Resistance, D.C., ohms	280	480	50	62
Impedance, 1 kHz, ohms	1500	1500	90	100
Gap Length, microinches	50	100	200	200
ELECTRICAL (ERASE SECTION)				
Inductance, 1 kHz, millihenrys	2.0	2.0	2.0	12
Resistance, D.C., ohms	36	36	36	150
Average 1.875 IPS constant current record/playback characteristics using 3M277 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	45	22	45	14
Erase Bias Voltage, RMS, 60 kHz, volts	21	12	38	53
Record Current, microamps	33	36	120	85
1 kHz Output, millivolts	.55	.65	—	—
10 kHz/1 kHz Ratio, dB	-12	-17	—	—

PHYSICAL CONFIGURATIONS

NOTES:

For reverse erase and R/P orientation
specify: AL mount style

INCHES IN BLACK
MILLIMETERS IN COLOR



NOTE: Uses #105029 plugs, 2 per head.



W2ER

Cassette Erase

0.070" TWO CHANNEL

DC22P

Cassette

Record/Playback

Monitor Head

ELECTRICAL	MODEL NUMBER					
	W2ER 47	W2ER 9	W2ER 8	W2ER 5	W2ER 3	W2ER 4
Inductance @ 1 kHz, millihenrys	.047	.28	.37	1.0	2.0	13.0
Resistance, D.C., ohms	0.9	2.2	2.6	10	14	115
Track Width, inches	.070	.070	.070	.070	.070	.070
Gap Length, Double Gap (each)	.003	.003	.004	.003	.003	.003

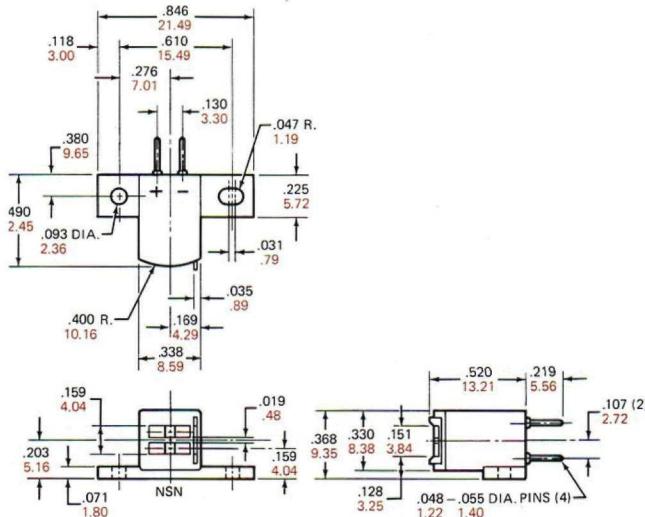
Typical characteristics for 70 dB erasure of a 400 Hz saturated signal on 3M277 tape

Erase Voltage @ 100 kHz, volts	4.0	10.0	12.0	18	22	62
Erase Current, ma	100	60	60	23	17	6.1
Impedance, 100 kHz, ohms	30	180	235	680	1400	6500

PHYSICAL CONFIGURATION

INCHES IN BLACK
MILLIMETERS IN COLOR

BASIC HEAD CONFIGURATION



DC22P CASSETTE RECORD/PLAYBACK MONITOR HEAD



.150" format cassette dual gap record and playback combination head. Available in the 2 channel 2 track format and ideal for broadcast programming, instrumentation and logging recorders and similar application requiring on tape monitoring to assure recording reliability.

Record section available with a 10 mhy inductance and a 100 microinch gap. Play section available with a 100 mhy inductance and a 50 microinch gap.

