



DATE: 05-22-2001  
REV. : C  
W.O. No: 76851  
CUSTOMER: CENTORR VAC.  
LOCATION: NASHUA  
LOCATION: NH

**INFRARAIL SPECIAL NUMBER R731**

**PURPOSE AND DESCRIPTION:**

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE INFRARAIL SYSTEM WITH A SPECIAL LIMITING APERTURE TO RESTRICT THE CONE OF VISION AT THE LENS TO 0.20 INCHES MAXIMUM. THIS REDUCES THE STANDARD SPOT SIZE TO 0.15 INCHES AT A DISTANCE OF 15 INCHES AS MEASURED FROM THE FRONT OF THE SENSING HEAD.

MODEL: DNE99-99C  
RANGE: 900 – 2400 DEG. C  
OPTICAL RESOLUTION: D/100 (SPECIAL LIMITING APERTURE)  
SPOT SIZE: 0.15" AT 15"  
SPECTRUM: 1.49 TO 1.60 MICRONS

**GENERALITY OF APPLICATION AND RESTRICTIONS:**

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami DONADO  
AMI DONADO

APPROVED BY: Ami DONADO DATE: 5-22-2001

**INFRARAIL SPECIAL NUMBER R731 CONTINUED,**

**PRODUCTION INSTRUCTIONS:**

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

**REFERENCE SENSING HEAD ASSEMBLY NUMBER C11201:**

1. REPLACE ITEM 21, FIELD STOP P.N. 447382 (.437") WITH FIELD STOP P.N. **447472** (0.190" ID).
2. REPLACE ITEM 11, LENS P.N. 610402 (30" FOCAL DISTANCE) WITH LENS P.N. **610422** (15" FOCAL DISTANCE).

**REFERENCE DETECTOR ASSEMBLY NUMBER C11209 ( L13354 ):**

1. REPLACE ITEM 14, FILTER P.N. 640642 WITH FILTER P.N. 640552 ( 1.49 – 1.60 MICRON ).
2. REPLACE ITEM 2, DETECTOR P.N. 590672 WITH DETECTOR P.N. 590942 (1.6u InGaAs).
3. WIRE THE DETECTOR PER DRAWING NUMBER C11207, DETAIL "A".

START WITH A MODEL DNE31-30C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3 ATTACHED.

**CALIBRATION INSTRUCTIONS:**

CALIBRATE PER STANDARD PROCEDURE.

SET Iout Head Full Scale ( 2400 deg. C ) = 31.88 Ua  
REFERENCE Iout Head Zero Scale ( 900deg. C ) = 0.359 uA

USE TABLE ON PAGE 4 FOR FINAL CALIBRATION.

**MANUAL INSTRUCTIONS:**

GENERIC INFRARAIL SERIES MANUAL PAGE.

SEE SPECIAL R100 MANUAL PAGE FOR INSTRUCTIONS AND OPTICAL DIAGRAM.

## INFRARAIL SPECIAL NUMBER R731 CONTINUED,

## BILL OF MATERIAL

MODULE M1 REFERENCE DRAWING No. C11194

SYMBOL	PART NO.	DESCRIPTION		
R1	101003011	RESISTOR	100 Kohm	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7 Kohm	METAL FILM 1/4W 1%
R54	101783011	RESISTOR	178 Kohm	METAL FILM 1/4W 1%
R45	101182011	RESISTOR	11.8 Kohm	METAL FILM 1/4W 1%
R55	104022011	RESISTOR	40.2 Kohm	METAL FILM 1/4W 1%
R46	109312011	RESISTOR	9.31 Kohm	METAL FILM 1/4W 1%
R56	105622011	RESISTOR	56.2 Kohm	METAL FILM 1/4W 1%
R47	106811011	RESISTOR	6.81 Kohm	METAL FILM 1/4W 1%
R57	108252011	RESISTOR	82.5 Kohm	METAL FILM 1/4W 1%
R48	104871011	RESISTOR	4.87 Kohm	METAL FILM 1/4W 1%
R58	101213011	RESISTOR	121 Kohm	METAL FILM 1/4W 1%
R49	103321011	RESISTOR	3.32 Kohm	METAL FILM 1/4W 1%
R59	101873011	RESISTOR	187 Kohm	METAL FILM 1/4W 1%
R50	102211011	RESISTOR	2.21 Kohm	METAL FILM 1/4W 1%
R60	103013011	RESISTOR	301 Kohm	METAL FILM 1/4W 1%
R51	101371011	RESISTOR	1.37 Kohm	METAL FILM 1/4W 1%
R61	104873011	RESISTOR	487 Kohm	METAL FILM 1/4W 1%
R52	108060011	RESISTOR	806 Ohm	METAL FILM 1/4W 1%
R53	101001011	RESISTOR	1.00 Kohm	METAL FILM 1/4W 1%
R62	108063011	RESISTOR	806 Kohm	METAL FILM 1/4W 1%

INFRARAIL SPECIAL NUMBER R731  
TEMPERATURE RANGE: 900 TO 2400 DEGREES C  
SPECTRUM: 1.49 TO 1.60 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
900.0	0.3593	4.000
950.0	0.4969	4.533
1000.0	0.6701	5.067
1050.0	0.8835	5.600
1100.0	1.1418	6.133
1150.0	1.4493	6.667
1200.0	1.8103	7.200
1250.0	2.2287	7.733
1300.0	2.7081	8.267
1350.0	3.2516	8.800
1400.0	3.8622	9.333
1450.0	4.5423	9.867
1500.0	5.2943	10.400
1550.0	6.1198	10.933
1600.0	7.0204	11.467
1650.0	7.9973	12.000
1700.0	9.0513	12.533
1750.0	10.1831	13.067
1800.0	11.3930	13.600
1850.0	12.6812	14.133
1900.0	14.0475	14.667
1950.0	15.4917	15.200
2000.0	17.0134	15.733
2050.0	18.6120	16.267
2100.0	20.2867	16.800
2150.0	22.0367	17.333
2200.0	23.8610	17.867
2250.0	25.7586	18.400
2300.0	27.7284	18.933
2350.0	29.7693	19.467
2400.0	31.8800	20.000

SEE REV BC  
A.D. 5-22-2001

PAGE 1 OF 4

DATE: 05-08-2001  
REV.: B  
W.O. No: 76851  
CUSTOMER: CENTORR VAC.  
LOCATION: NASHUA  
LOCATION: NH

**INFRARAIL SPECIAL NUMBER R731**

**PURPOSE AND DESCRIPTION:**

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE INFRARAIL SYSTEM WITH A SPECIAL LIMITING APERTURE TO RESTRICT THE CONE OF VISION AT THE LENS TO 0.20 INCHES MAXIMUM. THIS REDUCES THE STANDARD SPOT SIZE TO 0.15 INCHES AT A DISTANCE OF 15 INCHES AS MEASURED FROM THE FRONT OF THE SENSING HEAD.

MODEL: DNE99-99C  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100 (SPECIAL LIMITING APERTURE)  
SPOT SIZE: 0.15" AT 15"  
SPECTRUM: 1.49 TO 1.60 MICRONS

**GENERILITY OF APPLICATION AND RESTRICTIONS:**

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami DONADO  
AMI DONADO

APPROVED BY: Ami DONADO DATE: 5-8-2001

**INFRARAIL SPECIAL NUMBER R731 CONTINUED,**

**PRODUCTION INSTRUCTIONS:**

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

**REFERENCE SENSING HEAD ASSEMBLY NUMBER C11201:**

1. REPLACE ITEM 21, FIELD STOP P.N. 447382 (.437") WITH FIELD STOP P.N. 447472 (0.190" ID).
2. REPLACE ITEM 11, LENS P.N. 610402 (30" FOCAL DISTANCE) WITH LENS P.N. 610422 (15" FOCAL DISTANCE).

**REFERENCE DETECTOR ASSEMBLY NUMBER C11209 ( L13354 ):**

1. REPLACE ITEM 14, FILTER P.N. 640642 WITH FILTER P.N. 640552 ( 1.49 – 1.60 MICRON ).
2. REPLACE ITEM 2, DETECTOR P.N. 590672 WITH DETECTOR P.N. 590792 (1.6u InGaAs).
3. WIRE THE DETECTOR PER DRAWING NUMBER C11207, DETAIL "A".

START WITH A MODEL DNE31-30C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3 ATTACHED.

**CALIBRATION INSTRUCTIONS:**

CALIBRATE PER STANDARD PROCEDURE.

SET Iout Head Full Scale ( 2400 deg. C ) = 31.88 Ua  
REFERENCE Iout Head Zero Scale ( 900deg. C ) = 0.359 uA

USE TABLE ON PAGE 4 FOR FINAL CALIBRATION.

**MANUAL INSTRUCTIONS:**

GENERIC INFRARAIL SERIES MANUAL PAGE.

SEE SPECIAL R100 MANUAL PAGE FOR INSTRUCTIONS AND OPTICAL DIAGRAM.

**INFRARAIL SPECIAL NUMBER R731 CONTINUED,****BILL OF MATERIAL**

MODULE M1 REFERENCE DRAWING No. C11194

<b>SYMBOL</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>		
R1	101003011	RESISTOR	100 Kohm	METAL FILM 1/4W 1%
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R48	104871011	RESISTOR	4.87 Kohm	METAL FILM 1/4W 1%
R58	101213011	RESISTOR	121 Kohm	METAL FILM 1/4W 1%
R49	103321011	RESISTOR	3.32 Kohm	METAL FILM 1/4W 1%
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R50	102211011	RESISTOR	2.21 Kohm	METAL FILM 1/4W 1%
R60	103013011	RESISTOR	301 Kohm	METAL FILM 1/4W 1%
R51	101371011	RESISTOR	1.37 Kohm	METAL FILM 1/4W 1%
R61	104873011	RESISTOR	487 Kohm	METAL FILM 1/4W 1%
R52	108060011	RESISTOR	806 Ohm	METAL FILM 1/4W 1%
R53	101001011	RESISTOR	1.00 Kohm	METAL FILM 1/4W 1%
R62	108063011	RESISTOR	806 Kohm	METAL FILM 1/4W 1%

INFRARAIL SPECIAL NUMBER R731  
TEMPERATURE RANGE: 900 TO 2400 DEGREES C  
SPECTRUM: 1.49 TO 1.60 MICRONS

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1850.0	12.6812	14.133
1900.0	14.0475	14.667
1950.0	15.4917	15.200
2000.0	17.0134	15.733
2050.0	18.6120	16.267
2100.0	20.2867	16.800
2150.0	22.0367	17.333
2200.0	23.8610	17.867
2250.0	25.7586	18.400
2300.0	27.7284	18.933
2350.0	29.7693	19.467
2400.0	31.8800	20.000

w.o.# 10784

Number :DN#11609 - IRCON INFRARAIL IRT SO-LI: 79067\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
1	DN0DNE	DN PRICES	1.0000	EA		M P				
1	560052	CABLE PVC 2 COND 1100/200	38.0000	FT		B				
1	C11201-R731	SENSING HEAD FINAL ASSEMB	1.0000	EA		M P				
2	451322	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-R707	SH DETECTOR ASSEMBLY E HD	1.0000	EA		M P	3709	05-17-1996		
3	LR721-D	DET ASSY FOR SPL# R721	1.0000	EA		M P	3770	08-21-1996		
4	LR721-D/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B				
4	640552	FILTER, BANDPASS	1.0000	EA		B				
4	590942	DETECTOR InGaAs 1.6u	1.0000	EA		B				
4	LR721-D/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B				
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B				
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B				
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B				
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B				
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B				
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B				
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B				
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B				
4	3214G00X0	TUBING #14 PVC CLEAR	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	447472	FIELD STOP .190 DIA.	1.0000	EA		B	3709	05-17-1996		
2	610422	LENS PLANO CONVEX 15" 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-M1-R731	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101783011	RES. 178K OHM MF 1/4W 1%	1.0000	EA		B				
2	101182011	RES. 11.8K OHM MF 1/4W 1%	1.0000	EA		B				
2	104022011	RES. 40.2K OHM MF 1/4W 1%	1.0000	EA		B				

LATEST OK A.D. 11/30/01

R731

Number :DN#11609 - IRCON INFRARAIL IRT SO-LI: 79067\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	Start Use	End Use
2	109311011	RES. 9.31K OHM MF 1/4W 1%	1.0000	EA		B				
2	105622011	RES. 56.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	106811011	RES. 6.81K OHM MF 1/4W 1%	1.0000	EA		B				
2	108252011	RES. 82.5K OHM MF 1/4W 1%	1.0000	EA		B				
2	104871011	RES. 4.87K OHM MF 1/4W 1%	1.0000	EA		B				
2	101213011	RES. 121K OHM MF 1/4W 1%	1.0000	EA		B				
2	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B				
2	101873011	RES. 187K OHM MF 1/4W 1%	1.0000	EA		B				
2	102211011	RES. 2.21K OHM MF 1/4W 1%	1.0000	EA		B				
2	103013011	RES. 301K OHM MF 1/4W 1%	1.0000	EA		B				
2	101371011	RES. 1.37K OHM MF 1/4W 1%	1.0000	EA		B				
2	104873011	RES. 487K OHM MF 1/4W 1%	1.0000	EA		B				
2	108060011	RES. 806 OHM MF 1/4W 1%	1.0000	EA		B				
2	101001011	RES. 1.00K OHM MF 1/4W 1%	1.0000	EA		B				
2	108063011	RES. 806K 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 OP80GP ULTRA LOW B	2.0000	EA		B	3769	08-05-1996		
4	532322	IC 4053B ANALOG MUX/DEMUX	1.0000	EA		B	3769	08-05-1996		
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	3659	04-12-1996		
3	LDN100	PREAMP/ LIN PCB ASSY INFR	1.0000	EA		M P	3659	04-12-1996		

Number :DN#11609 - IRCON INFRARAIL IRT SO-LI: 79067\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB	X	ECO No.	ECO Date	Start Use	End Use
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				
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	2.0000	EA		B		3767	08-07-1996		
4	532992	OP-AMP OP490EY LOW VOLT Q	1.0000	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%	4.0000	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		



Number :DN#11609 - IRCON INFRARAIL IRT SO-LI: 79067\*1

.....Level.....	..Part Number..	.....Description.....	.Quantity.	.UM.	Alt.	MB X	.ECO No.	.ECO Date.	.Start Use	.End Use..
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				
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		

See REV. B

5-8-2001 A.D.

PAGE 1 OF 4

DATE: 03-09-2001

REV.: A

W.O. No: 76851

CUSTOMER: CENTOR VAC.

LOCATION: NASHUA

LOCATION: NH

### INFRARAIL SPECIAL NUMBER R731

#### PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE INFRARAIL SYSTEM WITH A SPECIAL LIMITING APERTURE TO RESTRICT THE CONE OF VISION AT THE LENS TO 0.20 INCHES MAXIMUM. THIS REDUCES THE STANDARD SPOT SIZE TO 0.15 INCHES AT A DISTANCE OF 15 INCHES AS MEASURED FROM THE FRONT OF THE SENSING HEAD.

MODEL: DNE99-99C

RANGE: 900 - 2400 DEG. C

OPTICAL RESOLUTION: D/100 (SPECIAL LIMITING APERTURE)

SPOT SIZE: 0.15" AT 15"

#### GENERALITY OF APPLICATION AND RESTRICTIONS:

UNRESTRICTED, SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: Ami DONADO DATE: 3-9-2001  
AMI DONADO

APPROVED BY: Ami DONADO DATE: 3-9-2001

**INFRARAIL SPECIAL NUMBER R731 CONTINUED,**

**PRODUCTION INSTRUCTIONS:**

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

**REFERENCE SENSING HEAD ASSEMBLY NUMBER C11201:**

1. REPLACE ITEM 21, FIELD STOP P.N. 447382 (.437") WITH FIELD STOP P.N. 447472 (0.190" ID).
2. REPLACE ITEM 11, LENS P.N. 610402 (30" FOCAL DISTANCE) WITH LENS P.N. 610422 (15" FOCAL DISTANCE).

**REFERENCE DETECTOR ASSEMBLY NUMBER C11209 ( L13354 ):**

1. REPLACE ITEM 14, FILTER P.N. 640642 WITH FILTER P.N. 640552 ( 1.49 – 1.60 MICRON ).
2. REPLACE ITEM 2, DETECTOR P.N. 590672 WITH DETECTOR P.N. 590792 (1.6u InGaAs).
3. WIRE THE DETECTOR PER DRAWING NUMBER C11207, DETAIL "A".

START WITH A MODEL DNE31-30C ELECTRONIC MODULE AND BUILD THE M1 LINEARIZER MODULE PER BILL OF MATERIAL ON PAGE 3 ATTACHED.

**CALIBRATION INSTRUCTIONS:**

CALIBRATE PER STANDARD PROCEDURE.

SET Iout Head Full Scale ( 2400 deg. C ) = 31.88 Ua  
REFERENCE Iout Head Zero Scale ( 900deg. C ) = 0.359 uA

USE TABLE ON PAGE 4 FOR FINAL CALIBRATION.

**MANUAL INSTRUCTIONS:**

GENERIC INFRARAIL SERIES MANUAL PAGE.

SEE SPECIAL R100 MANUAL PAGE FOR INSTRUCTIONS AND OPTICAL DIAGRAM.

## INFRARAIL SPECIAL NUMBER R731 CONTINUED,

## BILL OF MATERIAL

MODULE M1 REFERENCE DRAWING No. C11194

SYMBOL	PART NO.	DESCRIPTION		
R1	101003011	RESISTOR	100 Kohm	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7 Kohm	METAL FILM 1/4W 1%
R54	101783011	RESISTOR	178 Kohm	METAL FILM 1/4W 1%
R45	101182011	RESISTOR	11.8 Kohm	METAL FILM 1/4W 1%
R55	104022011	RESISTOR	40.2 Kohm	METAL FILM 1/4W 1%
R46	109312011	RESISTOR	9.31 Kohm	METAL FILM 1/4W 1%
R56	105622011	RESISTOR	56.2 Kohm	METAL FILM 1/4W 1%
R47	106811011	RESISTOR	6.81 Kohm	METAL FILM 1/4W 1%
R57	108252011	RESISTOR	82.5 Kohm	METAL FILM 1/4W 1%
R48	104871011	RESISTOR	4.87 Kohm	METAL FILM 1/4W 1%
R58	101213011	RESISTOR	121 Kohm	METAL FILM 1/4W 1%
R49	103321011	RESISTOR	3.32 Kohm	METAL FILM 1/4W 1%
R59	101873011	RESISTOR	187 Kohm	METAL FILM 1/4W 1%
R50	102211011	RESISTOR	2.21 Kohm	METAL FILM 1/4W 1%
R60	103013011	RESISTOR	301 Kohm	METAL FILM 1/4W 1%
R51	101371011	RESISTOR	1.37 Kohm	METAL FILM 1/4W 1%
R61	104873011	RESISTOR	487 Kohm	METAL FILM 1/4W 1%
R52	108060011	RESISTOR	806 Ohm	METAL FILM 1/4W 1%
R53	101001011	RESISTOR	1.00 Kohm	METAL FILM 1/4W 1%
R62	108063011	RESISTOR	806 Kohm	METAL FILM 1/4W 1%

INFRARAIL SPECIAL NUMBER R731  
TEMPERATURE RANGE: 900 TO 2400 DEGREES C  
SPECTRUM: 1.49 TO 1.60 MICRONS

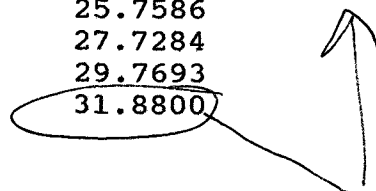
TEMPERATURE DEGREES C	SENSOR OUTPUT UAMPS	INDICATOR OUTPUT mAMPS
900.0	0.3593	4.000
950.0	0.4969	4.533
1000.0	0.6701	5.067
1050.0	0.8835	5.600
1100.0	1.1418	6.133
1150.0	1.4493	6.667
1200.0	1.8103	7.200
1250.0	2.2287	7.733
1300.0	2.7081	8.267
1350.0	3.2516	8.800
1400.0	3.8622	9.333
1450.0	4.5423	9.867
1500.0	5.2943	10.400
1550.0	6.1198	10.933
1600.0	7.0204	11.467
1650.0	7.9973	12.000
1700.0	9.0513	12.533
1750.0	10.1831	13.067
1800.0	11.3930	13.600
1850.0	12.6812	14.133
1900.0	14.0475	14.667
1950.0	15.4917	15.200
2000.0	17.0134	15.733
2050.0	18.6120	16.267
2100.0	20.2867	16.800
2150.0	22.0367	17.333
2200.0	23.8610	17.867
2250.0	25.7586	18.400
2300.0	27.7284	18.933
2350.0	29.7693	19.467
2400.0	31.8800	20.000

FOR Reference

PAGE 4 OF 4  
REV:A

INFRARAIL SPECIAL NUMBER R731  
TEMPERATURE RANGE: 900 TO 2400 DEGREES C  
SPECTRUM: 1.49 TO 1.60 MICRONS

TEMPERATURE DEGREES C	SENSOR OUTPUT IN uAMPS	INDICATOR OUTPUT mAMPS
900.0	0.3593	4.000
950.0	0.4969	4.533
1000.0	0.6701	5.067
1050.0	0.8835	5.600
1100.0	1.1418	6.133
1150.0	1.4493	6.667
1200.0	1.8103	7.200
1250.0	2.2287	7.733
1300.0	2.7081	8.267
1350.0	3.2516	8.800
1400.0	3.8622	9.333
1450.0	4.5423	9.867
1500.0	5.2943	10.400
1550.0	6.1198	10.933
1600.0	7.0204	11.467
1650.0	7.9973	12.000
1700.0	9.0513	12.533
1750.0	10.1831	13.067
1800.0	11.3930	13.600
1850.0	12.6812	14.133
1900.0	14.0475	14.667
1950.0	15.4917	15.200
2000.0	17.0134	15.733
2050.0	18.6120	16.267
2100.0	20.2867	16.800
2150.0	22.0367	17.333
2200.0	23.8610	17.867
2250.0	25.7586	18.400
2300.0	27.7284	18.933
2350.0	29.7693	19.467
2400.0	31.8800	20.000



RUN INFRAIL.BAS  
FOR NORMALIZED  
TO F.S. CURRENT  
ONLY; FOR  
PLANK OUTPUT.

### INFRAIL.BAS PROGRAM

1. USE QUOTES PROGRAM TO GENERATE F.S. SHORTCIRCUIT CURRENT (W- .2" APERTURE)
2. RUN INFRAIL.BAS PROGRAM WITH THIS CURRENT INSERTED IN CODE TO GENERATE PAGE 3 (LINEARIZER RESISTORS)
3. DON'T SAVE CHANGES TO

For Reference  
Only

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-12C AND MAKE THE FOLLOWING CHANGES:  
IF NO CHANGES ARE LISTED THEN, BUILD A STANDARD MODEL DNS10-12C SENSOR.

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

CALIBRATION INSTRUCTIONS:

LINEARIZER ACCURACY IS 0.5% FOR THIS SPECIAL.

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO: 31.900 uA  
REFERENCE ZERO SCALE CURRENT TO: ~~0.613~~ uA.

OK  
??

Dinrail 2, BAS  
Changed I<sub>REF</sub> TO 31.88 uA  
Entered AS DNS10-99C  
900-2400°C D/100  
WITHOUT .2" Apert.

MANUAL INSTRUCTIONS:

GENERIC S SERIES INFRARAIL PYROMETER.

USE  
THIS  
PRINTOUT  
FOR  
RESISTORS

DATE:03-12-2001

REV.:

## INFRARAIL SPECIAL NUMBER R731 CONTINUED,

## BILL OF MATERIAL

MODEL: DNS10-99C

MODULE M1 REFERENCE: DWG. NO. C11194

SYMBOL	PART NO.	DESCRIPTION
R1	101003011	RESISTOR 100 Kohm METAL FILM 1/4W 1%
R44	101872011	RESISTOR 18.7 Kohm METAL FILM 1/4W 1%
R54	101783011	RESISTOR 178 Kohm METAL FILM 1/4W 1%
R45	101182011	RESISTOR 11.8 Kohm METAL FILM 1/4W 1%
R55	104022011	RESISTOR 40.2 Kohm METAL FILM 1/4W 1%
R46	109311011	RESISTOR 9.31 Kohm METAL FILM 1/4W 1%
R56	105622011	RESISTOR 56.2 Kohm METAL FILM 1/4W 1%
R47	106811011	RESISTOR 6.81 Kohm METAL FILM 1/4W 1%
R57	108252011	RESISTOR 82.5 Kohm METAL FILM 1/4W 1%
R48	104871011	RESISTOR 4.87 Kohm METAL FILM 1/4W 1%
R58	101213011	RESISTOR 121 Kohm METAL FILM 1/4W 1%
R49	103321011	RESISTOR 3.32 Kohm METAL FILM 1/4W 1%
R59	101873011	RESISTOR 187 Kohm METAL FILM 1/4W 1%
R50	102211011	RESISTOR 2.21 Kohm METAL FILM 1/4W 1%
R60	103013011	RESISTOR 301 Kohm METAL FILM 1/4W 1%
R51	101371011	RESISTOR 1.37 Kohm METAL FILM 1/4W 1%
R61	104873011	RESISTOR 487 Kohm METAL FILM 1/4W 1%
R52	108060011	RESISTOR 806 ohm METAL FILM 1/4W 1%
R53	101001011	RESISTOR 1.00 Kohm METAL FILM 1/4W 1%
R62	108063011	RESISTOR 806 Kohm METAL FILM 1/4W 1%

↑  
USE THESE  
FOR R731

DATE :03-12-2001  
REVISION:  
W.O.NO :  
CUSTOMER:  
LOCATION:  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'S' SERIES PYROMETER AS FOLLOWS:

MODEL: DNS10-99C  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

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

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

*For Reference  
only*

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-12C AND MAKE THE FOLLOWING CHANGES:  
IF NO CHANGES ARE LISTED THEN, BUILD A STANDARD MODEL DNS10-12C SENSOR.

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

CALIBRATION INSTRUCTIONS:

LINEARIZER ACCURACY IS 0.5% FOR THIS SPECIAL.

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO:168.700 uA.  
REFERENCE ZERO SCALE CURRENT TO: 0.070 uA.

*DINRAIL2.BAS  
CHANGED IREF TO 168.7M  
ENTERED AS DNS10-99C  
900-2400°C D/100  
WITHOUT .2" APERT.*

MANUAL INSTRUCTIONS:

GENERIC S SERIES INFRARAIL PYROMETER.

## INFRARAIL SPECIAL NUMBER R731 CONTINUED,

## BILL OF MATERIAL

MODEL: DNS10-99C

MODULE M1 REFERENCE: DWG. NO. C11194

SYMBOL	PART NO.	DESCRIPTION		
R1	101912011	RESISTOR	19.1 Kohm	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7 Kohm	METAL FILM 1/4W 1%
R54	101783011	RESISTOR	178 Kohm	METAL FILM 1/4W 1%
R45	101182011	RESISTOR	11.8 Kohm	METAL FILM 1/4W 1%
R55	104022011	RESISTOR	40.2 Kohm	METAL FILM 1/4W 1%
R46	109311011	RESISTOR	9.31 Kohm	METAL FILM 1/4W 1%
R56	105622011	RESISTOR	56.2 Kohm	METAL FILM 1/4W 1%
R47	106811011	RESISTOR	6.81 Kohm	METAL FILM 1/4W 1%
R57	108252011	RESISTOR	82.5 Kohm	METAL FILM 1/4W 1%
R48	104871011	RESISTOR	4.87 Kohm	METAL FILM 1/4W 1%
R58	101213011	RESISTOR	121 Kohm	METAL FILM 1/4W 1%
R49	103321011	RESISTOR	3.32 Kohm	METAL FILM 1/4W 1%
R59	101873011	RESISTOR	187 Kohm	METAL FILM 1/4W 1%
R50	102211011	RESISTOR	2.21 Kohm	METAL FILM 1/4W 1%
R60	103013011	RESISTOR	301 Kohm	METAL FILM 1/4W 1%
R51	101371011	RESISTOR	1.37 Kohm	METAL FILM 1/4W 1%
R61	104873011	RESISTOR	487 Kohm	METAL FILM 1/4W 1%
R52	108060011	RESISTOR	806 ohm	METAL FILM 1/4W 1%
R53	101001011	RESISTOR	1.00 Kohm	METAL FILM 1/4W 1%
R62	108063011	RESISTOR	806 Kohm	METAL FILM 1/4W 1%

DATE :03-12-2001  
REVISION:  
W.O.NO :  
CUSTOMER:  
LOCATION:  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'S' SERIES PYROMETER AS FOLLOWS:

MODEL: DNS10-99C  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

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

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

FOR REFERENCE  
only

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-12C AND MAKE THE FOLLOWING CHANGES:  
IF NO CHANGES ARE LISTED THEN, BUILD A STANDARD MODEL DNS10-12C SENSOR.

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

CALIBRATION INSTRUCTIONS:

LINEARIZER ACCURACY IS 0.5% FOR THIS SPECIAL.

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO: 3.819 uA.  
REFERENCE ZERO SCALE CURRENT TO: 0.002 uA.

1.640306

*DINrail 2. BAS  
changed Iref to 31.88µA  
Entered AS DNS99-99C  
900-2400°C  
D/100 w/ .2" Apert.*

MANUAL INSTRUCTIONS:

GENERIC S SERIES INFRARAIL PYROMETER.

DATE :03-12-2001  
REVISION:  
W.O.NO :  
CUSTOMER:  
LOCATION:  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'S' SERIES PYROMETER AS FOLLOWS:

MODEL: DNS99-99C  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

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

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

## INFRARAIL SPECIAL NUMBER R731 CONTINUED,

## BILL OF MATERIAL

MODEL: DNS99-99C

MODULE M1 REFERENCE: DWG. NO. C11194

SYMBOL	PART NO.	DESCRIPTION		
R1	108453011	RESISTOR	845 Kohm	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7 Kohm	METAL FILM 1/4W 1%
R54	101783011	RESISTOR	178 Kohm	METAL FILM 1/4W 1%
R45	101182011	RESISTOR	11.8 Kohm	METAL FILM 1/4W 1%
R55	104022011	RESISTOR	40.2 Kohm	METAL FILM 1/4W 1%
R46	109311011	RESISTOR	9.31 Kohm	METAL FILM 1/4W 1%
R56	105622011	RESISTOR	56.2 Kohm	METAL FILM 1/4W 1%
R47	106811011	RESISTOR	6.81 Kohm	METAL FILM 1/4W 1%
R57	108252011	RESISTOR	82.5 Kohm	METAL FILM 1/4W 1%
R48	104871011	RESISTOR	4.87 Kohm	METAL FILM 1/4W 1%
R58	101213011	RESISTOR	121 Kohm	METAL FILM 1/4W 1%
R49	103321011	RESISTOR	3.32 Kohm	METAL FILM 1/4W 1%
R59	101873011	RESISTOR	187 Kohm	METAL FILM 1/4W 1%
R50	102211011	RESISTOR	2.21 Kohm	METAL FILM 1/4W 1%
R60	103013011	RESISTOR	301 Kohm	METAL FILM 1/4W 1%
R51	101371011	RESISTOR	1.37 Kohm	METAL FILM 1/4W 1%
R61	104873011	RESISTOR	487 Kohm	METAL FILM 1/4W 1%
R52	108060011	RESISTOR	806 ohm	METAL FILM 1/4W 1%
R53	101001011	RESISTOR	1.00 Kohm	METAL FILM 1/4W 1%
R62	108063011	RESISTOR	806 Kohm	METAL FILM 1/4W 1%

FOR  
Reference  
Only

PAGE 2 OF 3

REV.:

DATE:03-12-2001

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-12C AND MAKE THE FOLLOWING CHANGES:  
IF NO CHANGES ARE LISTED THEN, BUILD A STANDARD MODEL DNS10-12C SENSOR.

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

CALIBRATION INSTRUCTIONS:

LINEARIZER ACCURACY IS 0.5% FOR THIS SPECIAL.

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO: 20.199  $\mu$ A.  
REFERENCE ZERO SCALE CURRENT TO: 0.008  $\mu$ A.

1.640306 ??

MANUAL INSTRUCTIONS:

GENERIC S SERIES INFRARAIL PYROMETER.

DINRAIL2.BAS

CHANGED IREF TO 168.7M  
ENTERED AS  
DNS99-99C  
900-2400°C  
D/100 W/ .2" APERTURE

## INFRARAIL SPECIAL NUMBER R731 CONTINUED,

## BILL OF MATERIAL

MODULE M1 REFERENCE: DWG. NO. C11194

SYMBOL	PART NO.	DESCRIPTION			
R1	101583011	RESISTOR	158 Kohm	METAL FILM 1/4W	1%
R44	101872011	RESISTOR	18.7 Kohm	METAL FILM 1/4W	1%
R54	101783011	RESISTOR	178 Kohm	METAL FILM 1/4W	1%
R45	101182011	RESISTOR	11.8 Kohm	METAL FILM 1/4W	1%
R55	104022011	RESISTOR	40.2 Kohm	METAL FILM 1/4W	1%
R46	109311011	RESISTOR	9.31 Kohm	METAL FILM 1/4W	1%
R56	105622011	RESISTOR	56.2 Kohm	METAL FILM 1/4W	1%
R47	106811011	RESISTOR	6.81 Kohm	METAL FILM 1/4W	1%
R57	108252011	RESISTOR	82.5 Kohm	METAL FILM 1/4W	1%
R48	104871011	RESISTOR	4.87 Kohm	METAL FILM 1/4W	1%
R58	101213011	RESISTOR	121 Kohm	METAL FILM 1/4W	1%
R49	103321011	RESISTOR	3.32 Kohm	METAL FILM 1/4W	1%
R59	101873011	RESISTOR	187 Kohm	METAL FILM 1/4W	1%
R50	102211011	RESISTOR	2.21 Kohm	METAL FILM 1/4W	1%
R60	103013011	RESISTOR	301 Kohm	METAL FILM 1/4W	1%
R51	101371011	RESISTOR	1.37 Kohm	METAL FILM 1/4W	1%
R61	104873011	RESISTOR	487 Kohm	METAL FILM 1/4W	1%
R52	108060011	RESISTOR	806 ohm	METAL FILM 1/4W	1%
R53	101001011	RESISTOR	1.00 Kohm	METAL FILM 1/4W	1%
R62	108063011	RESISTOR	806 Kohm	METAL FILM 1/4W	1%

DATE :03-12-2001  
REVISION:  
W.O.NO :  
CUSTOMER:  
LOCATION:  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'S' SERIES PYROMETER AS FOLLOWS:

MODEL: DNS99-99C  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

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

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

FOR  
Reference  
only

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

BILL OF MATERIAL

MODEL: DNE31-99C

— entered this way

MODULE M1 REFERENCE: DWG. NO. C11194

SYMBOL	PART NO.	DESCRIPTION
R1		RESISTOR 0.00 METAL FILM 1/4W 1%
R44	101872011	RESISTOR 18.7 Kohm METAL FILM 1/4W 1%
R54	101783011	RESISTOR 178 Kohm METAL FILM 1/4W 1%
R45	101182011	RESISTOR 11.8 Kohm METAL FILM 1/4W 1%
R55	104022011	RESISTOR 40.2 Kohm METAL FILM 1/4W 1%
R46	109311011	RESISTOR 9.31 Kohm METAL FILM 1/4W 1%
R56	105622011	RESISTOR 56.2 Kohm METAL FILM 1/4W 1%
R47	106811011	RESISTOR 6.81 Kohm METAL FILM 1/4W 1%
R57	108252011	RESISTOR 82.5 Kohm METAL FILM 1/4W 1%
R48	104871011	RESISTOR 4.87 Kohm METAL FILM 1/4W 1%
R58	101213011	RESISTOR 121 Kohm METAL FILM 1/4W 1%
R49	103321011	RESISTOR 3.32 Kohm METAL FILM 1/4W 1%
R59	101873011	RESISTOR 187 Kohm METAL FILM 1/4W 1%
R50	102211011	RESISTOR 2.21 Kohm METAL FILM 1/4W 1%
R60	103013011	RESISTOR 301 Kohm METAL FILM 1/4W 1%
R51	101371011	RESISTOR 1.37 Kohm METAL FILM 1/4W 1%
R61	104873011	RESISTOR 487 Kohm METAL FILM 1/4W 1%
R52	108060011	RESISTOR 806 ohm METAL FILM 1/4W 1%
R53	101001011	RESISTOR 1.00 Kohm METAL FILM 1/4W 1%
R62	108063011	RESISTOR 806 Kohm METAL FILM 1/4W 1%

DINRAIL 2 - BAS

REV.:

DATE:03-12-2001

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

2

DATE :03-12-2001  
REVISION:  
W.O.NO :  
CUSTOMER:  
LOCATION:  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'E' SERIES PYROMETER AS FOLLOWS:

MODEL: DNE31-99C  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100 @ 30 inches

GENERALITY OF APPLICATION AND RESTRICTIONS:

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

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

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

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-12C SENSING HEAD AND MAKE THE FOLLOWING CHANGES:

INSTALL SPECIAL OBJECTIVE APERTURE PER ATTACHED SKETCH.

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

BILL OF MATERIAL

MODULE M1 REFERENCE: DWG.NO.C11194

SYMBOL	PART NO.	DESCRIPTION
R1	101583011	RESISTOR 158 Kohm METAL FILM 1/4W 1%
R44	101872011	RESISTOR 18.7 Kohm METAL FILM 1/4W 1%
R54	101153011	RESISTOR 115 Kohm METAL FILM 1/4W 1%
R45	101742011	RESISTOR 17.4 Kohm METAL FILM 1/4W 1%
R55	106812011	RESISTOR 68.1 Kohm METAL FILM 1/4W 1%
R46	101052011	RESISTOR 10.5 Kohm METAL FILM 1/4W 1%
R56	101243011	RESISTOR 124 Kohm METAL FILM 1/4W 1%
R47	105761011	RESISTOR 5.76 Kohm METAL FILM 1/4W 1%
R57	102373011	RESISTOR 237 Kohm METAL FILM 1/4W 1%
R48	102941011	RESISTOR 2.94 Kohm METAL FILM 1/4W 1%
R58	104873011	RESISTOR 487 Kohm METAL FILM 1/4W 1%
R49	101431011	RESISTOR 1.43 Kohm METAL FILM 1/4W 1%
R59	101074011	RESISTOR 1.07 Mohm METAL FILM 1/4W 1%
R50	106490011	RESISTOR 649 ohm METAL FILM 1/4W 1%
R60	102434011	RESISTOR 2.43 Mohm METAL FILM 1/4W 1%
R51	102670011	RESISTOR 267 ohm METAL FILM 1/4W 1%
R61	106044011	RESISTOR 6.04 Mohm METAL FILM 1/4W 1%
R52	101050011	RESISTOR 105 ohm METAL FILM 1/4W 1%
R53	1054R9011	RESISTOR 54.9 ohm METAL FILM 1/4W 1%
R62	101625011	RESISTOR 16.2 Mohm METAL FILM 1/4W 1%

*DINRAIL BAS*

*USED IREF 168.7μ FOR F.S.*

PAGE 1 OF 4  
DATE :03-12-2001  
REVISION:A  
W.O.NO :  
CUSTOMER:CENTORR VAC.  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'S' SERIES  
PYROMETER AS FOLLOWS:

MODEL: DNS99-99  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: \_\_\_\_\_  
A. DONADO

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

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

BILL OF MATERIAL

MODULE M1 REFERENCE: DWG.NO.C11194

SYMBOL	PART NO.	DESCRIPTION
R1	108453011	RESISTOR 845 Kohm METAL FILM 1/4W 1%
R44	101872011	RESISTOR 18.7 Kohm METAL FILM 1/4W 1%
R54	101153011	RESISTOR 115 Kohm METAL FILM 1/4W 1%
R45	101742011	RESISTOR 17.4 Kohm METAL FILM 1/4W 1%
R55	106812011	RESISTOR 68.1 Kohm METAL FILM 1/4W 1%
R46	101052011	RESISTOR 10.5 Kohm METAL FILM 1/4W 1%
R56	101243011	RESISTOR 124 Kohm METAL FILM 1/4W 1%
R47	105761011	RESISTOR 5.76 Kohm METAL FILM 1/4W 1%
R57	102373011	RESISTOR 237 Kohm METAL FILM 1/4W 1%
R48	102941011	RESISTOR 2.94 Kohm METAL FILM 1/4W 1%
R58	104873011	RESISTOR 487 Kohm METAL FILM 1/4W 1%
R49	101431011	RESISTOR 1.43 Kohm METAL FILM 1/4W 1%
R59	101074011	RESISTOR 1.07 Mohm METAL FILM 1/4W 1%
R50	106490011	RESISTOR 649 ohm METAL FILM 1/4W 1%
R60	102434011	RESISTOR 2.43 Mohm METAL FILM 1/4W 1%
R51	102670011	RESISTOR 267 ohm METAL FILM 1/4W 1%
R61	106044011	RESISTOR 6.04 Mohm METAL FILM 1/4W 1%
R52	101050011	RESISTOR 105 ohm METAL FILM 1/4W 1%
R53	1054R9011	RESISTOR 54.9 ohm METAL FILM 1/4W 1%
R62	101625011	RESISTOR 16.2 Mohm METAL FILM 1/4W 1%

DIRAIL.BAS

USED  
IREF. 31.88 $\mu$  FOR F.S.

INFRARAIL SPECIAL NUMBER R731 CONTINUED,

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNS10-12C SENSING HEAD AND MAKE THE FOLLOWING CHANGES:

INSTALL SPECIAL OBJECTIVE APERTURE PER ATTACHED SKETCH.

INSTALL THE M1 MODULE PER BILL OF MATERIAL PER PAGE 3.

CALIBRATION INSTRUCTIONS:

LINEARIZER ACCURACY IS 0.5% FOR THIS SPECIAL.

CALIBRATE AS PER STANDARD.

ADJUST FULL SCALE CURRENT TO: 3.817  $\mu$ A.

REFERENCE ZERO SCALE CURRENT TO: 0.002  $\mu$ A.

1.640306

*Dini*

MANUAL INSTRUCTIONS:

GENERIC S SERIES INFRARAIL PYROMETER.

PAGE 1 OF 4  
DATE :03-12-2001  
REVISION:A  
W.O.NO :  
CUSTOMER:  
LOCATION:

INFRARAIL SPECIAL NUMBER R731

CUSTOMER REQUIRES A SPECIAL TEMPERATURE RANGE STAND ALONE MODEL 'S' SERIES  
PYROMETER AS FOLLOWS:

MODEL: DNS99-99  
RANGE: 900 - 2400 DEG. C  
OPTICAL RESOLUTION: D/100

GENERALITY OF APPLICATION AND RESTRICTIONS:

RESTRICTIONS: CALIBRATION ACCURACY IS 1.0% FOR THIS SPECIAL.

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

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

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

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

Ø .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

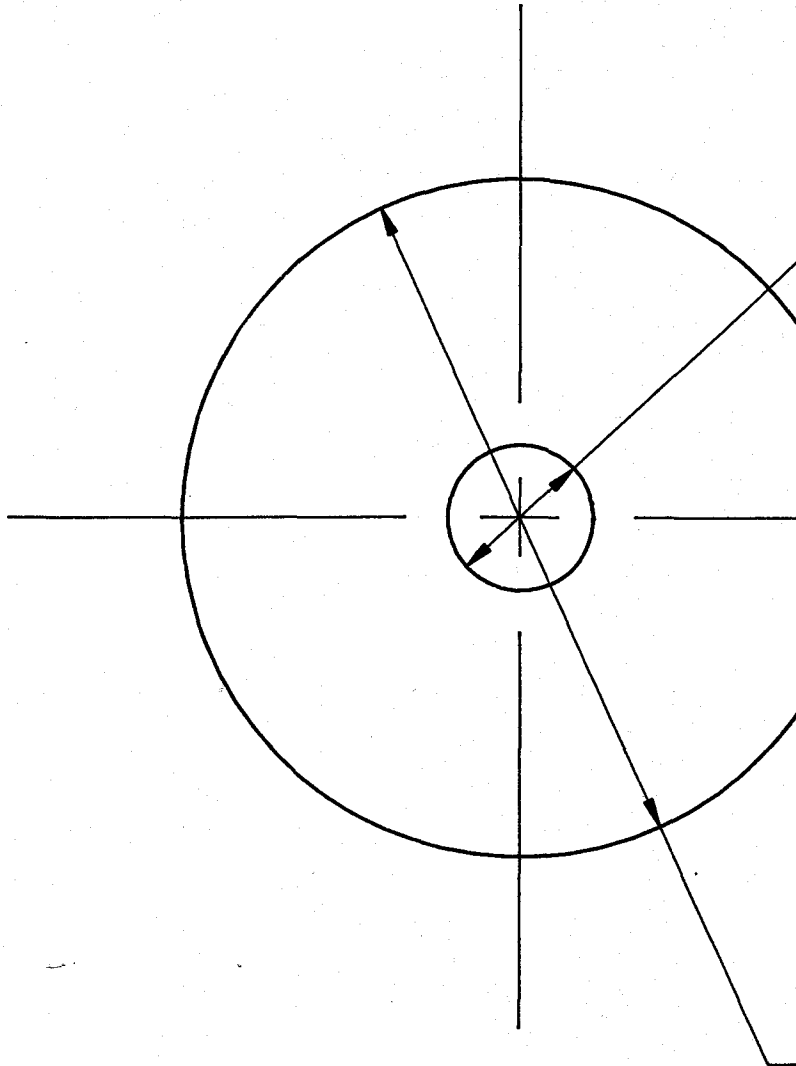
THIS DOCUMENT IS THE PROPRIETARY PROPERTY OF IRCON, INC. AND IS NOT PART OF THE PUBLIC DOMAIN. IT IS ISSUED WITH THE EXPRESS UNDERSTANDING AND AGREEMENT THAT IT IS NOT TO BE REPRODUCED OR COPIED IN WHOLE OR IN PART OR USED FOR FURNISHING INFORMATION TO OTHERS OR USED DIRECTLY OR INDIRECTLY IN ANY WAY THAT IS DETRIMENTAL TO THE INTEREST OF IRCON, INC. IT IS TO BE RETURNED UPON REQUEST BY IRCON, INC. ALL RIGHTS RESERVED

SHEET # OF

DATE		<b>IRCON, INC.</b> 7301 North Caldwell Ave. Niles, IL 60714	
2/19/96			
DATE	TITLE	DRAWING NO.	REV.
4:1	FIELD STOP - .190 DIA	44747-2	A

NOTES:

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



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPEC

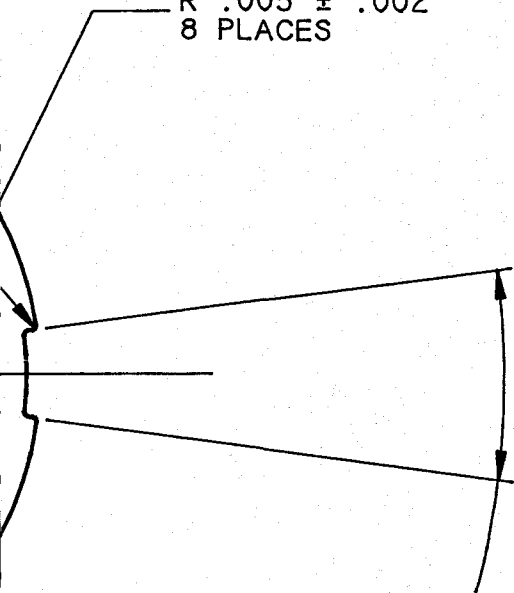
MATERIAL SEE NOTE 1	DRAWN BY <i>V&amp;Y</i>
	APPROVE
	SCALE

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

**TO VIEW THE ORIGINAL  
DESIGN,  
A REQUEST TO VIEW  
PHYSICAL FILE  
IS YOUR NEXT OPTION.**

Ø .437 ± .002  
THRU

R .005 ± .002  
8 PLACES



15.0° ± 1.0°  
2 PLACES  
180° APART

Ø .882/.880

DO NOT SCALE

DRAWING NO.	REV.
44738-2	A

REVISION

LTR.	DESCRIPTION	BY/DATE
A	ECO 3501 RELEASED TO PRODUCTION	12/28/95 VJ TET

FOR REFERENCE ONLY

THIS IS THE STANDARD F. STOP TO BE REPLACED BY .190" F. STOP

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SHEET # OF

DATE
6/23/95
DATE
1/9/96
4: 1

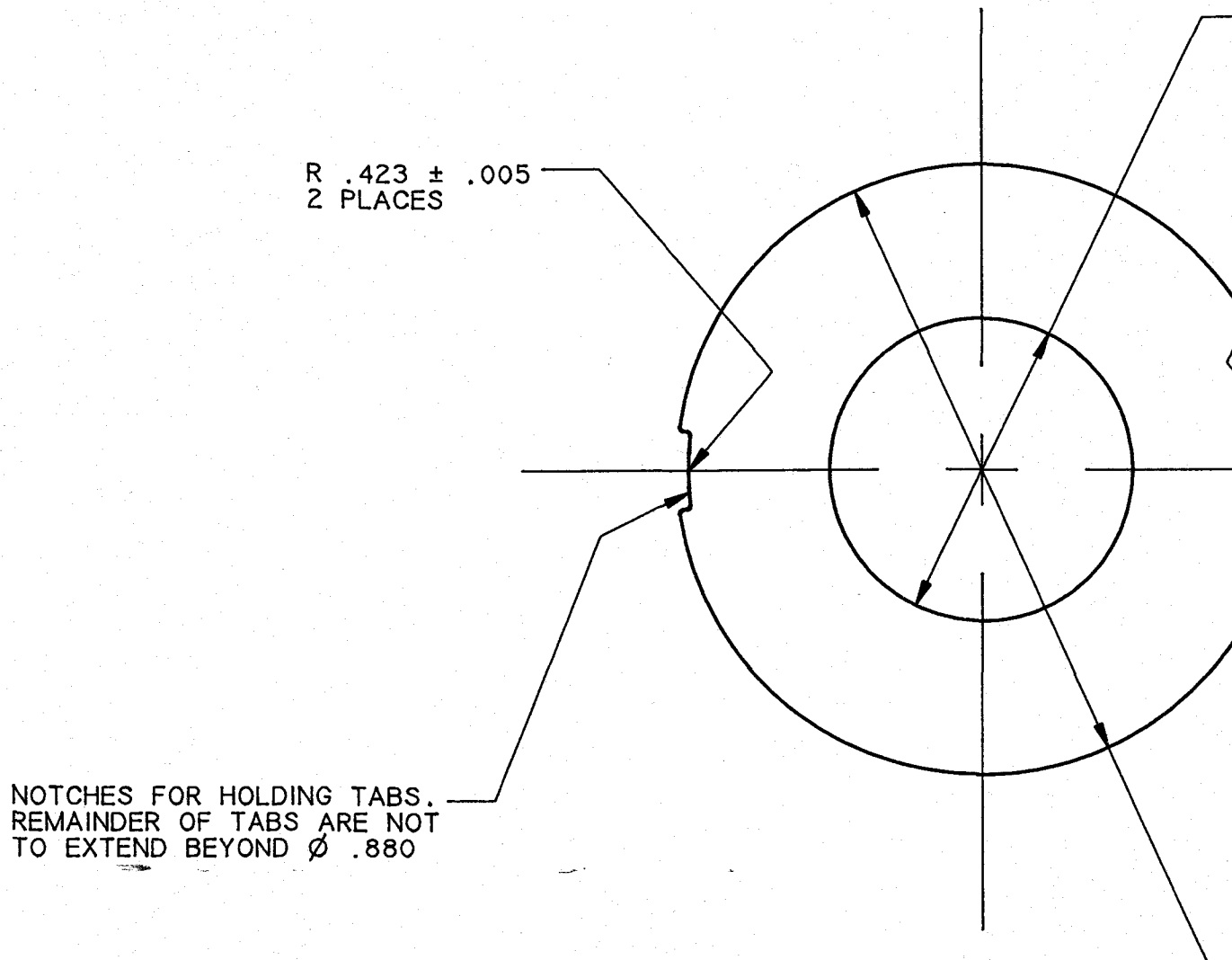
TITLE  
FIELD STOP - .437 DIA

IRCON, INC. 7301 North Caldwell Ave. Niles, IL 60714	
DRAWING NO.	REV.
44738-2	A



NOTES:

1. MATERIAL: BERYLLIUM COPPER SHEET (THICKNESS  $.005'' \pm .001''$ ).
2. FINISH: BLACK OXIDE PER MIL F 495D.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPEC

MATERIAL	DRAWN BY
	JEG
	APPROVE
	Tc
	SCALE



# Engineering Special or System Request

Page \_\_\_ of \_\_\_

From: V LAPPE

Date: 11-11-2000

To: MI

Customer: CONRAD INC

Description of Request: INTEGRAL TYPE 6

Base standard model or series:

CUSTOMER SPECIAL K701 - RANGE 1400-2400°C  
WANTS RANGE 900-2400°C - ONLY 1.6µm  
INGAAS —

Details of specific approval: \_\_\_\_\_

ANAL RANGE IS OK WITH 1.6µm INGAAS  
DETECTOR

INSTALL NEW LENS FOR 15" F.D.  
" .190 FIELD STOP FOR  
.2" CONE @ LENS  
1.6µm DETECTOR — INGAAS  
DO LINEARIZER MODULE M1.

Specific Exceptions: \_\_\_\_\_

Price: \$ 87500  
(adder to standard)

Delivery: STANDARD  
(adder to standard)

Approved by: J DINADO

Date: 12-8-2000

IF SFLAG = 6 then

IREF = 5.71565

IF RES = 20 THEN MUTF = 4

50 \_\_\_\_\_ 1

100 \_\_\_\_\_ .241

150 \_\_\_\_\_ .13223

200 \_\_\_\_\_ .06479338#

900-2600°C

31.88  $\mu$ A @ FS

.359  $\mu$ A @ ZS

} with  
Restricted  
Aperture

without Aperture.

Isc FS - 168.658  $\mu$ A

Isc ZS - 1.901  $\mu$ A

- THIS IS  
CORRECT  
without Apert

SPECTRUM = 1 (.7 - 1.0)

" = 2 (1.49 - 1.60)

WHICH DO I USE FOR  
THE DIRRAIL 2. BAS PROGRAM  
FOR GENERATING KINETIZER  
RESISTORS??

1400-2400°C  
No aperture

$$I_{SC} F.S. = 155.8 \mu A$$

$$I_{SC} ZS = 3.84 \mu A$$

---

w/ ~~0.2"~~ 0.2" F.S stop

$$I_{SC} F.S. = 29.5 \mu A$$

$$I_{SC} ZS = 0.726 \mu A$$

DNE31-22C on 30C

$$\left( \frac{\text{New Aperture Size}}{\text{Standard Size}} \right)^2 \times \text{Std. Current}$$

$$\left( \frac{.2''}{.46''} \right)^2 \times 2 \frac{1}{2} = 1.89$$

Factor of  
2.185 smaller

F.S. 179.8  $\mu$  } 1500 - 3000°C  
2.5 2.4  $\mu$  } 5pc R100  
1  $\mu$

Factor of

(2.2)

FULL output. SPECIAL  
(NO F. STOP) R73 1 D/180 .211  
cone

PER QUOTES PROGRAM:

$$\left\{ \begin{array}{l} \text{Isc FS (2400°C)} = 168.658 \mu \\ \text{Isc ZS (900°C)} = 1.901 \mu \end{array} \right.$$

FOR SPECIAL .211  
cone:

$$\text{Isc FS (D/100 .211 cone)} \\ \text{2400°C} =$$

$$\left( \frac{.190''}{0.437''} \right)^2 \times 168.658 \\ = .189 \times 168.658 \\ = 31.876 \mu$$

# FOR Reference

13 MAR 2001

Indented Configuration Bill of Material  
Procedure: CFG-R-09

CURRENT STATUS

Page 1

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	StartUse	End Use
1	DNODNE	DN PRICES	1.0000	EA		M P				
1	560052	CABLE PVC 2 COND 1100/200	38.0000	FT		B				
1	C11201-R731	SENSING HEAD FINAL ASSEMB	1.0000	EA		M P				
2	451322	FIELD STOP .022DIA	1.0000	EA		B	3709	05-17-96		
2	C11201/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	990300005	RETAINING RING 7/16 OD, .2	1.0000	EA		B	3709	05-17-96		
2	431442	DET. LOCATOR MOD2	1.0000	EA		B	3709	05-17-96		
2	C11209-R707	SH DETECTOR ASSEMBLY E HD	1.0000	EA		M P	3709	05-17-96		
3	LR721-D	DET ASSY FOR SPL# R721	1.0000	EA		M P	3770	08-21-96		
4	LR721-D/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B				
4	640552	FILTER, BANDPASS	1.0000	EA		B				
4	590792	DETECTOR INGAAS 1.6 MICRO	1.0000	EA		B				
4	LR721-D/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B				
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B				
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B				
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B				
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B				
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B				
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B				
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B				
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B				
4	3214600X0	TUBING #14 PVC CLEAR	1.0000	IN		B				
2	447352	SENSOR, E-HEAD	1.0000	EA		B	3709	05-17-96		
2	610432	EYE LENS FOR A HEAD	1.0000	EA		B	3709	05-17-96		
2	990100004	EPOXY HB FULLER FE 7004	1.0000	EA		B	3709	05-17-96		
2	447372	FIELD STOP, .312 DIA	1.0000	EA		B	3709	05-17-96		
2	447472	FIELD STOP .190 DIA.	1.0000	EA		B	3709	05-17-96		
2	610422	LENS PLANO CONVEX 15" F/L	1.0000	EA		B	3709	05-17-96		
2	431752	O RING 13/16 X 1/16 TH 70	1.0000	EA		B	3709	05-17-96		
2	447362	LENS RING E-HEAD SENSOR	1.0000	EA		B	3709	05-17-96		
2	200412440	SCREW #4-40 X 3/8 FIL SLO	4.0000	EA		B	3709	05-17-96		
2	220403200	WASHER #4 LOCK SPLIT RING	4.0000	EA		B	3709	05-17-96		
2	454152	SCREW, ADJUSTMENT,	1.0000	EA		B	3709	05-17-96		
2	433372	O RING 3/32 X 7/32 X 1/16	1.0000	EA		B	3709	05-17-96		
2	220602200	WASHER #6 LOCK EXT TOOTH	1.0000	EA		B	3709	05-17-96		
2	200606040	SCREW #6-32 X 3/16 PH SLO	1.0000	EA		B	3709	05-17-96		
2	C11201/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	443502	RETAINING NUT	1.0000	EA		B	3709	05-17-96		
2	477142	LABEL, SERIAL NUMBER, SEN	1.0000	EA		B	3709	05-17-96		
2	474772	LABEL GROUND WARNING	1.0000	EA		B	3709	05-17-96		
2	T-C11201-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B	3709	05-17-96		
2	C11201/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	999900013	CAP PLUG #SC-1-1/4	1.0000	EA		B	3709	05-17-96		
2	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B	3709	05-17-96		
2	999900014	STEM BUMPER 3/8OD .275T	1.0000	EA		B	3709	05-17-96		
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	04-02-97		
2	D11198/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	D11198/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M				

check  
OK

R731

With changes.

FOR Checking

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use.
2	D11198/03	SEE EXTENDED DESCRIPTION	8.0000	EA		M				
2	575882	CONN. CIRC 10SL-3 BACKSHE	1.0000	EA		B	3913	04-02-97		
2	3210G00X0	TUBING #10 PVC CLEAR	3.0000	IN		B	3913	04-02-97		
2	3212G00X0	TUBING #12 PVC CLEAR	1.0000	IN		B	3913	04-02-97		
2	575902	CONN. CIRC 10SL-3 STR PLU	1.0000	EA		B	3913	04-02-97		
2	3216I1400	TUBING 1/4" SHRINKABLE BL	1.0000	IN		B	3913	04-02-97		
2	990100027	ADHESIVE LOCTITE 272	1.0000	EA		B	3913	04-02-97		
2	C-CABLE	DETERMINE CABLE LENGTH FR	1.0000	EA		M P	3913	04-02-97		
2	477202	LABEL INFRARAIL (2.0" X 0	1.0000	EA		B	3913	04-02-97		
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-M1-R731 ✓	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101783011	RES. 178K OHM MF 1/4W 1%	1.0000	EA		B				
2	101182011	RES. 11.8K OHM MF 1/4W 1%	1.0000	EA		B				
2	104022011	RES. 40.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	109311011	RES. 9.31K OHM MF 1/4W 1%	1.0000	EA		B				
2	105622011	RES. 56.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	106811011	RES. 6.81K OHM MF 1/4W 1%	1.0000	EA		B				
2	108252011	RES. 82.5K OHM MF 1/4W 1%	1.0000	EA		B				
2	104871011	RES. 4.87K OHM MF 1/4W 1%	1.0000	EA		B				
2	101213011	RES. 121K OHM MF 1/4W 1%	1.0000	EA		B				
2	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B				
2	101873011	RES. 187K OHM MF 1/4W 1%	1.0000	EA		B				
2	102211011	RES. 2.21K OHM MF 1/4W 1%	1.0000	EA		B				
2	103013011	RES. 301K OHM MF 1/4W 1%	1.0000	EA		B				
2	101371011	RES. 1.37K OHM MF 1/4W 1%	1.0000	EA		B				
2	104873011	RES. 487K OHM MF 1/4W 1%	1.0000	EA		B				
2	108060011	RES. 806 OHM MF 1/4W 1%	1.0000	EA		B				
2	101001011	RES. 1.00K OHM MF 1/4W 1%	1.0000	EA		B				
2	108063011	RES. 806K 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	04-08-96		
2	C11187	POWER SUPPLY/ PEAK-PICKER	1.0000	EA		M P	3671	04-08-96		
3	C20212	SCHEMATIC: POWER SUPPLY/	1.0000	EA		M P	4202	01-14-99		
3	LDN200	PWR SUPPLY/ PP PCB ASSY	1.0000	EA		M P	4202	01-14-99		
4	502505	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3769	08-05-96		
4	LDN200/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	533082	TRAN. MJE800 NPN - DARLIN	1.0000	EA		B	3769	08-05-96		
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	08-05-96		
4	532952	OP-AMP OP80GP ULTRA LOW B	2.0000	EA		B	3769	08-05-96		
4	532322	IC 4053B ANALOG MUX/DEMUX	1.0000	EA		B	3769	08-05-96		
4	531862	OP-AMP LM346N PROGRAM QUA	1.0000	EA		B	3769	08-05-96		
4	102493011	RES. 249K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	101820011	RES. 182 OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	104421011	RES. 4.42K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	106654011	RES. 6.65M OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		

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Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use.
4	104993011	RES. 499K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	104021011	RES. 4.02K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	105364011	RES. 5.36M OHM MF 1/4W 1%	2.0000	EA		B	3769		08-05-96	
4	103480011	RES. 348 OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	100000990	JUMPER DUMMY RESISTOR	5.0000	EA		B	3769		08-05-96	
4	101000011	RES. 100 OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101004011	RES. 1.00M OHM MF 1/4W 1%	4.0000	EA		B	3769		08-05-96	
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3769		08-05-96	
4	104991011	RES. 4.99K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101503011	RES. 150K OHM MF 1/4W 1%	1.0000	EA		B				
4	530572	DIODE 1N4446 SWITCHING	2.0000	EA		B	3769		08-05-96	
4	530532	DIODE FD300 GENERAL PURPO	1.0000	EA		B	3769		08-05-96	
4	521852	CAP. 0.68 MFD 50V CERAMIC	1.0000	EA		B	3769		08-05-96	
4	521972	CAP. .047 MFD 50V CER X7	1.0000	EA		B	3769		08-05-96	
4	521072	CAP. 22MFD 16V TANT 10%	2.0000	EA		B	3769		08-05-96	
4	551122	CHOKO 9250-122 1.2 UH, .1	2.0000	EA		B	3769		08-05-96	
4	521902	CAP. NPO 1000pf 200V .2LS	1.0000	EA		B	3769		08-05-96	
4	521862	CAP. 3.3 MFD 50V CERAMC X	1.0000	EA		B	3769		08-05-96	
4	521872	CAP. 1.0 MFD 50V CERAMIC	5.0000	EA		B	3769		08-05-96	
4	522002	CAP. .01 MFD 200V CERAMIC	6.0000	EA		B	3769		08-05-96	
4	531892	REG. LM317LZ +1.2/37V ADJ	1.0000	EA		B	3769		08-05-96	
4	431902	BIVAR PERMO PAD 0.250 DIA	1.0000	EA		B	3769		08-05-96	
4	530862	TRAN. 2N2222A NPN MED POW	1.0000	EA		B	3769		08-05-96	
4	551152	INDUCTOR 100UH +/-10% IMS	2.0000	EA		B	3769		08-05-96	
4	531882	DIODE LM385BZ-2.5 2.5V RE	6.0000	EA		B	3769		08-05-96	
4	575602	CONN. HDR AMP STRAIGHT 5	1.0000	EA		B	3769		08-05-96	
4	574592	CONN. HDR AMP STRAIGHT 4	1.0000	EA		B	3769		08-05-96	
4	LDN200/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3769		08-05-96	
4	LDN200/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11186	PREAMP/ LINEARIZER PCB AS	1.0000	EA		M P	3671		04-08-96	
3	C20211	SCHEMATIC: PREAMP/ LINEAR	1.0000	EA		M P	3659		04-12-96	
3	LDN100	PREAMP/ LIN PCB ASSY INFR	1.0000	EA		M P	3659		04-12-96	
4	502493	PCB DIN RAIL LINEARIZER	1.0000	EA		B	3767		08-07-96	
4	LDN100/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	LDN100/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	532982	OP-AMP AD548CQ LOW PWR	1.0000	EA		B	3767		08-07-96	
4	531862	OP-AMP LM346N PROGRAM QUA	2.0000	EA		B	3767		08-07-96	
4	532992	OP-AMP OP490EY LOW VOLT Q	1.0000	EA		B	3767		08-07-96	
4	530532	DIODE FD300 GENERAL PURPO	16.0000	EA		B	3767		08-07-96	
4	514632	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767		08-07-96	
4	514642	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767		08-07-96	
4	104533011	RES. 453K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	1010R0011	RES. 10.0 OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102743011	RES. 274K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102103011	RES. 210K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	105364011	RES. 5.36M OHM MF 1/4W 1%	4.0000	EA		B	3767		08-07-96	
4	101002011	RES. 10.0K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3767		08-07-96	

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Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use
4	101000011	RES. 100 OHM MF 1/4W 1%	2.0000	EA		B	3767	08-07-96		
4	100000990	JUMPER DUMMY RESISTOR	1.0000	EA		B	3767	08-07-96		
4	551122	CHOKER 9250-122 1.2 UH, .1	1.0000	EA		B	3767	08-07-96		
4	540412	FERRITE BEAD ON LEAD AXIA	3.0000	EA		B	3767	08-07-96		
4	522002	CAP. .01 MFD 200V CERAMIC	7.0000	EA		B	3767	08-07-96		
4	521902	CAP. NPO 1000pf 200V .2LS	2.0000	EA		B	3767	08-07-96		
4	521932	CAP. 100 PF COG 200V	1.0000	EA		B	3767	08-07-96		
4	521962	CAP. 10Pf NPO 200V .2LS	2.0000	EA		B	3767	08-07-96		
4	514612	POT. 50K 25T 1/2W 10%	1.0000	EA		B	3767	08-07-96		
4	514242	POT. 25K OHM 25T 1/2W 10%	1.0000	EA		B	3767	08-07-96		
4	514622	POT. 100K 25T 1/2W 10%	1.0000	EA		B	3767	08-07-96		
4	574922	CONN. HDR AMP STRAIGHT 3	1.0000	EA		B	3767	08-07-96		
4	LDN100/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	574432	SOCKET 40 POS DIP .5HT EL	1.0000	EA		B	3767	08-07-96		
4	LDN100/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	526002	CAP. SMC 330Pf NPO 50V 5%	1.0000	EA		B	3767	08-07-96		
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3767	08-07-96		
4	LDN100/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11193	PCB INTERCONNECT ASSEMBLY	1.0000	EA		M P	3671	04-08-96		
3	LDN300	PCB INTERCONN ASSY (INFRA	1.0000	EA		M P				
4	502533	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3721	08-01-96		
4	575922	CONN. FEMALE 11 POSITION	2.0000	EA		B	3721	08-01-96		
2	477112	LABEL, COVER, DIN BOX	1.0000	EA		B	3671	04-08-96		
2	C11190	DECAY RATE POT/ CONNECTOR	1.0000	EA		M P	3671	04-08-96		
3	LDN003	DECAY RATE POT/ CONN. ASS	1.0000	EA		M P	4030	10-08-97		
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	04-08-96		
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	04-08-96		
3	LDN001	EMISSIVITY POT/ CONN. ASS	1.0000	EA		M P	3767	08-07-96		
4	513722	POT. 100K 2 DIGIT 1% DIGI	1.0000	EA		B	3767	08-07-96		
4	30245X000	WIRE 24AWG GREEN STRANDED	1.0000	IN		B	3767	08-07-96		
4	30249X000	WIRE 24AWG WHITE STRANDED	1.0000	IN		B	3767	08-07-96		
4	30246X000	WIRE 24AWG BLUE STRANDED	1.0000	IN		B	3767	08-07-96		
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B	3767	08-07-96		
4	574672	CONN. HOUSING 3 POSITION-	1.0000	EA		B	3767	08-07-96		
4	477212	LABEL - CLEAR WINDOW	1.0000	EA		B	3767	08-07-96		
2	575852	KNOB, 9MM COLLET TYPE,	2.0000	EA		B	3671	04-08-96		
2	575872	POINTER, 9MM COLLET TYPE	2.0000	EA		B	3671	04-08-96		

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

.....Level.....	..Part Number..	.....Description.....	.Quantity.	.UM.	Alt.	MB X	.ECO No.	ECO Date	StartUse	End Use.
2	575862	CAP. 9MM COLLET TYPE KNOB	2.0000	EA		B	3671		04-08-96	
2	C11194	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P	3671		04-08-96	
3	573912	HEADER 40 PIN DIP .6 CENT	1.0000	EA		B				
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		04-08-96	
2	477132	LABEL, SERIAL NUMBER, DIN	1.0000	EA		B	3671		04-08-96	
2	477122	LABEL, DIN BOX, INFRARAIL	1.0000	EA		B	3671		04-08-96	
2	574082	TERM. BLOCK JUMPER QUICK	1.0000	EA		B	3671		04-08-96	
2	LDNKIT	MTG CLIP KIT FOR INFRARAI	1.0000	EA		M P	3671		04-08-96	
3	990300010	CLIP MTG FOR DIN BOX	2.0000	EA		B	3694		04-17-96	
3	LDNKIT/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	477182	LABEL-CE MARK (PRODUCTS)	1.0000	EA		B	3671		04-08-96	

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

REQUEST DATE (MM-DD-YY) 03-30-01 PROMISE DATE (MM-DD-YY) 03-30-01  
OUR ORDER NO. 76851 ORDER DATE (MM-DD-YY) 03-07-01  
YOUR ORDER NO. 79923  
TERMS 0.00/0/30  
F.O.B. ORIGIN  
CODE 1103 (100.00)  
VIA UPS  
SPECIAL SHIPPING INSTRUCTIONS

LI	PART NO.	DESCRIPTION	QTY	DSCNT%	UNIT PRICE	AMOUNT
1	DN#8871 <i>w.o.# 9041</i>	DN_DNE31-13C IRCON INFRARAIL IRT SYSTEM-COMLETE <i>New Special per Work Sheet Temp range 900 To 2400C D/100 resolution at 15 micr 0.2" restricted aperture</i> Consists of the following: 1.0000 - INFRARAIL 1.0000 - DN - E SERIES 1.0000 - Std Cbl Lgth 12ft 38.0000 - Add Cbl Lgth in ft 1.0000 - D/100 RESOLUTION (E) 1.0000 - 800-1300C  DN_DNE31-13C  <i>any chg</i>	1	0.00	2345.00	2345.00
					<i>\$875.-</i>	
					<i>HAB 3/7</i>	
					<b>GRAND TOTAL</b>	<b>USD2,345.00</b>

THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE

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

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

# 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 \_\_\_\_\_

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

REQUEST DATE (MM-DD-YY) 04-20-01 PROMISE DATE (MM-DD-YY) 04-20-01

OUR ORDER NO. 77116 ORDER DATE (MM-DD-YY) 04-02-01

YOUR ORDER NO. 80530

TERMS 0.00/0/30

F.O.B. ORIGIN

CODE 1103 (100.00)

VIA RED COLL

SPECIAL SHIPPING INSTRUCTIONS ACCT NO. 032238

*DNE99-99C*

LI	PART NO.	DESCRIPTION	QTY	DSCNT%	UNIT PRICE	AMOUNT
1	DN#9212 <i>w.o. # 9209</i>	DN_DNE31-13C IRCON INFRARAIL IRT SYSTEM-COMPLETE  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 - 800-1300C  DN_DNE31-13C	1	0.00	2345.00	2345.00
						<b>GRAND TOTAL</b>
						<b>USD2,345.00</b>

*Redo Special No R 731*  
*Temp range 900-2400C*  
*D/100 res at 15 inch*  
*0.2 restricted aperture*  
*Mary Peters*

THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE

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

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

BOM Number DN#8871 IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	Start Use	End Use
1	DN0DNE	DN PRICES	1.0000	EA		M P				
1	560052	CABLE PVC 2 COND 1100/200	38.0000	FT		B				
1	C11201	SENSING HEAD FINAL ASSEMB	1.0000	EA		M P				
2	451322	FIELD STOP .022DIA	1.0000	EA		B	3709	05-17-96		
2	C11201/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	990300005	RETAINING RING 7/16 OD,.2	1.0000	EA		B	3709	05-17-96		
2	431442	DET. LOCATOR MOD2	1.0000	EA		B	3709	05-17-96		
2	C11209	SH DETECTOR ASSEMBLY (E-S	1.0000	EA		M P	3709	05-17-96		
3	L13354	SH DETECTOR ASSEMBLY E-SE	1.0000	EA		M P				
4	431432	DET. HOLDER BR20 SERIES	1.0000	EA		B	3770	08-21-96		
4	640642	FILTER, BANDPASS	1.0000	EA		B	3770	08-21-96		
4	590672	DET. SI VACTEC 21D459	1.0000	EA		B	3770	08-21-96		
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B	3770	08-21-96		
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B	3770	08-21-96		
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B	3770	08-21-96		
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B	3770	08-21-96		
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B	3770	08-21-96		
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B	3770	08-21-96		
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B	3770	08-21-96		
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B	3770	08-21-96		
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B	3770	08-21-96		
4	3214G00X0	TUBING #14 PVC CLEAR	1.0000	IN		B	3770	08-21-96		
4	320811000	BLACK HEAT SHRINK TUBING	1.0000	IN		B				
2	447352	SENSOR, E-HEAD	1.0000	EA		B	3709	05-17-96		
2	610432	EYE LENS FOR A HEAD	1.0000	EA		B	3709	05-17-96		
2	990100004	EPOXY HB FULLER FE 7004	1.0000	EA		B	3709	05-17-96		
2	447372	FIELD STOP, .312 DIA	1.0000	EA		B	3709	05-17-96		
2	447382	FIELD STOP, .437 DIA	1.0000	EA		B	3709	05-17-96		
2	610402	LENS PLANO CONVEX 30" F/L	1.0000	EA		B	3709	05-17-96		
2	431752	O RING 13/16 X 1/16 TH 70	1.0000	EA		B	3709	05-17-96		
2	447362	LENS RING E-HEAD SENSOR	1.0000	EA		B	3709	05-17-96		
2	200412440	SCREW #4-40 X 3/8 FIL SLO	4.0000	EA		B	3709	05-17-96		
2	220403200	WASHER #4 LOCK SPLIT RING	4.0000	EA		B	3709	05-17-96		
2	454152	SCREW, ADJUSTMENT,	1.0000	EA		B	3709	05-17-96		
2	433372	O RING 3/32 X 7/32 X 1/16	1.0000	EA		B	3709	05-17-96		
2	220602200	WASHER #6 LOCK EXT TOOTH	1.0000	EA		B	3709	05-17-96		
2	200606040	SCREW #6-32 X 3/16 PH SLO	1.0000	EA		B	3709	05-17-96		
2	C11201/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	443502	RETAINING NUT	1.0000	EA		B	3709	05-17-96		
2	477142	LABEL, SERIAL NUMBER, SEN	1.0000	EA		B	3709	05-17-96		
2	474772	LABEL GROUND WARNING	1.0000	EA		B	3709	05-17-96		
2	T-C11201-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B	3709	05-17-96		
2	C11201/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	999900013	CAP PLUG #SC-1-1/4	1.0000	EA		B	3709	05-17-96		
2	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B	3709	05-17-96		
2	999900014	STEM BUMPER 3/8OD .275T	1.0000	EA		B	3709	05-17-96		
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	04-02-97		
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				

R731

1M

L13354

R731

LRT21-D

LR731-D  
Detector Assy.  
SPECIAL R731

R707

C11209-R731 Before Changes  
SH. Detector Assy. E HD  
1.49-1.6μ InGaAs

C11201  
C11209

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use.
2	575882	CONN. CIRC 10SL-3 BACKSHE	1.0000	EA		B	3913	04-02-97		
2	3210G00X0	TUBING #10 PVC CLEAR	3.0000	IN		B	3913	04-02-97		
2	3212G00X0	TUBING #12 PVC CLEAR	1.0000	IN		B	3913	04-02-97		
2	575902	CONN. CIRC 10SL-3 STR PLU	1.0000	EA		B	3913	04-02-97		
2	3216I1400	TUBING 1/4" SHRINKABLE BL	1.0000	IN		B	3913	04-02-97		
2	990100027	ADHESIVE LOCTITE 272	1.0000	EA		B	3913	04-02-97		
2	C-CABLE	DETERMINE CABLE LENGTH FR	1.0000	EA		M P	3913	04-02-97		
2	477202	LABEL INFRARAIL (2.0" X 0	1.0000	EA		B	3913	04-02-97		
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-E3113C	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	101474011	RES. 1.47M OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101213011	RES. 121K OHM MF 1/4W 1%	1.0000	EA		B				
2	101332011	RES. 13.3K OHM MF 1/4W 1%	1.0000	EA		B				
2	105492011	RES. 54.9K OHM MF 1/4W 1%	1.0000	EA		B				
2	109531011	RES. 9.53K OHM MF 1/4W 1%	1.0000	EA		B				
2	108452011	RES. 84.5K OHM MF 1/4W 1%	1.0000	EA		B				
2	106341011	RES. 6.34K OHM MF 1/4W 1%	1.0000	EA		B				
2	101303011	RES. 130K OHM MF 1/4W 1%	1.0000	EA		B				
2	104221011	RES. 4.22K OHM MF 1/4W 1%	1.0000	EA		B				
2	102103011	RES. 210K OHM MF 1/4W 1%	1.0000	EA		B				
2	102671011	RES. 2.67K OHM MF 1/4W 1%	1.0000	EA		B				
2	103323011	RES. 332K OHM MF 1/4W 1%	1.0000	EA		B				
2	101651011	RES. 1.65K OHM MF 1/4W 1%	1.0000	EA		B				
2	105363011	RES. 536K OHM MF 1/4W 1%	1.0000	EA		B				
2	101001011	RES. 1.00K OHM MF 1/4W 1%	1.0000	EA		B				
2	109313011	RES. 931K OHM MF 1/4W 1%	1.0000	EA		B				
2	106040011	RES. 604 OHM MF 1/4W 1%	1.0000	EA		B				
2	107680011	RES. 768 OHM MF 1/4W 1%	1.0000	EA		B				
2	101584011	RES. 1.58M 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	04-08-96		
2	C11187	POWER SUPPLY/ PEAK-PICKER	1.0000	EA		M P	3671	04-08-96		
3	C20212	SCHEMATIC: POWER SUPPLY/	1.0000	EA		M P	4202	01-14-99		
3	LDN200	PWR SUPPLY/ PP PCB ASSY	1.0000	EA		M P	4202	01-14-99		
4	502505	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3769	08-05-96		
4	LDN200/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	533082	TRAN. MJE800 NPN - DARLIN	1.0000	EA		B	3769	08-05-96		
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	08-05-96		
4	532952	OP-AMP OP80GP ULTRA LOW B	2.0000	EA		B	3769	08-05-96		
4	532322	IC 4053B ANALOG MUX/DEMUX	1.0000	EA		B	3769	08-05-96		
4	531862	OP-AMP LM346N PROGRAM QUA	1.0000	EA		B	3769	08-05-96		
4	102493011	RES. 249K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	101820011	RES. 182 OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	104421011	RES. 4.42K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	106654011	RES. 6.65M OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	104993011	RES. 499K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use.
4	104021011	RES. 4.02K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	105364011	RES. 5.36M OHM MF 1/4W 1%	2.0000	EA		B	3769		08-05-96	
4	103480011	RES. 348 OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	100000990	JUMPER DUMMY RESISTOR	5.0000	EA		B	3769		08-05-96	
4	101000011	RES. 100 OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101004011	RES. 1.00M OHM MF 1/4W 1%	4.0000	EA		B	3769		08-05-96	
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3769		08-05-96	
4	104991011	RES. 4.99K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101503011	RES. 150K OHM MF 1/4W 1%	1.0000	EA		B				
4	530572	DIODE 1N4446 SWITCHING	2.0000	EA		B	3769		08-05-96	
4	530532	DIODE FD300 GENERAL PURPO	1.0000	EA		B	3769		08-05-96	
4	521852	CAP. 0.68 MFD 50V CERAMIC	1.0000	EA		B	3769		08-05-96	
4	521972	CAP. .047 MFD 50V CER X7	1.0000	EA		B	3769		08-05-96	
4	521072	CAP. 22MFD 16V TANT 10%	2.0000	EA		B	3769		08-05-96	
4	551122	CHOKO 9250-122 1.2 UH, .1	2.0000	EA		B	3769		08-05-96	
4	521902	CAP. NPO 1000pf 200V .2LS	1.0000	EA		B	3769		08-05-96	
4	521862	CAP. 3.3 MFD 50V CERAMC X	1.0000	EA		B	3769		08-05-96	
4	521872	CAP. 1.0 MFD 50V CERAMIC	5.0000	EA		B	3769		08-05-96	
4	522002	CAP. .01 MFD 200V CERAMIC	6.0000	EA		B	3769		08-05-96	
4	531892	REG. LM317LZ +1.2/37V ADJ	1.0000	EA		B	3769		08-05-96	
4	431902	BIVAR PERMO PAD 0.250 DIA	1.0000	EA		B	3769		08-05-96	
4	530862	TRAN. 2N2222A NPN MED POW	1.0000	EA		B	3769		08-05-96	
4	551152	INDUCTOR 100UH +/-10% IMS	2.0000	EA		B	3769		08-05-96	
4	531882	DIODE LM385BZ-2.5 2.5V RE	6.0000	EA		B	3769		08-05-96	
4	575602	CONN. HDR AMP STRAIGHT 5	1.0000	EA		B	3769		08-05-96	
4	574592	CONN. HDR AMP STRAIGHT 4	1.0000	EA		B	3769		08-05-96	
4	LDN200/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3769		08-05-96	
4	LDN200/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11186	PREAMP/ LINEARIZER PCB AS	1.0000	EA		M P	3671		04-08-96	
3	C20211	SCHEMATIC: PREAMP/ LINEAR	1.0000	EA		M P	3659		04-12-96	
3	LDN100	PREAMP/ LIN PCB ASSY INFR	1.0000	EA		M P	3659		04-12-96	
4	502493	PCB DIN RAIL LINEARIZER	1.0000	EA		B	3767		08-07-96	
4	LDN100/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	LDN100/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	532982	OP-AMP AD548CQ LOW PWR	1.0000	EA		B	3767		08-07-96	
4	531862	OP-AMP LM346N PROGRAM QUA	2.0000	EA		B	3767		08-07-96	
4	532992	OP-AMP OP490EY LOW VOLT Q	1.0000	EA		B	3767		08-07-96	
4	530532	DIODE FD300 GENERAL PURPO	16.0000	EA		B	3767		08-07-96	
4	514632	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767		08-07-96	
4	514642	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767		08-07-96	
4	104533011	RES. 453K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	1010R0011	RES. 10.0 OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102743011	RES. 274K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102103011	RES. 210K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	105364011	RES. 5.36M OHM MF 1/4W 1%	4.0000	EA		B	3767		08-07-96	
4	101002011	RES. 10.0K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3767		08-07-96	
4	101000011	RES. 100 OHM MF 1/4W 1%	2.0000	EA		B	3767		08-07-96	

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use
4	100000990	JUMPER DUMMY RESISTOR	1.0000	EA	B		3767		08-07-96	
4	551122	CHOKER 9250-122 1.2 UH, .1	1.0000	EA	B		3767		08-07-96	
4	540412	FERRITE BEAD ON LEAD AXIA	3.0000	EA	B		3767		08-07-96	
4	522002	CAP. .01 MFD 200V CERAMIC	7.0000	EA	B		3767		08-07-96	
4	521902	CAP. NPO 1000pf 200V .2LS	2.0000	EA	B		3767		08-07-96	
4	521932	CAP. 100 PF COG 200V	1.0000	EA	B		3767		08-07-96	
4	521962	CAP. 10Pf NPO 200V .2LS	2.0000	EA	B		3767		08-07-96	
4	514612	POT. 50K 25T 1/2W 10%	1.0000	EA	B		3767		08-07-96	
4	514242	POT. 25K OHM 25T 1/2W 10%	1.0000	EA	B		3767		08-07-96	
4	514622	POT. 100K 25T 1/2W 10%	1.0000	EA	B		3767		08-07-96	
4	574922	CONN. HDR AMP STRAIGHT 3	1.0000	EA	B		3767		08-07-96	
4	LDN100/03	SEE EXTENDED DESCRIPTION	0.0000	EA	M P					
4	574432	SOCKET 40 POS DIP .5HT EL	1.0000	EA	B		3767		08-07-96	
4	LDN100/04	SEE EXTENDED DESCRIPTION	0.0000	EA	M P					
4	526002	CAP. SMC 330Pf NPO 50V 5%	1.0000	EA	B		3767		08-07-96	
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA	B		3767		08-07-96	
4	LDN100/05	SEE EXTENDED DESCRIPTION	0.0000	EA	M P					
2	C11193	PCB INTERCONNECT ASSEMBLY	1.0000	EA	M P		3671		04-08-96	
3	LDN300	PCB INTERCONN ASSY (INFRA	1.0000	EA	M P					
4	502533	PCB DIN RAIL POWER PEAK-P	1.0000	EA	B		3721		08-01-96	
4	575922	CONN. FEMALE 11 POSITION	2.0000	EA	B		3721		08-01-96	
2	477112	LABEL, COVER, DIN BOX	1.0000	EA	B		3671		04-08-96	
2	C11190	DECAY RATE POT/ CONNECTOR	1.0000	EA	M P		3671		04-08-96	
3	LDN003	DECAY RATE POT/ CONN. ASS	1.0000	EA	M P		4030		10-08-97	
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		04-08-96	
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		04-08-96	
3	LDN001	EMISSIVITY POT/ CONN. ASS	1.0000	EA	M P		3767		08-07-96	
4	513722	POT. 100K 2 DIGIT 1% DIGI	1.0000	EA	B		3767		08-07-96	
4	30245X000	WIRE 24AWG GREEN STRANDED	1.0000	IN	B		3767		08-07-96	
4	30249X000	WIRE 24AWG WHITE STRANDED	1.0000	IN	B		3767		08-07-96	
4	30246X000	WIRE 24AWG BLUE STRANDED	1.0000	IN	B		3767		08-07-96	
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA	B		3767		08-07-96	
4	574672	CONN. HOUSING 3 POSITION-	1.0000	EA	B		3767		08-07-96	
4	477212	LABEL - CLEAR WINDOW	1.0000	EA	B		3767		08-07-96	
2	575852	KNOB, 9MM COLLET TYPE,	2.0000	EA	B		3671		04-08-96	
2	575872	POINTER, 9MM COLLET TYPE	2.0000	EA	B		3671		04-08-96	
2	575862	CAP. 9MM COLLET TYPE KNOB	2.0000	EA	B		3671		04-08-96	



BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use
2	C11194	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P	3671	04-08-96		
3	573912	HEADER 40 PIN DIP .6 CENT	1.0000	EA		B				
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	04-08-96		
2	477132	LABEL, SERIAL NUMBER, DIN	1.0000	EA		B	3671	04-08-96		
2	477122	LABEL, DIN BOX, INFRARAIL	1.0000	EA		B	3671	04-08-96		
2	574082	TERM. BLOCK JUMPER QUICK	1.0000	EA		B	3671	04-08-96		
2	LDNKIT	MTG CLIP KIT FOR INFRARAI	1.0000	EA		M P	3671	04-08-96		
3	990300010	CLIP MTG FOR DIN BOX	2.0000	EA		B	3694	04-17-96		
3	LDNKIT/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	477182	LABEL-CE MARK (PRODUCTS)	1.0000	EA		B	3671	04-08-96		

~~R701~~

R701 D/100

1mm spot @ 100mm  
(.039") @ (3.94")

610412 lens

5" focal distance

E HCAP

InGaAs  
1.6µ

Field Stop  
.007"

APERTURE

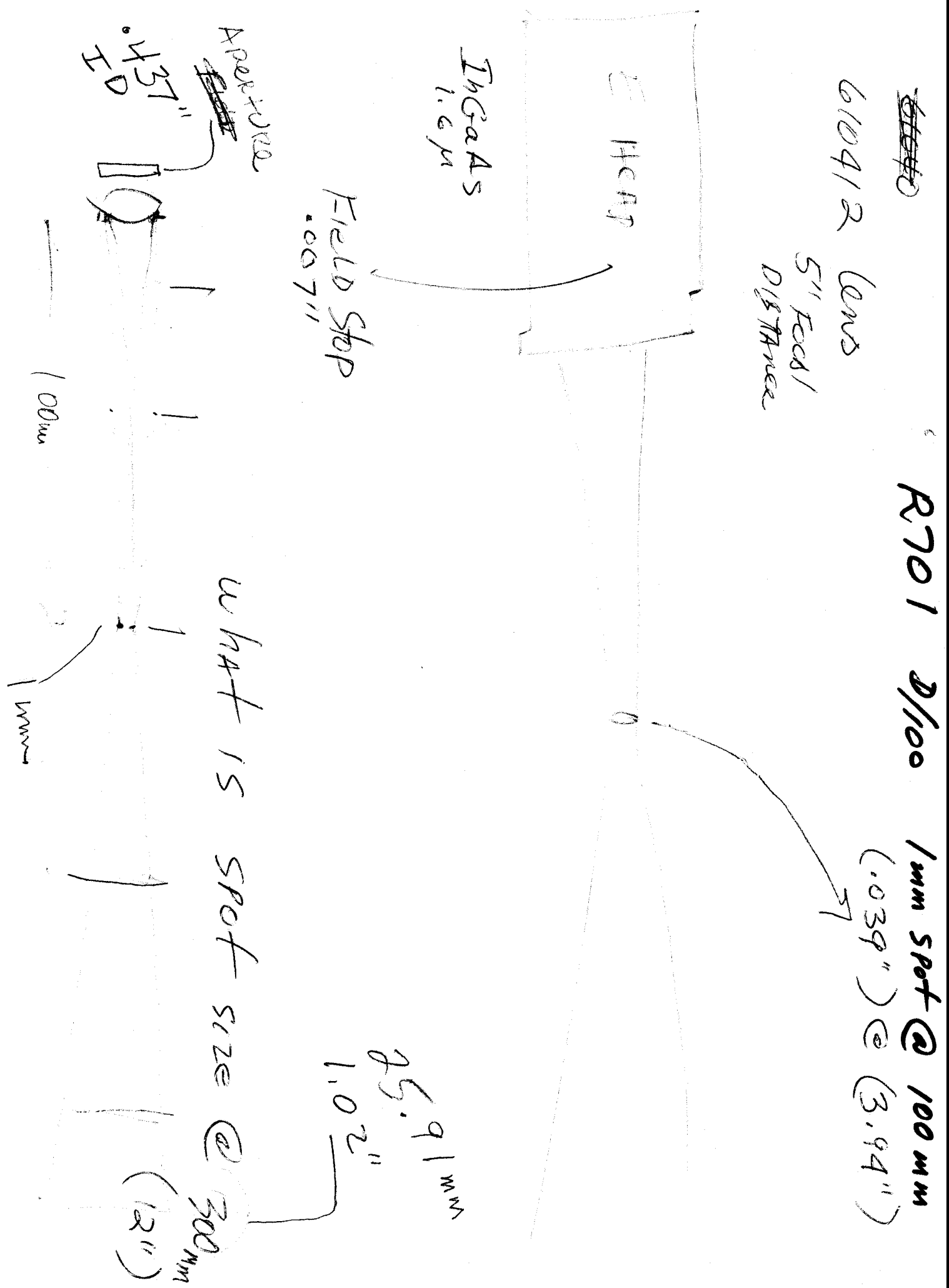
.437"  
ID

100µm

what is spot size @

300mm (12")

25.91mm  
1.02"



W.O.#9041

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use
1	DN0DNE	DN PRICES	1.0000	EA		M P				
1	560052	CABLE PVC 2 COND 1100/200	38.0000	FT		B				
1	C11201-R731	SENSING HEAD FINAL ASSEMB	1.0000	EA		M P				
2	451322	FIELD STOP .022DIA	1.0000	EA		B	3709	05-17-96		
2	C11201/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	990300005	RETAINING RING 7/16 OD, .2	1.0000	EA		B	3709	05-17-96		
2	431442	DET. LOCATOR MOD2	1.0000	EA		B	3709	05-17-96		
2	C11209-R707	SH DETECTOR ASSEMBLY E HD	1.0000	EA		M P	3709	05-17-96		
3	LR721-D	DET ASSY FOR SPL# R721	1.0000	EA		M P	3770	08-21-96		
4	LR721-D/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B				
4	640552	FILTER, BANDPASS	1.0000	EA		B				
4	590792	DETECTOR INGAAS 1.6 MICRO	1.0000	EA		B				
4	LR721-D/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B				
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B				
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B				
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B				
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B				
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B				
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B				
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B				
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B				
4	3214G00X0	TUBING #14 PVC CLEAR	1.0000	IN		B				
2	447352	SENSOR, E-HEAD	1.0000	EA		B	3709	05-17-96		
2	610432	EYE LENS FOR A HEAD	1.0000	EA		B	3709	05-17-96		
2	990100004	EPOXY HB FULLER FE 7004	1.0000	EA		B	3709	05-17-96		
2	447372	FIELD STOP, .312 DIA	1.0000	EA		B	3709	05-17-96		
2	447472	FIELD STOP .190 DIA.	1.0000	EA		B	3709	05-17-96		
2	610422	LENS PLANO CONVEX 15" F/L	1.0000	EA		B	3709	05-17-96		
2	431752	O RING 13/16 X 1/16 TH 70	1.0000	EA		B	3709	05-17-96		
2	447362	LENS RING E-HEAD SENSOR	1.0000	EA		B	3709	05-17-96		
2	200412440	SCREW #4-40 X 3/8 FIL SLO	4.0000	EA		B	3709	05-17-96		
2	220403200	WASHER #4 LOCK SPLIT RING	4.0000	EA		B	3709	05-17-96		
2	454152	SCREW, ADJUSTMENT,	1.0000	EA		B	3709	05-17-96		
2	433372	O RING 3/32 X 7/32 X 1/16	1.0000	EA		B	3709	05-17-96		
2	220602200	WASHER #6 LOCK EXT TOOTH	1.0000	EA		B	3709	05-17-96		
2	200606040	SCREW #6-32 X 3/16 PH SLO	1.0000	EA		B	3709	05-17-96		
2	C11201/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	443502	RETAINING NUT	1.0000	EA		B	3709	05-17-96		
2	477142	LABEL, SERIAL NUMBER, SEN	1.0000	EA		B	3709	05-17-96		
2	474772	LABEL GROUND WARNING	1.0000	EA		B	3709	05-17-96		
2	T-C11201-1	DETERMINE IF CABLE IS REQ	0.0000	EA		B	3709	05-17-96		
2	C11201/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	999900013	CAP PLUG #SC-1-1/4	1.0000	EA		B	3709	05-17-96		
2	990100028	SEALANT RTV SILICONE BLAC	1.0000	EA		B	3709	05-17-96		
2	999900014	STEM BUMPER 3/8OD .275T	1.0000	EA		B	3709	05-17-96		
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	04-02-97		
2	D11198/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M				
2	D11198/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M				

Changed to 590792

R731

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	StartUse	End Use
2	D11198/03	SEE EXTENDED DESCRIPTION	8.0000	EA		M				
2	575882	CONN. CIRC 10SL-3 BACKSHE	1.0000	EA		B	3913	04-02-97		
2	3210G00X0	TUBING #10 PVC CLEAR	3.0000	IN		B	3913	04-02-97		
2	3212G00X0	TUBING #12 PVC CLEAR	1.0000	IN		B	3913	04-02-97		
2	575902	CONN. CIRC 10SL-3 STR PLU	1.0000	EA		B	3913	04-02-97		
2	321611400	TUBING 1/4" SHRINKABLE BL	1.0000	IN		B	3913	04-02-97		
2	990100027	ADHESIVE LOCTITE 272	1.0000	EA		B	3913	04-02-97		
2	C-CABLE	DETERMINE CABLE LENGTH FR	1.0000	EA		M P	3913	04-02-97		
2	477202	LABEL INFRARAIL (2.0" X 0	1.0000	EA		B	3913	04-02-97		
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-M1-R731	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101783011	RES. 178K OHM MF 1/4W 1%	1.0000	EA		B				
2	101182011	RES. 11.8K OHM MF 1/4W 1%	1.0000	EA		B				
2	104022011	RES. 40.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	109311011	RES. 9.31K OHM MF 1/4W 1%	1.0000	EA		B				
2	105622011	RES. 56.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	106811011	RES. 6.81K OHM MF 1/4W 1%	1.0000	EA		B				
2	108252011	RES. 82.5K OHM MF 1/4W 1%	1.0000	EA		B				
2	104871011	RES. 4.87K OHM MF 1/4W 1%	1.0000	EA		B				
2	101213011	RES. 121K OHM MF 1/4W 1%	1.0000	EA		B				
2	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B				
2	101873011	RES. 187K OHM MF 1/4W 1%	1.0000	EA		B				
2	102211011	RES. 2.21K OHM MF 1/4W 1%	1.0000	EA		B				
2	103013011	RES. 301K OHM MF 1/4W 1%	1.0000	EA		B				
2	101371011	RES. 1.37K OHM MF 1/4W 1%	1.0000	EA		B				
2	104873011	RES. 487K OHM MF 1/4W 1%	1.0000	EA		B				
2	108060011	RES. 806 OHM MF 1/4W 1%	1.0000	EA		B				
2	101001011	RES. 1.00K OHM MF 1/4W 1%	1.0000	EA		B				
2	108063011	RES. 806K 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	04-08-96		
2	C11187	POWER SUPPLY/ PEAK-PICKER	1.0000	EA		M P	3671	04-08-96		
3	C20212	SCHEMATIC: POWER SUPPLY/	1.0000	EA		M P	4202	01-14-99		
3	LDN200	PWR SUPPLY/ PP PCB ASSY	1.0000	EA		M P	4202	01-14-99		
4	502505	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3769	08-05-96		
4	LDN200/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	533082	TRAN. MJE800 NPN - DARLIN	1.0000	EA		B	3769	08-05-96		
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	08-05-96		
4	532952	OP-AMP OP80GP ULTRA LOW B	2.0000	EA		B	3769	08-05-96		
4	532322	IC 4053B ANALOG MUX/DEMUX	1.0000	EA		B	3769	08-05-96		
4	531862	OP-AMP LM346N PROGRAM QUA	1.0000	EA		B	3769	08-05-96		
4	102493011	RES. 249K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	101820011	RES. 182 OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	104421011	RES. 4.42K OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		
4	106654011	RES. 6.65M OHM MF 1/4W 1%	1.0000	EA		B	3769	08-05-96		

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use.
4	104993011	RES. 499K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	104021011	RES. 4.02K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	105364011	RES. 5.36M OHM MF 1/4W 1%	2.0000	EA		B	3769		08-05-96	
4	103480011	RES. 348 OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	100000990	JUMPER DUMMY RESISTOR	5.0000	EA		B	3769		08-05-96	
4	101000011	RES. 100 OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101004011	RES. 1.00M OHM MF 1/4W 1%	4.0000	EA		B	3769		08-05-96	
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3769		08-05-96	
4	104991011	RES. 4.99K OHM MF 1/4W 1%	1.0000	EA		B	3769		08-05-96	
4	101503011	RES. 150K OHM MF 1/4W 1%	1.0000	EA		B				
4	530572	DIODE 1N4446 SWITCHING	2.0000	EA		B	3769		08-05-96	
4	530532	DIODE FD300 GENERAL PURPO	1.0000	EA		B	3769		08-05-96	
4	521852	CAP. 0.68 MFD 50V CERAMIC	1.0000	EA		B	3769		08-05-96	
4	521972	CAP. .047 MFD 50V CER X7	1.0000	EA		B	3769		08-05-96	
4	521072	CAP. 22MFD 16V TANT 10%	2.0000	EA		B	3769		08-05-96	
4	551122	CHOKER 9250-122 1.2 UH, .1	2.0000	EA		B	3769		08-05-96	
4	521902	CAP. NPO 1000pf 200V .2LS	1.0000	EA		B	3769		08-05-96	
4	521862	CAP. 3.3 MFD 50V CERAMC X	1.0000	EA		B	3769		08-05-96	
4	521872	CAP. 1.0 MFD 50V CERAMIC	5.0000	EA		B	3769		08-05-96	
4	522002	CAP. .01 MFD 200V CERAMIC	6.0000	EA		B	3769		08-05-96	
4	531892	REG. LM317LZ +1.2/37V ADJ	1.0000	EA		B	3769		08-05-96	
4	431902	BIVAR PERMO PAD 0.250 DIA	1.0000	EA		B	3769		08-05-96	
4	530862	TRAN. 2N2222A NPN MED POW	1.0000	EA		B	3769		08-05-96	
4	551152	INDUCTOR 100UH +/-10% IMS	2.0000	EA		B	3769		08-05-96	
4	531882	DIODE LM385BZ-2.5 2.5V RE	6.0000	EA		B	3769		08-05-96	
4	575602	CONN. HDR AMP STRAIGHT 5	1.0000	EA		B	3769		08-05-96	
4	574592	CONN. HDR AMP STRAIGHT 4	1.0000	EA		B	3769		08-05-96	
4	LDN200/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3769		08-05-96	
4	LDN200/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11186	PREAMP/ LINEARIZER PCB AS	1.0000	EA		M P	3671		04-08-96	
3	C20211	SCHEMATIC: PREAMP/ LINEAR	1.0000	EA		M P	3659		04-12-96	
3	LDN100	PREAMP/ LIN PCB ASSY INFR	1.0000	EA		M P	3659		04-12-96	
4	502493	PCB DIN RAIL LINEARIZER	1.0000	EA		B	3767		08-07-96	
4	LDN100/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	LDN100/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	532982	OP-AMP AD548CQ LOW PWR	1.0000	EA		B	3767		08-07-96	
4	531862	OP-AMP LM346N PROGRAM QUA	2.0000	EA		B	3767		08-07-96	
4	532992	OP-AMP OP490EY LOW VOLT Q	1.0000	EA		B	3767		08-07-96	
4	530532	DIODE FD300 GENERAL PURPO	16.0000	EA		B	3767		08-07-96	
4	514632	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767		08-07-96	
4	514642	RES. 330K NETWORK 10 PIN	2.0000	EA		B	3767		08-07-96	
4	104533011	RES. 453K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	1010R0011	RES. 10.0 OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102743011	RES. 274K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102103011	RES. 210K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	105364011	RES. 5.36M OHM MF 1/4W 1%	4.0000	EA		B	3767		08-07-96	
4	101002011	RES. 10.0K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B	3767		08-07-96	
4	102003011	RES. 200K OHM MF 1/4W 1%	2.0000	EA		B	3767		08-07-96	

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	StartUse	End Use
4	101000011	RES. 100 OHM MF 1/4W 1%	2.0000	EA		B	3767	08-07-96		
4	100000990	JUMPER DUMMY RESISTOR	1.0000	EA		B	3767	08-07-96		
4	551122	CHOKER 9250-122 1.2 UH, .1	1.0000	EA		B	3767	08-07-96		
4	540412	FERRITE BEAD ON LEAD AXIA	3.0000	EA		B	3767	08-07-96		
4	522002	CAP. .01 MFD 200V CERAMIC	7.0000	EA		B	3767	08-07-96		
4	521902	CAP. NPO 1000pf 200V .2LS	2.0000	EA		B	3767	08-07-96		
4	521932	CAP. 100 PF COG 200V	1.0000	EA		B	3767	08-07-96		
4	521962	CAP. 10Pf NPO 200V .2LS	2.0000	EA		B	3767	08-07-96		
4	514612	POT. 50K 25T 1/2W 10%	1.0000	EA		B	3767	08-07-96		
4	514242	POT. 25K OHM 25T 1/2W 10%	1.0000	EA		B	3767	08-07-96		
4	514622	POT. 100K 25T 1/2W 10%	1.0000	EA		B	3767	08-07-96		
4	574922	CONN. HDR AMP STRAIGHT 3	1.0000	EA		B	3767	08-07-96		
4	LDN100/03	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	574432	SOCKET 40 POS DIP .5HT EL	1.0000	EA		B	3767	08-07-96		
4	LDN100/04	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	526002	CAP. SMC 330Pf NPO 50V 5%	1.0000	EA		B	3767	08-07-96		
4	572732	HEADER SNGL 36 PIN .1 CNT	11.0000	EA		B	3767	08-07-96		
4	LDN100/05	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	C11193	PCB INTERCONNECT ASSEMBLY	1.0000	EA		M P	3671	04-08-96		
3	LDN300	PCB INTERCONN ASSY (INFRA	1.0000	EA		M P				
4	502533	PCB DIN RAIL POWER PEAK-P	1.0000	EA		B	3721	08-01-96		
4	575922	CONN. FEMALE 11 POSITION	2.0000	EA		B	3721	08-01-96		
2	477112	LABEL, COVER, DIN BOX	1.0000	EA		B	3671	04-08-96		
2	C11190	DECAY RATE POT/ CONNECTOR	1.0000	EA		M P	3671	04-08-96		
3	LDN003	DECAY RATE POT/ CONN. ASS	1.0000	EA		M P	4030	10-08-97		
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	04-08-96		
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	04-08-96		
3	LDN001	EMISSIVITY POT/ CONN. ASS	1.0000	EA		M P	3767	08-07-96		
4	513722	POT. 100K 2 DIGIT 1% DIGI	1.0000	EA		B	3767	08-07-96		
4	30245X000	WIRE 24AWG GREEN STRANDED	1.0000	IN		B	3767	08-07-96		
4	30249X000	WIRE 24AWG WHITE STRANDED	1.0000	IN		B	3767	08-07-96		
4	30246X000	WIRE 24AWG BLUE STRANDED	1.0000	IN		B	3767	08-07-96		
4	574662	CONN. CONTACT 20-24 AWG C	3.0000	EA		B	3767	08-07-96		
4	574672	CONN. HOUSING 3 POSITION-	1.0000	EA		B	3767	08-07-96		
4	477212	LABEL - CLEAR WINDOW	1.0000	EA		B	3767	08-07-96		
2	575852	KNOB, 9MM COLLET TYPE,	2.0000	EA		B	3671	04-08-96		
2	575872	POINTER, 9MM COLLET TYPE	2.0000	EA		B	3671	04-08-96		

BOM Number : DN#8871 - IRCON INFRARAIL IRT

SO-LI: 76851\*1

Level	Part Number	Description	Quantity	UM	Alt.	MB X	ECO No.	ECO Date	StartUse	End Use
2	575862	CAP. 9MM COLLET TYPE KNOB	2.0000	EA		B	3671	04-08-96		
2	C11194	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P	3671	04-08-96		
3	573912	HEADER 40 PIN DIP .6 CENT	1.0000	EA		B				
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	04-08-96		
2	477132	LABEL, SERIAL NUMBER, DIN	1.0000	EA		B	3671	04-08-96		
2	477122	LABEL, DIN BOX, INFRARAIL	1.0000	EA		B	3671	04-08-96		
2	574082	TERM. BLOCK JUMPER QUICK	1.0000	EA		B	3671	04-08-96		
2	LDNKIT	MTG CLIP KIT FOR INFRARAI	1.0000	EA		M P	3671	04-08-96		
3	990300010	CLIP MTG FOR DIN BOX	2.0000	EA		B	3694	04-17-96		
3	LDNKIT/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
2	477182	LABEL-CE MARK (PRODUCTS)	1.0000	EA		B	3671	04-08-96		

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

REQUEST DATE (MM-DD-YY) 12-20-01 PROMISE DATE (MM-DD-YY) 12-20-01  
OUR ORDER NO. 79067 ORDER DATE (MM-DD-YY) 11-29-01  
YOUR ORDER NO. 82781  
TERMS 0.00/0/30  
F.O.B. ORIGIN  
CODE 1103 (100.00)  
VIA UPS  
SPECIAL SHIPPING INSTRUCTIONS

*ONE 99-99C*

LI	PART NO.	DESCRIPTION	QTY	DSCNT%	UNIT PRICE	AMOUNT
1	DN#11609 <i>w.o.#10784</i>	DN_DNE31-13C IRCON INFRARAIL IRT SYSTEM-COMPLETE  Consists of the following: 1.0000 - INFRARAIL 1.0000 - DN - E SERIES 1.0000 - Std Cbl Lgth 12ft 38.0000 - Add Cbl Lgth in ft 1.0000 - D/100 RESOLUTION (E) 1.0000 - 800-1300C  DN_DNE31-13C	1	0.00	2345.00	2345.00
<i>Redo Special No R731 Temp range 900-2400C D/100 Res at 15 inch 0.2 restricted aperture</i>  <i>PMB 11/30</i>						
GRAND TOTAL						USD2,345.00

THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE

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

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



IRCON, INC T 847-967-5151  
 7300 North Natchez Ave T 800-323-7660  
 Niles, Illinois 60714 USA F 847-647-0948

# Acknowledgment

ORDER DATE: 07 APR 2006

REV: DATE:

Customer No. 006005

**SOLD TO**

**SHIP TO**

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

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

**SPECIAL SHIPPING INSTRUCTIONS**

OUR ORDER No.		YOUR PO No.		F.O.B.			TAX		
90826		107437		ORIGIN			Resale		
SHIP VIA		TERMS		DATE REQUESTED	SALES REPRESENTATIVE				
UPS		0.00/0/30		04-25-06	1103 (100.00)				
LI	PART NO.	PRODUCT/DESCRIPTION			QTY	UNIT PRICE	DISC	NET PRICE	EXTENSION
1	DN#29507 <i>W.O.# 21227</i>	<del>DN#DNE31-13C</del> <i>DNE99-99C</i> IRCON INFRARAIL IRT SYSTEM-COMPLETE Consists of the following: 1.0000 - INFRARAIL 1.0000 - DN - E SERIES 1.0000 - Std Cbl Lgth 12ft 38.0000 - Add Cbl Lgth in ft 1.0000 - D/100 RESOLUTION (E) 1.0000 - 800-1300C			1	2445.00	0.0	2445.00	2445.00
<i>Ref 2 per No R731</i> <i>Temp range ab 900 to 2400C</i> <i>D/100 res at 15 IN FOCUS</i> <i>Ref 4/10</i>									
THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE						<b>GRAND TOTAL</b>		USD2,445.00	

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

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



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

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

ISO 9001/QS 9000 TE  
Quality Systems Certified

**Modified Standard Product  
Data Form**

*A modified standard product is a product that is based on a standard product found in the most recent price list. The modifications maybe items such as; temperature ranges, output types, resolution, response time and optical issues. A modified standard product form is to be completed and submitted to Steve Schumm and Gene Kalley for review and approval based on the modification (which we have done before). If the modification has not been done before, the approval will require the entire senior management team's approval BEFORE QUOTING. A modified standard product if approved; this product will become a price listed standard product. We can then pay commission as outlined in our most recent contract.*

- Standard Product is a Model Number: PNE 31-13C
- Standard Product List Price: \$ 1945
- The product change requested would be: Req'd Spec R731  
900-2400C, P/100@15" *Sales will attach specifics to this form.*
- The market is willing to pay \$2445 for this product (total including standard price).
- What is engineering's expected time investment and cost: 1 HOUR Man Days  
\$ 100<sup>00</sup>
- What is production's expected purchasing and production time requirement:      Days
- This new product has potential in the following application and estimated potential per year would be      per year:

➤ This product will be  not be  quoted and produced as previously outlined.

➤ Agreed on this date of      By production/purchasing     

By engineering A. DONADO 7/11/06  
W.O.# 21227

➤ Sales can now quote this project for \$      per unit.

     lead time.

     Add to standard product list in literature (Maxine)

     Add to price list (Vern)

cc/ Greg P, Paul V, Regional Sales Staff Globally

W.O.# 21227

Number :DN#29507 - IRCON INFRARAIL IRT SO-LI: 90826\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
	DNODNE	DN PRICES	1.0000	EA		M P				
1	560052	CABLE PVC 2 COND 1100/200	38.0000	FT		B				
1	C11201-R731	SENSING HEAD FINAL ASSEMB	1.0000	EA		M P				
2	451322	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-R707	SH DETECTOR ASSEMBLY E HD	1.0000	EA		M P	3709	05-17-1996		
3	LR721-D	DET ASSY FOR SPL# R721	1.0000	EA		M P	3770	08-21-1996		
4	LR721-D/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B				
4	640552	FILTER, BANDPASS	1.0000	EA		B				
4	590942	DETECTOR InGaAs 1.6u	1.0000	EA		B				
4	LR721-D/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B				
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B				
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B				
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B				
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B				
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B				
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B				
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B				
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B				
4	3214G00X0	TUBING #14 PVC CLEAR	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	447472	FIELD STOP .190 DIA.	1.0000	EA		B	3709	05-17-1996		
2	610422	LENS PLANO CONVEX 15" 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	321611400	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-M1-R731	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101783011	RES. 178K OHM MF 1/4W 1%	1.0000	EA		B				
2	101182011	RES. 11.8K OHM MF 1/4W 1%	1.0000	EA		B				
2	104022011	RES. 40.2K OHM MF 1/4W 1%	1.0000	EA		B				

R731

Number :DN#29507 - IRCON INFRARAIL IRT SO-LI: 90826\*1

Level	Part Number	Description	Quantity	UM	Alt	MB	X	ECO No.	ECO Date	Start Use	End Use
2	109311011	RES. 9.31K OHM MF 1/4W 1%	1.0000	EA		B					
2	105622011	RES. 56.2K OHM MF 1/4W 1%	1.0000	EA		B					
2	106811011	RES. 6.81K OHM MF 1/4W 1%	1.0000	EA		B					
2	108252011	RES. 82.5K OHM MF 1/4W 1%	1.0000	EA		B					
2	104871011	RES. 4.87K OHM MF 1/4W 1%	1.0000	EA		B					
2	101213011	RES. 121K OHM MF 1/4W 1%	1.0000	EA		B					
2	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B					
2	101873011	RES. 187K OHM MF 1/4W 1%	1.0000	EA		B					
2	102211011	RES. 2.21K OHM MF 1/4W 1%	1.0000	EA		B					
2	103013011	RES. 301K OHM MF 1/4W 1%	1.0000	EA		B					
2	101371011	RES. 1.37K OHM MF 1/4W 1%	1.0000	EA		B					
2	104873011	RES. 487K OHM MF 1/4W 1%	1.0000	EA		B					
2	108060011	RES. 806 OHM MF 1/4W 1%	1.0000	EA		B					
2	101001011	RES. 1.00K OHM MF 1/4W 1%	1.0000	EA		B					
2	108063011	RES. 806K 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		4906	05-19-2003		
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		

Number :DN#29507 - IRCON INFRARAIL IRT SO-LI: 90826\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
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				
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	CHOKO 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	4909	06-11-2003		
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		

Number :DN#29507 - IRCON INFRARAIL IRT SO-LI: 90826\*1

Level	Part Number	Description	Quantity	UM	Alt	MB	X	ECO No.	ECO Date	Start Use	End Use
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					
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		



IRCON, INC T 847-967-5151  
 7300 North Natchez Ave T 800-323-7660  
 Niles, Illinois 60714 USA F 847-647-0948

# Acknowledgment

ORDER DATE: 19 MAY 2006

REV: DATE:

Customer No. 006005

**SOLD TO**

**SHIP TO**

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

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

SPECIAL SHIPPING INSTRUCTIONS

OUR ORDER No.		YOUR PO No.		F.O.B.			TAX
91192		108302		ORIGIN			Resale
SHIP VIA		TERMS		DATE REQUESTED	SALES REPRESENTATIVE		
UPS NEXT DAY		0.00/0/30		05-25-06	1103 (100.00)		
LI	PART NO.	PRODUCT/DESCRIPTION	QTY	UNIT PRICE	DISC	NET PRICE	EXTENSION
1	DN#30046 <i>W.O.# 21554</i>	<del>DN_DNE31-13C</del> <i>DNE99-99C</i> IRCON INFRARAIL IRT SYSTEM-COMPLETE Consists of the following: 1.0000 - INFRARAIL 1.0000 - DN - E SERIES 1.0000 - Std Cbl Lgth 12ft 38.0000 - Add Cbl Lgth in ft 1.0000 - D/100 RESOLUTION (E) 1.0000 - 800-1300C	1	1998.20 <i>2445.</i>	0.0	1998.20	1998.20
				<i>Redo Spec No R731</i> <i>Temp range 900 to 2400C</i> <i>D/100 res at 15 wct</i> <i>dis.</i> <i>RBP 5/19</i>			
THIS ORDER IS ACCEPTED SUBJECT TO TERMS AND CONDITIONS SHOWN ON THIS AND THE REVERSE SIDE					<b>GRAND TOTAL</b>		USD1,998.20

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

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



IRCON, INC.  
7300 North Natchez Avenue  
Niles, Illinois 60714 USA

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

ISO 9001/OS 9000 TE  
Quality Systems Certified

**Modified Standard Product**  
**Data Form**

A modified standard product is a product that is based on a standard product found in the most recent price list. The modifications maybe items such as; temperature ranges, output types, resolution, response time and optical issues. A modified standard product form is to be completed and submitted to Steve Schumm and Gene Kalley for review and approval based on the modification (which we have done before). If the modification has not been done before, the approval will require the entire senior management team's approval BEFORE QUOTING. A modified standard product if approved; this product will become a price listed standard product. We can then pay commission as outlined in our most recent contract.

- Standard Product is a Model Number: DUNE71-13C
  - Standard Product List Price: \$ 1948
  - The product change requested would be: Reels R731
  - 900-2400C, P/100 @ 15" Sales will attach specifics to this form.
  - The market is willing to pay: 2446 for this product (total including standard price).
  - What is engineering's expected time investment and cost: 1 HOUR Man Days  
\$ 100<sup>00</sup>
  - What is production's expected purchasing and production time requirement:      Days
  - This new product has potential in the following application and estimated potential per year would be      per year.
- 
- This product will be  not be      quoted and produced as previously outlined.
  - Agreed on this date of      By production/purchasing       
By engineering A. DONADO 5/19/06  
W.O.# 21554
  - Sales can now quote this project for \$      per unit.  
     lead time.

     Add to standard product list in literature (Maxine)  
     Add to price list (Vern)  
cc/ Greg P, Paul V, Regional Sales Staff Globally

W.O.#21554

Number :DN#30046 - IRCON INFRARAIL IRT SO-LI: 91192\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
	DN0DNE	DN PRICES	1.0000	EA		M P				
1	560052	CABLE PVC 2 COND 1100/200	38.0000	FT		B				
1	C11201-R731	SENSING HEAD FINAL ASSEMB	1.0000	EA		M P				
2	451322	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-R707	SH DETECTOR ASSEMBLY E HD	1.0000	EA		M P	3709	05-17-1996		
3	LR721-D	DET ASSY FOR SPL# R721	1.0000	EA		M P	3770	08-21-1996		
4	LR721-D/01	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	431432	DET. HOLDER MR20 SERIES	1.0000	EA		B				
4	640552	FILTER, BANDPASS	1.0000	EA		B				
4	590942	DETECTOR InGaAs 1.6u	1.0000	EA		B				
4	LR721-D/02	SEE EXTENDED DESCRIPTION	0.0000	EA		M P				
4	560372	CABLE PVC 1 COND SHIELD 2	3.0000	IN		B				
4	312430100	WIRE 24AWG BARE SOLID	1.0000	IN		B				
4	430292	CONN. GASKET 2000 SERIES	1.0000	EA		B				
4	575892	CONN. CIRC 3 RECPT 10SL-3	1.0000	EA		B				
4	490042	SPRING DETECTOR RETAINER	1.0000	EA		B				
4	630092	FOLDING MIRROR SH MROA SE	1.0000	EA		B				
4	490032	SPRING FOLDING MIRROR MOD	1.0000	EA		B				
4	200204130	SCREW #2-56 X 1/8 PH SLOT	1.0000	EA		B				
4	990100016	EPOXY HARDMAN #4001 3-5 M	1.0000	EA		B				
4	3214G00X0	TUBING #14 PVC CLEAR	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	447472	FIELD STOP .190 DIA.	1.0000	EA		B	3709	05-17-1996		
2	610422	LENS PLANO CONVEX 15" 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	321611400	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-M1-R731	MODULE ASSEMBLY - M1 - (I	1.0000	EA		M P				
2	101003011	RES. 100K OHM MF 1/4W 1%	1.0000	EA		B				
2	101872011	RES. 18.7K OHM MF 1/4W 1%	1.0000	EA		B				
2	101783011	RES. 178K OHM MF 1/4W 1%	1.0000	EA		B				
2	101182011	RES. 11.8K OHM MF 1/4W 1%	1.0000	EA		B				
2	104022011	RES. 40.2K OHM MF 1/4W 1%	1.0000	EA		B				

R731

Number :DN#30046 - IRCON INFRARAIL IRT SO-LI: 91192\*1

Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
2	109311011	RES. 9.31K OHM MF 1/4W 1%	1.0000	EA		B				
2	105622011	RES. 56.2K OHM MF 1/4W 1%	1.0000	EA		B				
2	106811011	RES. 6.81K OHM MF 1/4W 1%	1.0000	EA		B				
2	108252011	RES. 82.5K OHM MF 1/4W 1%	1.0000	EA		B				
2	104871011	RES. 4.87K OHM MF 1/4W 1%	1.0000	EA		B				
2	101213011	RES. 121K OHM MF 1/4W 1%	1.0000	EA		B				
2	103321011	RES. 3.32K OHM MF 1/4W 1%	1.0000	EA		B				
2	101873011	RES. 187K OHM MF 1/4W 1%	1.0000	EA		B				
2	102211011	RES. 2.21K OHM MF 1/4W 1%	1.0000	EA		B				
2	103013011	RES. 301K OHM MF 1/4W 1%	1.0000	EA		B				
2	101371011	RES. 1.37K OHM MF 1/4W 1%	1.0000	EA		B				
2	104873011	RES. 487K OHM MF 1/4W 1%	1.0000	EA		B				
2	108060011	RES. 806 OHM MF 1/4W 1%	1.0000	EA		B				
2	101001011	RES. 1.00K OHM MF 1/4W 1%	1.0000	EA		B				
2	108063011	RES. 806K 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	4906	05-19-2003		
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		

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Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
				UM						
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				
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	CHOKER 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	4909	06-11-2003		
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		

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Level	Part Number	Description	Quantity	UM	Alt	MB X	ECO No.	ECO Date	Start Use	End Use
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				
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.**

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DESIGN,**

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IS YOUR NEXT OPTION.**