



DATE: 10-22-2002  
REVISION: A  
W.O. No.: 81333  
CUSTOMER: CENTORR VACC.  
LOCATION: NASHUA  
LOCATION: NH

**INFRARAIL SPECIAL NUMBER R734**

**PURPOSE AND DESCRIPTION:**

CUSTOMER REQUIRES A STANDARD TEMPERATURE RANGE INFRARAIL SYSTEM WITH A SPECIAL LIMITING APERTURE TO LIMIT THE CONE OF VISION AT THE LENS TO A DIAMETER NO LARGER THAN 0.200 INCHES. IN ADDITION, THE INSTRUMENT ALSO HAS A SPECIAL GROUNDING INTERCONNECTING CABLE.

MODEL: DNE99-30C  
RANGE: 1500 - 3000 DEG. C  
OPTICAL RESOLUTION: D/100 AT 15 INCHES  
OBJECTIVE APERTURE: 0.200 INCHES.  
SPECIAL GROUNDING INTERCONNECT. CABLE

**GENERALITY OF APPLICATION AND RESTRICTRIONS:**

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: \_\_\_\_\_

*Ami DONADO*

AMI DONADO

APPROVED BY: \_\_\_\_\_

*Ami DONADO*

DATE: \_\_\_\_\_

*10-22-2002*

## INFRARAIL SPECIAL NUMBER R734, CONTINUED

### PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNE31-30C SENSOR AND MAKE THE FOLLOWING CHANGES:

1. REPLACE THE STANDARD FIELD STOP P.N. 447382 WITH FIELD STOP P.N. 44747-2 (0.190 INCH DIA.)
2. REPLACE THE STANDARD LENS WITH LENS PART NUMBER 61042-2 (15 INCH FOCAL DISTANCE).

START WITH A MODEL DNE31-30C ELECTRONIC MODULE AND MAKE THE FOLLOWING CHANGES:

REFERENCE DWG. No. C11194: CHANGE RESISTOR R1 IN THE RANGE MODULE TO 17.8Kohm (101782011).

### INTERCONNECTING CABLE INSTRUCTIONS:

IF THE CUSTOMER REQUEST IS FOR PVC TYPE CABLE, THEN BUILD LIKE CABLE ASSY. No. **D11196** BUT FOLLOW ASSEMBLY INSTRUCTIONS PER DRAWING NUMBER **EX-4462**. (B.O.M. No. EX-4462). DO NOT DISCARD ANY CONNECTOR PARTS.

IF THE CUSTOMER REQUEST IS FOR HIGH TEMP SILICON TYPE CABLE, THEN BUILD LIKE CABLE ASSY. No. **D11216** BUT FOLLOW ASSEMBLY INSTRUCTIONS PER DRAWING NUMBER **EX-4462**. (B.O.M. No EX-4462-A). DO NOT DISCARD ANY CONNECTOR PARTS.

### CALIBRATION INSTRUCTIONS:

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO: 179.8uA  
ADJUST ZERO SCALE CURRENT TO: 2.39uA

**NOTE: SENSING HEAD FOCAL DISTANCE IS 15 INCHES.**

### MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL.

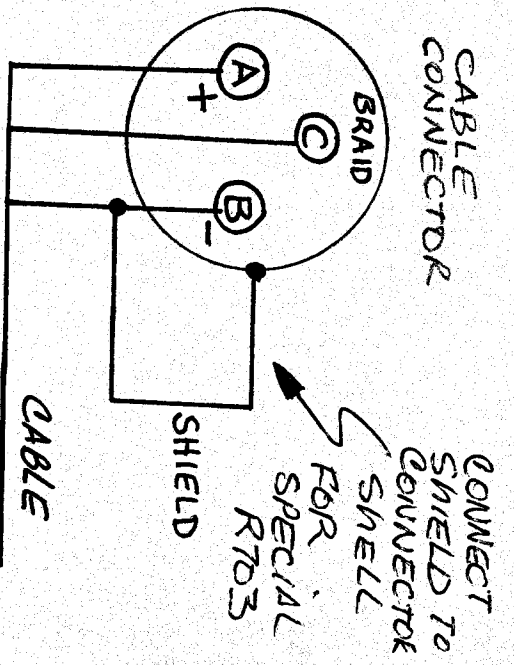
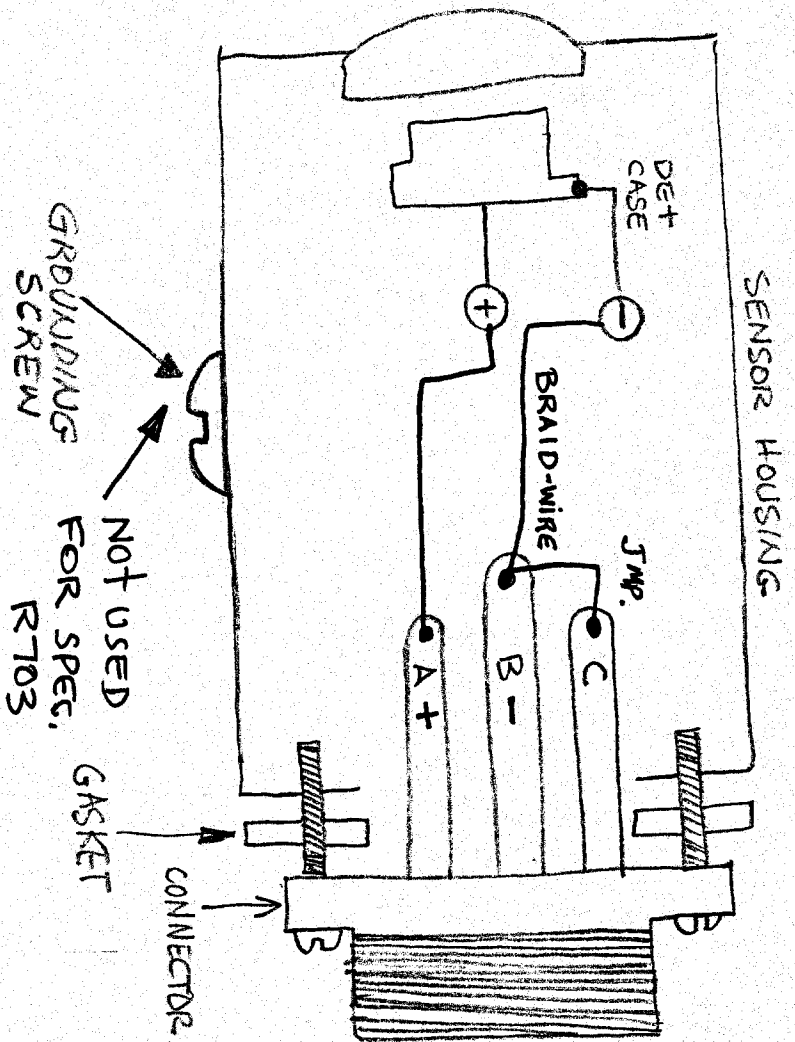
THIS SPECIAL IS SIMILAR TO SPECIAL R703. REFER TO R703 MANUAL PAGE.

## INFRARAIL SPECIAL NUMBER R734

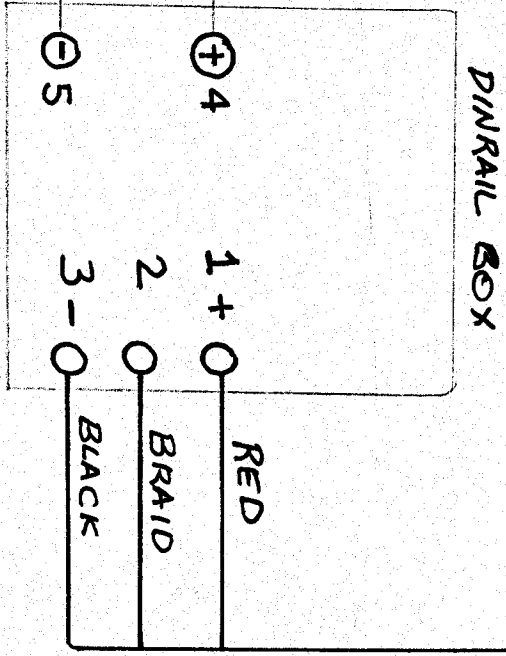
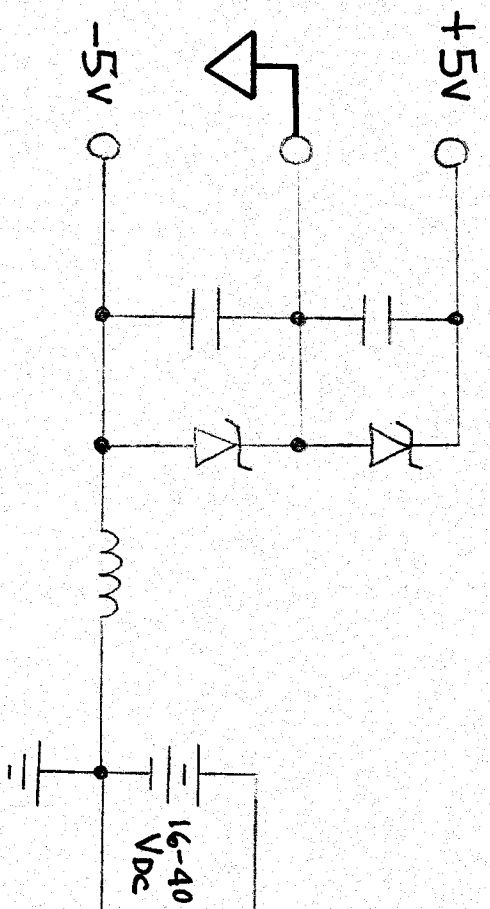
TEMPERATURE RANGE: 1500 TO 3000 DEGREES C  
SPECTRUM: 0.70 TO 1.00 MICRONS  
( Planck Output )

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
1500.0	2.3912	4.000
1550.0	3.0802	4.533
1600.0	3.9166	5.067
1650.0	4.9207	5.600
1700.0	6.1141	6.133
1750.0	7.5189	6.667
1800.0	9.1584	7.200
1850.0	11.0561	7.733
1900.0	13.2364	8.267
1950.0	15.7237	8.800
2000.0	18.5429	9.333
2050.0	21.7186	9.867
2100.0	25.2757	10.400
2150.0	29.2387	10.933
2200.0	33.6319	11.467
2250.0	38.4791	12.000
2300.0	43.8036	12.533
2350.0	49.6283	13.067
2400.0	55.9752	13.600
2450.0	62.8658	14.133
2500.0	70.3205	14.667
2550.0	78.3593	15.200
2600.0	87.0009	15.733
2650.0	96.2635	16.267
2700.0	106.1639	16.800
2750.0	116.7185	17.333
2800.0	127.9423	17.867
2850.0	139.8496	18.400
2900.0	152.4536	18.933
2950.0	165.7666	19.467
3000.0	179.8000	20.000

# "E" HEAD WIRING



SENSOR MUST BE ISOLATED FROM GROUND TO PREVENT DAMAGE TO POWER SUPPLY. FOR R703 ONLY



∅ .190 ±.005  
THRU

.882/.880

DO NOT SCALE

DRAWING NO.		REV.
44747-2		A
REVISION		
LTR.	DESCRIPTION	BY/DATE
A	RELEASED TO PRODUCTION SPECIAL R100	2/19/96 LSP
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SHEET # OF

DATE	2/19/96
DATE	
4:1	



**IRCON, INC.**  
7301 North Caldwell Ave.  
Niles, IL 60714

TITLE	DRAWING NO.	REV.
FIELD STOP - .190 DIA	44747-2	A

Number :DN#14781 - IRCON INFRARAIL IRT SO-LI: 81333\*1

Level	Part Number	Description	Quantity	UM	Alt	MB	X	ECO No.	ECO Date	Start Use	End Use
1	DNODNE	DN PRICES	1.0000	EA		M	P				
1	<u>C11201</u>	SENSING HEAD FINAL ASSEMB	1.0000	EA		M	P				
2	<u>451322</u>	FIELD STOP .022DIA	1.0000	EA		B		3709	05-17-1996		
2	C11201/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	990300005	RETAINING RING 7/16 OD, .2	1.0000	EA		B		3709	05-17-1996		
2	431442	DET. LOCATOR MOD2	1.0000	EA		B		3709	05-17-1996		
2	C11209	SH DETECTOR ASSEMBLY (E-S	1.0000	EA		M	P	3709	05-17-1996		
3	L13354	SH DETECTOR ASSEMBLY E-SE	1.0000	EA		M	P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B		3770	08-21-1996		
4	640642	FILTER, BANDPASS	1.0000	EA		B		3770	08-21-1996		
4	590672	DET. SI VACTEC 21D459	1.0000	EA		B		3770	08-21-1996		
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B		3770	08-21-1996		
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B		3770	08-21-1996		
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B		3770	08-21-1996		
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B		3770	08-21-1996		
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B		3770	08-21-1996		
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B		3770	08-21-1996		
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B		3770	08-21-1996		
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B		3770	08-21-1996		
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B		3770	08-21-1996		
4	3214G00X0	TUBING #14 PVC CLEAR	1.0000	IN		B		3770	08-21-1996		
4	3208I1000	BLACK HEAT SHRINK TUBING	1.0000	IN		B					
2	447352	SENSOR, E-HEAD	1.0000	EA		B		3709	05-17-1996		
2	610432	EYE LENS FOR A HEAD	1.0000	EA		B		3709	05-17-1996		
2	990100002	EPOXY HARDMAN #4005 GEN P	1.0000	EA		B		3709	05-17-1996		
2	447372	FIELD STOP, .312 DIA	1.0000	EA		B		3709	05-17-1996		
2	447382	FIELD STOP, .437 DIA	1.0000	EA		B		3709	05-17-1996		
2	610402	LENS PLANO CONVEX 30" F/L	1.0000	EA		B		3709	05-17-1996		
2	431752	O RING 13/16 X 1/16 TH 70	1.0000	EA		B		3709	05-17-1996		
2	447362	LENS RING E-HEAD SENSOR	1.0000	EA		B		3709	05-17-1996		
2	200412440	SCREW #4-40 X 3/8 FIL SLO	4.0000	EA		B		3709	05-17-1996		
2	220403200	WASHER #4 LOCK SPLIT RING	4.0000	EA		B		3709	05-17-1996		
2	454152	SCREW, ADJUSTMENT,	1.0000	EA		B		3709	05-17-1996		
2	433372	O RING 3/32 X 7/32 X 1/16	1.0000	EA		B		3709	05-17-1996		
2	220602200	WASHER #6 LOCK EXT TOOTH	1.0000	EA		B		3709	05-17-1996		
2	200606040	SCREW #6-32 X 3/16 PH SLO	1.0000	EA		B		3709	05-17-1996		
2	C11201/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	443502	RETAINING NUT	1.0000	EA		B		3709	05-17-1996		
2	477142	LABEL, SERIAL NUMBER, SEN	1.0000	EA		B		3709	05-17-1996		
2	474772	LABEL GROUND WARNING	1.0000	EA		B		3709	05-17-1996		
2	T-C11201-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B		3709	05-17-1996		
2	C11201/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	999900013	CAP PLUG #SC-1-1/4	1.0000	EA		B		3709	05-17-1996		
2	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B		3709	05-17-1996		
2	999900014	STEM BUMPER 3/8OD .275T	1.0000	EA		B		3709	05-17-1996		
1	D11198	PVC-(INT/EXT-E/F SERIES) (	1.0000	EA		M	P				
2	560052	CABLE PVC 2 COND 1100/200	1.0000	FT		B		3913	04-02-1997		
2	D11198/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	D11198/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M					
2	D11198/03	SEE EXTENDED DESCRIPTION	8.0000	EA		M					
2	575882	CONN. CIRC 10SL-3 BACKSHE	1.0000	EA		B		3913	04-02-1997		
2	3210G00X0	TUBING #10 PVC CLEAR	3.0000	IN		B		3913	04-02-1997		
2	3212G00X0	TUBING #12 PVC CLEAR	1.0000	IN		B		3913	04-02-1997		
2	575902	CONN. CIRC 10SL-3 STR PLU	1.0000	EA		B		3913	04-02-1997		
2	3216I1400	TUBING 1/4" SHRINKABLE BL	1.0000	IN		B		3913	04-02-1997		
2	990100027	ADHESIVE LOCTITE 272	1.0000	EA		B		3913	04-02-1997		
2	C-CABLE	DETERMINE CABLE LENGTH FR	1.0000	EA		M	P	3913	04-02-1997		
2	477202	LABEL INFRARAIL (2.0" X 0	1.0000	EA		B		3913	04-02-1997		
1	U-D11198-C	12 FEET OF CABLE	1.0000	EA		M	P				
2	560052	CABLE PVC 2 COND 1100/200	12.0000	FT		B					
1	<u>U-M1-R100</u>	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M	P				
2	106341011	RES. 6.34K OHM MF 1/4W 1%	1.0000	EA		B					
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B					
2	101543011	RES. 154K OHM MF 1/4W 1%	1.0000	EA		B					
2	101182011	RES. 11.8K OHM MF 1/4W 1%	1.0000	EA		B					
2	104532011	RES. 45.3K OHM MF 1/4W 1%	1.0000	EA		B					
2	109091011	RES. 9.09K OHM MF 1/4W 1%	1.0000	EA		B					
2	106342011	RES. 63.4K OHM MF 1/4W 1%	1.0000	EA		B					

*Before Changes.  
(Keep for Reference)*

*U-M1-R100  
OR  
R734*

Number :DN#14781 - IRCON INFRARAIL IRT SO-LI: 81333\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
2	106651011	RES. 6.65K OHM MF 1/4W 1%	1.0000	EA		B				
2	109312011	RES. 93.1K OHM MF 1/4W 1%	1.0000	EA		B				
2	104751011	RES. 4.75K OHM MF 1/4W 1%	1.0000	EA		B				
2	101373011	RES. 137K OHM MF 1/4W 1%	1.0000	EA		B				
2	103241011	RES. 3.24K OHM MF 1/4W 1%	1.0000	EA		B				
2	102053011	RES. 205K OHM MF 1/4W 1%	1.0000	EA		B				
2	102151011	RES. 2.15K OHM MF 1/4W 1%	1.0000	EA		B				
2	103323011	RES. 332K OHM MF 1/4W 1%	1.0000	EA		B				
2	101371011	RES. 1.37K OHM MF 1/4W 1%	1.0000	EA		B				
2	105113011	RES. 511K OHM MF 1/4W 1%	1.0000	EA		B				
2	108660011	RES. 866 OHM MF 1/4W 1%	1.0000	EA		B				
2	101151011	RES. 1.15K OHM MF 1/4W 1%	1.0000	EA		B				
2	108873011	RES. 887K OHM MF 1/4W 1%	1.0000	EA		B				
1	D11191	INFRARAIL BOX ASSEMBLY	1.0000	EA		M P				
2	433332	ENCLOSURE, DIN BOX, MODIF	1.0000	EA		B	3671	04-08-1996		
2	C11187	POWER SUPPLY/ PEAK-PICKER	1.0000	EA		M P	3671	04-08-1996		
3	C20212	SCHEMATIC: POWER SUPPLY/	1.0000	EA		M P	4202	01-14-1999		
3	LDN200	PWR SUPPLY/ PP PCB ASSY	1.0000	EA		M P	4202	01-14-1999		
4	502505	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3769	08-05-1996		
4	LDN200/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	533082	TRAN. MJE800 NPN - DARLIN	1.0000	EA		B	3769	08-05-1996		
4	LDN200/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	LDN200/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	530882	DIODE 1N4002 GP RECTIFIER	1.0000	EA		B	3769	08-05-1996		
4	532952	OP-AMP ULTRA LOW BIAS	2.0000	EA		B	3769	08-05-1996		
4	532322	IC 4053B ANALOG MUX/DEMUX	1.0000	EA		B	4842	07-31-2002		
4	531862	OP-AMP LM346N PROGRAM QUA	1.0000	EA		B	3769	08-05-1996		
4	102493011	RES. 249K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	101820011	RES. 182 OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	104421011	RES. 4.42K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	106654011	RES. 6.65M OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	104993011	RES. 499K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	104021011	RES. 4.02K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	105364011	RES. 5.36M OHM MF 1/4W 1%	2.0000	EA		B	3769	08-05-1996		
4	103480011	RES. 348 OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	100000990	JUMPER DUMMY RESISTOR	5.0000	EA		B	3769	08-05-1996		
4	101000011	RES. 100 OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	101004011	RES. 1.00M OHM MF 1/4W 1%	4.0000	EA		B	3769	08-05-1996		
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3769	08-05-1996		
4	104991011	RES. 4.99K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-1996		
4	101503011	RES. 150K OHM MF 1/4W 1%	1.0000	EA		B				
4	530572	DIODE 1N4446 SWITCHING	2.0000	EA		B	3769	08-05-1996		
4	530532	DIODE FD300 GENERAL PURPO	1.0000	EA		B	3769	08-05-1996		
4	521852	CAP. 0.68 MFD 50V CERAMIC	1.0000	EA		B	3769	08-05-1996		
4	521972	CAP. .047 MFD 50V CER X7	1.0000	EA		B	3769	08-05-1996		
4	521072	CAP. 22MFD 16V TANT 10%	2.0000	EA		B	3769	08-05-1996		
4	551122	CHOKER 9250-122 1.2 UH, .1	2.0000	EA		B	3769	08-05-1996		
4	521902	CAP. NPO 1000pf 200V .2LS	1.0000	EA		B	3769	08-05-1996		
4	521862	CAP. 3.3 MFD 50V CERAMC X	1.0000	EA		B	3769	08-05-1996		
4	521872	CAP. 1.0 MFD 50V CERAMIC	5.0000	EA		B	3769	08-05-1996		
4	522002	CAP. .01 MFD 200V CERAMIC	6.0000	EA		B	3769	08-05-1996		
4	531892	REG. LM317LZ +1.2/37V ADJ	1.0000	EA		B	3769	08-05-1996		
4	431902	BIVAR PERMO PAD 0.250 DIA	1.0000	EA		B	3769	08-05-1996		
4	530862	TRAN. 2N2222A NPN MED POW	1.0000	EA		B	3769	08-05-1996		
4	551152	INDUCTOR 100UH +/-10% IMS	2.0000	EA		B	3769	08-05-1996		
4	531882	DIODE LM385BZ-2.5 2.5V RE	6.0000	EA		B	3769	08-05-1996		
4	575602	CONN. HDR AMP STRAIGHT 5	1.0000	EA		B	3769	08-05-1996		
4	574592	CONN. HDR AMP STRAIGHT 4	1.0000	EA		B	3769	08-05-1996		
4	LDN200/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3769	08-05-1996		
4	LDN200/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11186	PREAMP/ LINEARIZER PCB AS	1.0000	EA		M P	3671	04-08-1996		
3	C20211	SCHEMATIC: PREAMP/ LINEAR	1.0000	EA		M P	4785	03-05-2002		
3	LDN100	PREAMP/ LIN PCB ASSY INFR	1.0000	EA		M P	3659	04-12-1996		
4	502493	PCB DIN RAIL LINEARIZER	1.0000	EA		B	3767	08-07-1996		
4	LDN100/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				

Number :DN#14781 - IRCON INFRARAIL IRT SO-LI: 81333\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
				UM						
4	LDN100/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	532982	OP-AMP AD548CQ LOW PWR	1.0000	EA		B	3767	08-07-1996		
4	531862	OP-AMP LM346N PROGRAM QUA	3.0000	EA		B	3767	08-07-1996		
4	530532	DIODE FD300 GENERAL PURPO	16.0000	EA		B	3767	08-07-1996		
4	514632	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767	08-07-1996		
4	514642	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767	08-07-1996		
4	104533011	RES. 453K OHM MF 1/4W 1%	1.0000	EA		B	3767	08-07-1996		
4	1010R0011	RES. 10.0 OHM MF 1/4W 1%	1.0000	EA		B	3767	08-07-1996		
4	102743011	RES. 274K OHM MF 1/4W 1%	1.0000	EA		B	3767	08-07-1996		
4	102103011	RES. 210K OHM MF 1/4W 1%	1.0000	EA		B	3767	08-07-1996		
4	105364011	RES. 5.36M OHM MF 1/4W 1%	6.0000	EA		B	3767	08-07-1996		
4	101002011	RES. 10.0K OHM MF 1/4W 1%	1.0000	EA		B	3767	08-07-1996		
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3767	08-07-1996		
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3767	08-07-1996		
4	101000011	RES. 100 OHM MF 1/4W 1%	2.0000	EA		B	3767	08-07-1996		
4	100000990	JUMPER DUMMY RESISTOR	1.0000	EA		B	3767	08-07-1996		
4	551122	CHOKE 9250-122 1.2 UH, .1	1.0000	EA		B	3767	08-07-1996		
4	540412	FERRITE BEAD ON LEAD AXIA	3.0000	EA		B	3767	08-07-1996		
4	522002	CAP. .01 MFD 200V CERAMIC	7.0000	EA		B	3767	08-07-1996		
4	521902	CAP. NPO 1000pf 200V .2LS	2.0000	EA		B	3767	08-07-1996		
4	521932	CAP. 100 PF COG 200V	1.0000	EA		B	3767	08-07-1996		
4	521962	CAP. 10Pf NPO 200V .2LS	2.0000	EA		B	3767	08-07-1996		
4	514612	POT. 50K 25T 1/2W 10%	1.0000	EA		B	3767	08-07-1996		
4	514242	POT. 25K OHM 25T 1/2W 10%	1.0000	EA		B	3767	08-07-1996		
4	514622	POT. 100K 25T 1/2W 10%	1.0000	EA		B	3767	08-07-1996		
4	574922	CONN. HDR AMP STRAIGHT 3	1.0000	EA		B	3767	08-07-1996		
4	LDN100/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	574432	SOCKET 40 POS DIP .5HT EL	1.0000	EA		B	3767	08-07-1996		
4	LDN100/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	526002	CAP. SMC 330Pf NPO 50V 5%	1.0000	EA		B	3767	08-07-1996		
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3767	08-07-1996		
4	LDN100/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11193	PCB INTERCONNECT ASSEMBLY	1.0000	EA		M P	3671	04-08-1996		
3	LDN300	PCB INTERCONN ASSY (INFRA	1.0000	EA		M P				
4	502533	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3721	08-01-1996		
4	575922	CONN. FEMALE 11 POSITION	2.0000	EA		B	3721	08-01-1996		
2	477112	LABEL, COVER, DIN BOX	1.0000	EA		B	3671	04-08-1996		
2	C11190	DECAY RATE POT/ CONNECTOR	1.0000	EA		M P	3671	04-08-1996		
3	LDN003	DECAY RATE POT/ CONN. ASS	1.0000	EA		M P	4030	10-08-1997		
4	514592	POT. 50K OHM 1T 1/2W 10%	1.0000	EA		B				
4	LDN003/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	302479000	WIRE 24AWG VIO/WHITE STRA	1.0000	IN		B				
4	302409000	WIRE 24AWG BLK/WHITE STRA	1.0000	IN		B				
4	302459000	WIRE 24AWG GRN/WHITE STRA	1.0000	IN		B				
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B				
4	574692	CONN. HOUSING 5 POSITION-	1.0000	EA		B				
2	C11189	RESPONSE TIME POT/ CONNEC	1.0000	EA		M P	3671	04-08-1996		
3	LDN002	RESP. TIME POT/ CONN. ASS	1.0000	EA		M P				
4	514602	POT. 5M OHM 1T 1/2W 20% P	1.0000	EA		B				
4	302440000	WIRE 24AWG YEL/BLACK STRA	1.0000	IN		B				
4	302460000	WIRE 24AWG BLU/BLACK STRA	1.0000	IN		B				
4	302430000	WIRE 24AWG ORG/BLACK STRA	1.0000	IN		B				
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B				
4	574682	CONN. HOUSING 4 POSITION-	1.0000	EA		B				
2	C11188	EMISSIVITY POT/ CONNECTOR	1.0000	EA		M P	3671	04-08-1996		
3	LDN001	EMISSIVITY POT/ CONN. ASS	1.0000	EA		M P	3767	08-07-1996		
4	513722	POT. 100K 2 DIGIT 1% DIGI	1.0000	EA		B	3767	08-07-1996		
4	30245X000	WIRE 24AWG GREEN STRANDED	1.0000	IN		B	3767	08-07-1996		
4	30249X000	WIRE 24AWG WHITE STRANDED	1.0000	IN		B	3767	08-07-1996		
4	30246X000	WIRE 24AWG BLUE STRANDED	1.0000	IN		B	3767	08-07-1996		
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B	3767	08-07-1996		
4	574672	CONN. HOUSING 3 POSITION-	1.0000	EA		B	3767	08-07-1996		
4	477212	LABEL - CLEAR WINDOW	1.0000	EA		B	3767	08-07-1996		
2	575852	KNOB, 9MM COLLET TYPE,	2.0000	EA		B	3671	04-08-1996		
2	575872	POINTER, 9MM COLLET TYPE	2.0000	EA		B	3671	04-08-1996		
2	575862	CAP. 9MM COLLET TYPE KNOB	2.0000	EA		B	3671	04-08-1996		
2	C11194	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P	3671	04-08-1996		
3	573912	HEADER 40 PIN DIP .6 CENT	1.0000	EA		B				

Number :DN#14781 - IRCON INFRARAIL IRT SO-LI: 81333\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
3	T-C11194-1	SELECT "M1" MODULE VALUES	0.0000	EA		B				
3	T-C11194-3	GT M1 MODULE VALUES	0.0000	EA		B				
2	575912	CONN. KEYING ELEMENT (DN-	2.0000	EA		B	3671	04-08-1996		
2	477132	LABEL, SERIAL NUMBER, DIN	1.0000	EA		B	3671	04-08-1996		
2	477122	LABEL, DIN BOX, INFRARAIL	1.0000	EA		B	3671	04-08-1996		
2	574082	TERM. BLOCK JUMPER QUICK	1.0000	EA		B	3671	04-08-1996		
2	LDNKIT	MTG CLIP KIT FOR INFRARAI	1.0000	EA		M P	3671	04-08-1996		
3	990300010	CLIP MTG FOR DIN BOX	2.0000	EA		B	3694	04-17-1996		
3	LDNKIT/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	477182	LABEL-CE MARK (PRODUCTS)	1.0000	EA		B	3671	04-08-1996		

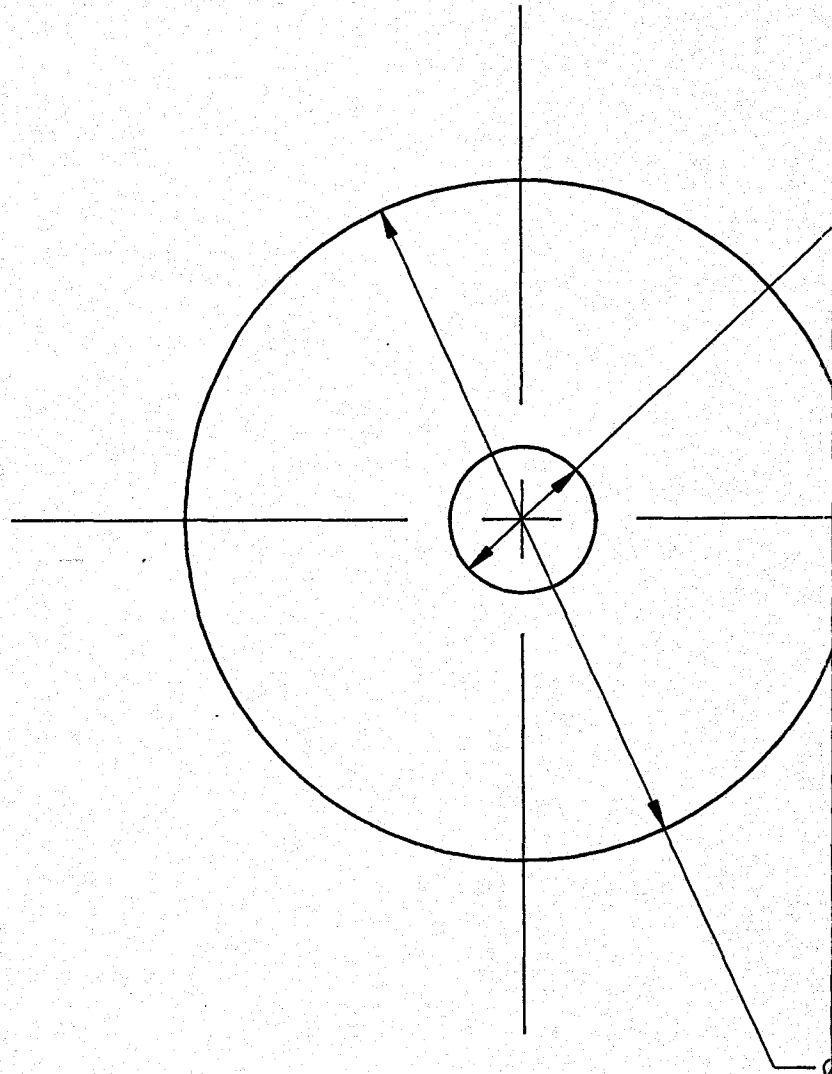
**DRAWING(S) TOO LARGE  
TO SCAN.**

**TO VIEW THE ORIGINAL  
DESIGN,**

**A REQUEST TO VIEW  
PHYSICAL FILE  
IS YOUR NEXT OPTION.**

NOTES:

1. MATERIAL: ALUMINUM (THICKNESS  $.005 \pm .001$ )
2. FINISH: ANODIZE



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

MATERIAL SEE NOTE 1	DRAWN BY <i>WES</i>
	APPROVED
	SCALE

# Acknowledgment



IRCON, INC.  
7300 N. Natchez Ave.  
Niles, IL 60714 USA

Phone 847-967-5151  
Toll Free 800-323-7660  
Fax 847-647-0948

SOLD TO

CUSTOMER NO.

006005

CENTORR/VACUUM INDUS. INC  
55 NORTHEASTERN BLVD.  
ATTN: MARY PETERS  
NASHUA, NH 03062-3126

SHIPPING ADDRESS

TAX CODE  
NO TAX

CENTORR/VACUUM INDUSTRIES  
55 NORTHEASTERN BLVD  
NASHUA, NH 03062-3126

REQUEST DATE (MM-DD-YY)

11-04-02

PROMISE DATE (MM-DD-YY)

11-04-02

OUR ORDER NO.

81333

ORDER DATE (MM-DD-YY)

10-21-02

YOUR ORDER NO.

85144

TERMS

0.00/0/30

QUOTE #

F.O.B.

ORIGIN

CODE

1103 (100.00)

VIA

UPS

SPECIAL SHIPPING INSTRUCTIONS

*DNE99*

LI	PART NO.	DESCRIPTION	QTY	DSCNT %	UNIT PRICE	AMOUNT
1	DN#14781 <i>w.o. #12697</i>	<p>DN_DNE31-30C IRCON INFRARAIL IRT SYSTEM-COMLETE Consists of the following: 1.0000 - INFRARAIL 1.0000 - DN - E SERIES 1.0000 - Std Cbl Lgth 12ft 1.0000 - D/100 RESOLUTION (E) 1.0000 - 1500-3000C DN_DNE31-30C</p> <p><i>Redo Special <del>100</del> D/100 resolution at 15 inch dist, bestnet aperture of 0.2 inches</i></p> <p><i>NEW SPECIAL R734, D/100 @ 15" .2" APERTURE SPECIAL GROUNDING CABLE. A.D. 10/22/02</i></p> <p><i>Eng Chy</i></p>	1	0.00	2210.00	2210.00
<p>THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE</p>						<p>GRAND TOTAL USD2,210.00</p> <p><i>\$400 OK A.D.</i></p>

SHIP TO: IRCON, INC.  
7300 N. NATCHEZ AVE.  
NILES, IL 60714 USA

IF TAX EXEMPT, PLEASE PROVIDE COPY OF EXEMPTION OR DIRECT PAYMENT CERTIFICATE.

R 734

S/O 8/333

## Section 1 — GENERAL INFORMATION

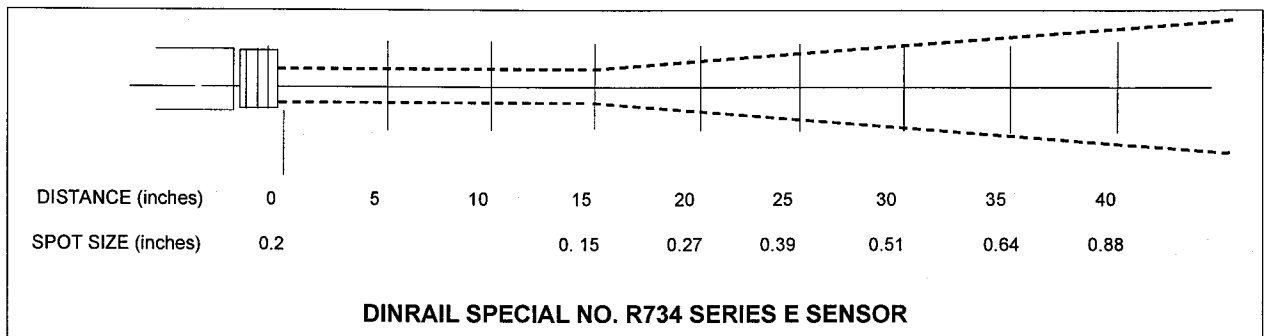
### 1.6 PRODUCT MODIFICATION

Iron InfraRail Model DNE99-30C, is a standard range of 1500 to 3000°C system with a special spot size of 0.15 inch at a distance of 15 inches. This instrument has an optical resolution of D/100. In addition, the instrument is also equipped with a special grounded interconnecting cable.

Special components are used in the sensor, and the instrument has been factory calibrated for linear operation throughout the special temperature range.

Per customer request, the sensor is automatically grounded through the interconnecting cable. As such, no external grounding, as explained in section 2E, page 2E-6 of this manual, is required. However, due to this change, the sensor must never be mounted on any surface that is connected to earth ground. Doing so will cause damage to the electronic module.

The sensor's cone of vision can be no greater than 0.2 inch diameter at the lens. This is accomplished with a special limiting objective aperture that will project a 0.15 inch spot at a distance of 15 inches for a D/100 resolution. See revised Figure 2E.4 below for spot size vs. distance relationship. This diagram replaces the standard one shown on section 2E page 2E-3 of this manual.



This modified instrument may be used with all standard InfraRail options and accessories.

Details of this modification are retained in Iron Engineering Files as InfraRail Special No. R734.

**NOTE:** Iron Inc., is the sole owner in all respects of any product or software modification or design herein specified.