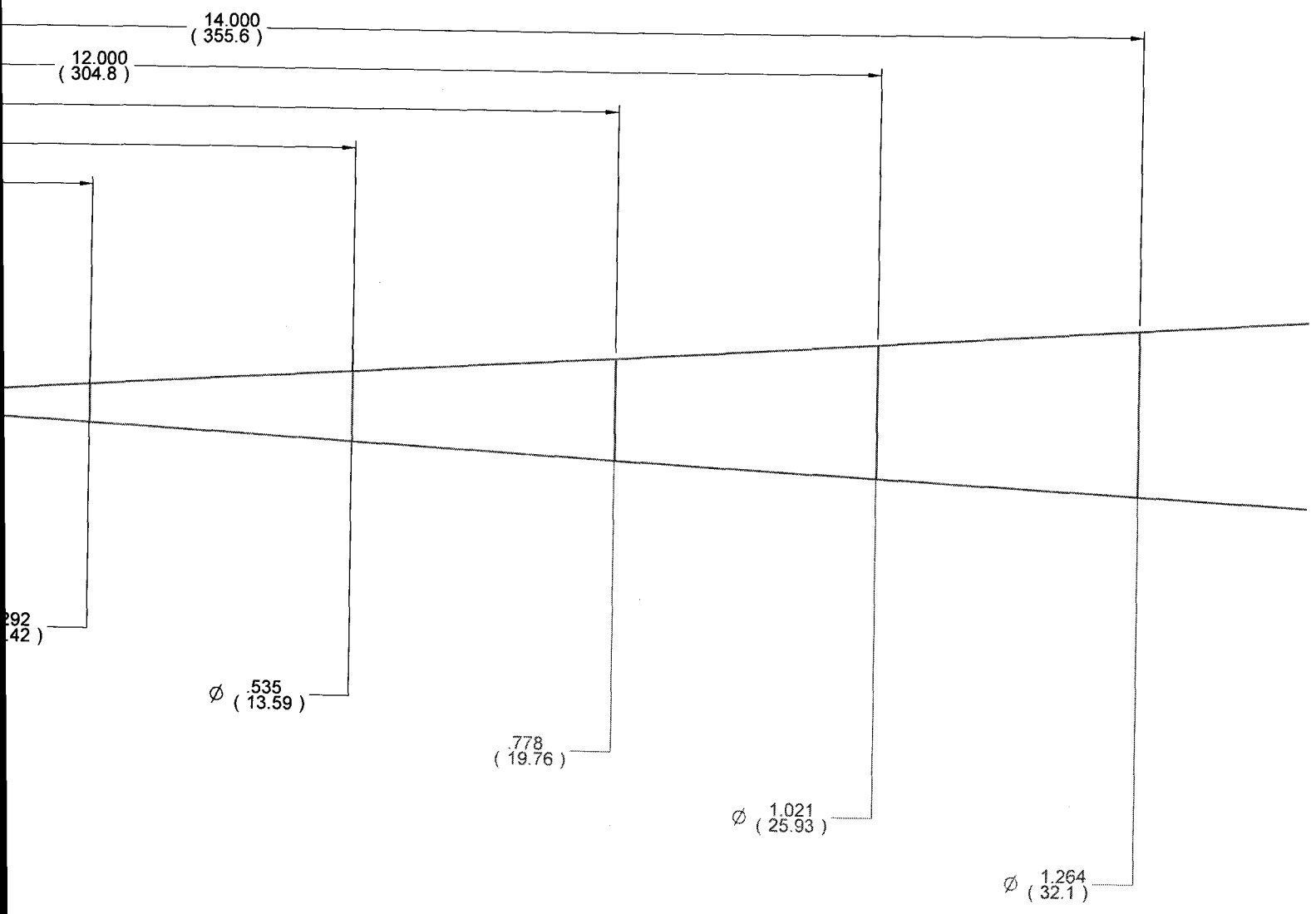
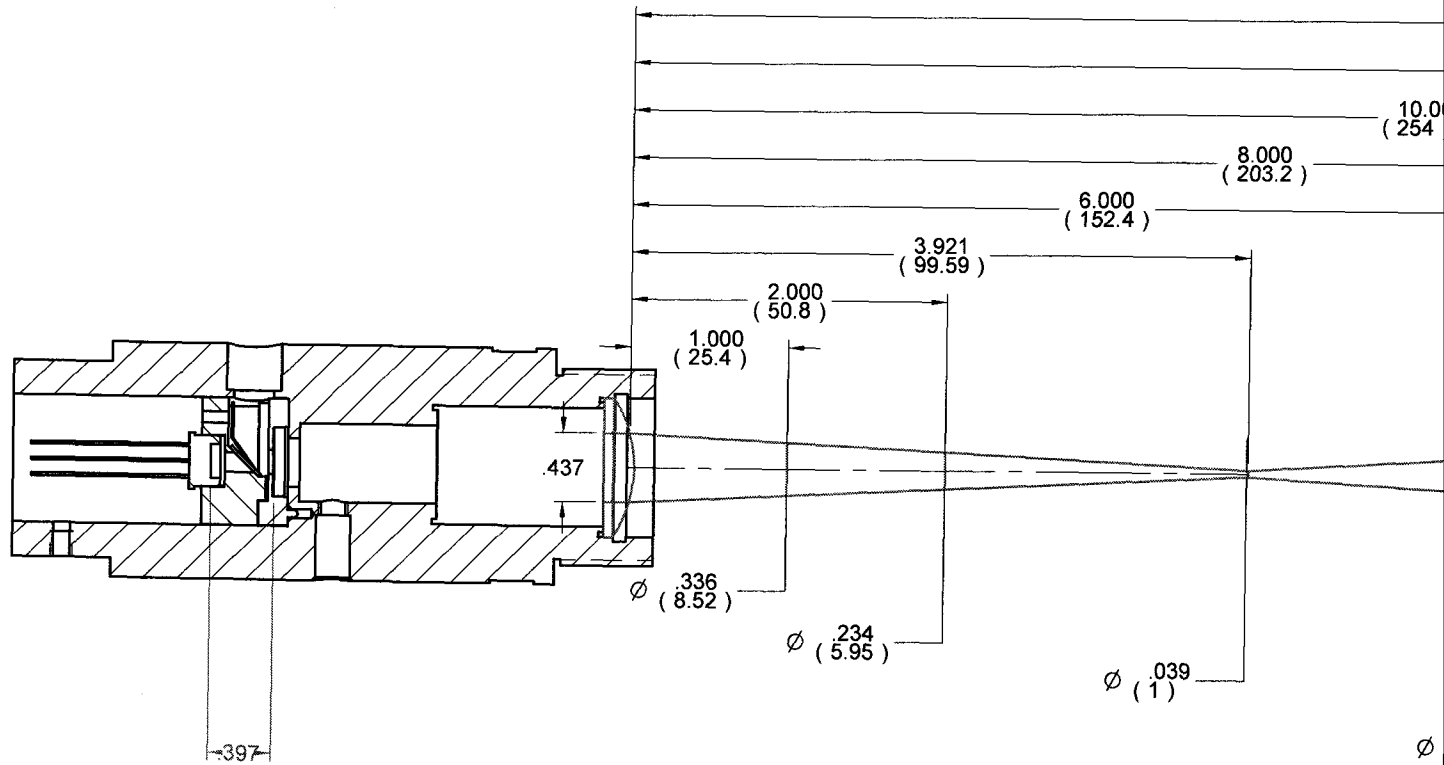
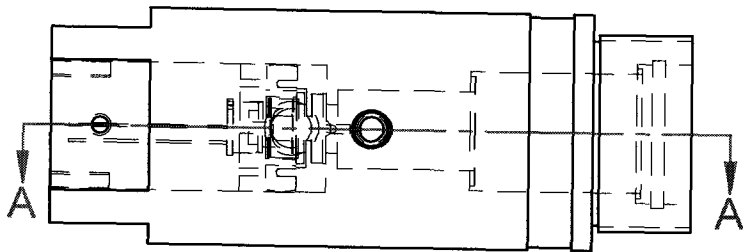


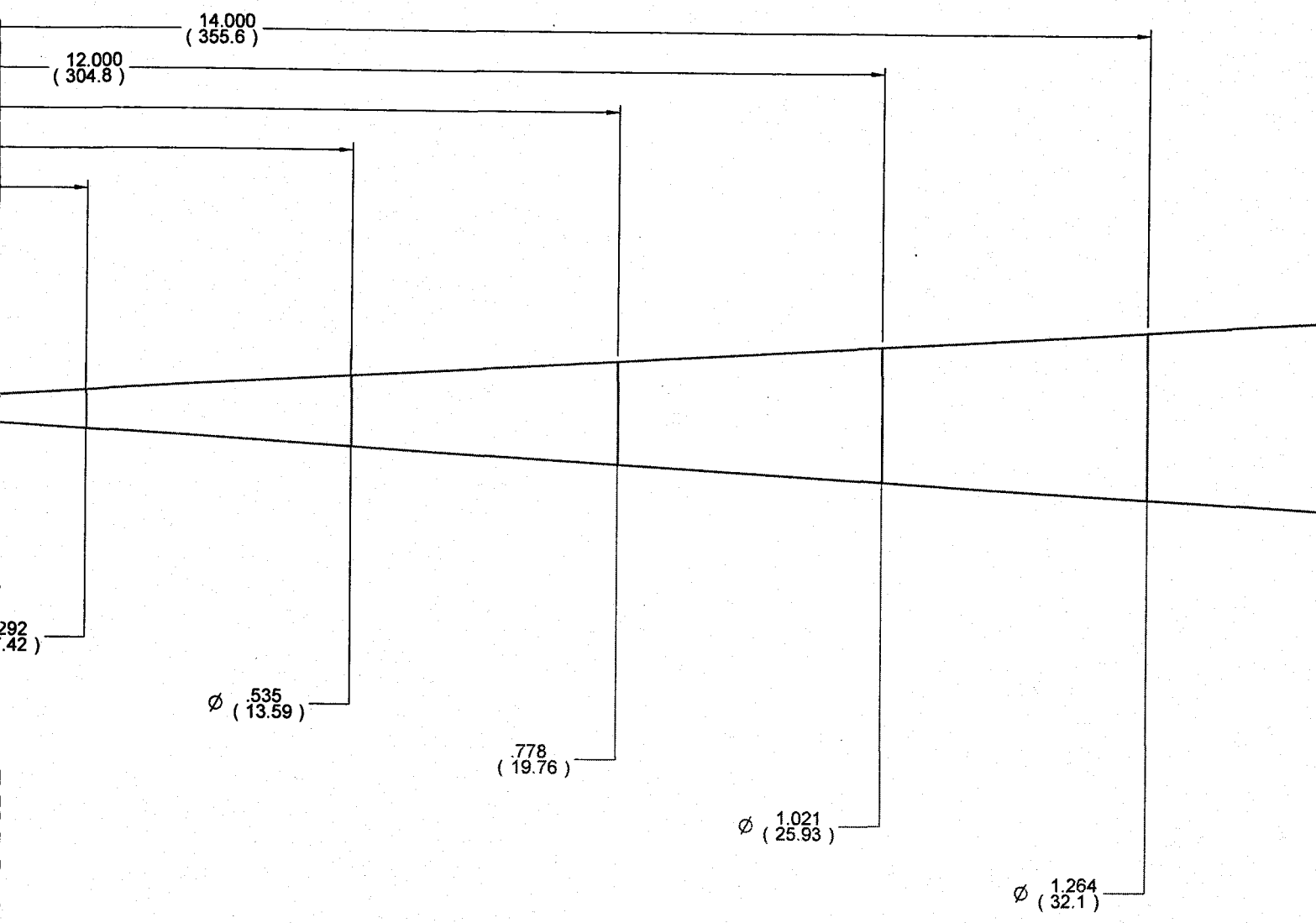
70

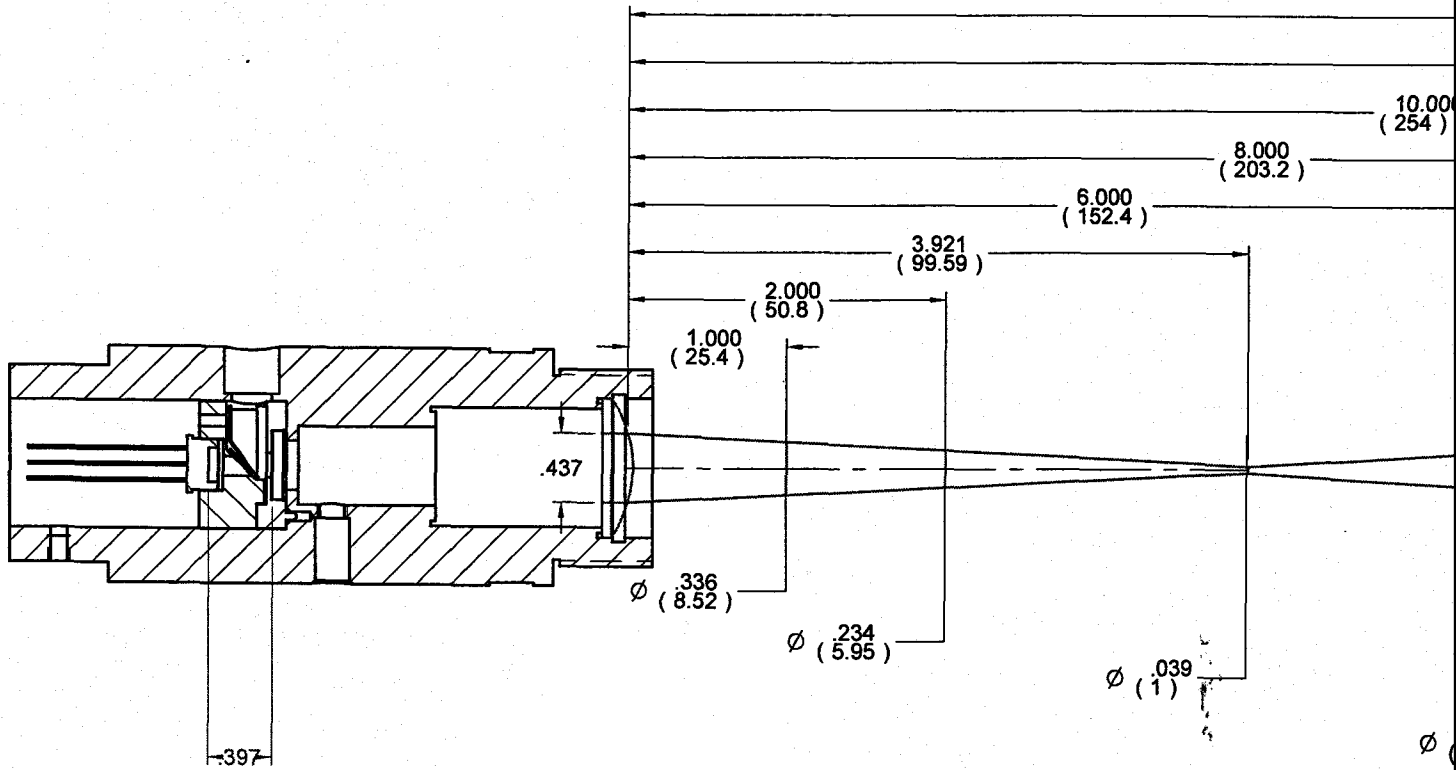




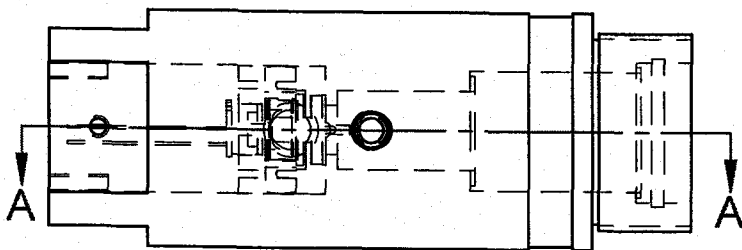
SECTION A-A







SECTION A-A



PAGE 1 OF 3
DATE: 06-19-1996
REVISION: B
W.O. NO: 61009
CUSTOMER: IRCON GMBH
LOCATION: GERMANY

INFRARAIL SPECIAL NUMBER R701

PURPOSE AND DESCRIPTION:

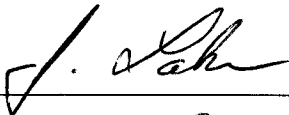
CUSTOMER REQUIRES A INFRARAIL TEMPERATURE SYSTEM WITH A SPECIAL TEMPERATURE RANGE AND OPTICAL RESOLUTION AS FOLLOWS :

MODEL: DNE99-99C
RANGE: 600 - 2600 DEG. C
OPTICAL RESOLUTION: D/100 (1 mm SPOT @ 100mm SPECIAL)

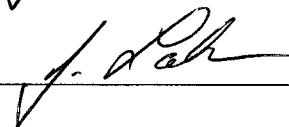
GENERILITY OF APPLICATION AND RESTRICTIONS:

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

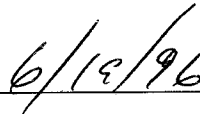
WRITTEN BY: _____



APPROVED BY: _____



DATE: _____



INFRARAIL SPECIAL NUMBER R701

REVISION: B
DATE: 06-19-1996

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNE31-50C ELECTRONICS MODULE, AND INSTALL M1 MODULE AS PER BILL OF MATERIAL ON PAGE 3.

FOR THE SENSING HEAD, START WITH A MODEL DNE31-50C SENSOR AND MAKE THE FOLLOWING CHANGES:

DETECTOR ASSEMBLY (C11209) CHANGES:

1. FOR THE DETECTOR , USE DETECTOR 590792 (InGaAs) IN PLACE OF SILICON DETECTOR.
2. WIRE THE DETECTOR PER **DETAIL A** OF DRAWING **C-11207**.
3. FOR THE FILTER USE P.N. 64055-2 (1.49 - 1.6 um).
4. FOR THE FIELD STOP, USE P.N. 45119-5 (0.007" DIAMETER)

SENSING HEAD (C11201) CHANGES:

1. INSTALL 0.063" SPACER P.N. 44748-2 BETWEEN ITEMS 20 AND 21 (REFERENCE DWG. C11201).
2. FOR THE LENS, USE P.N. 61041-2 (5" FOCAL DISTANCE).

CALIBRATION INSTRUCTIONS:

CALIBRATE AS PER STANDARD.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL.

INFRARAIL SPECIAL NUMBER R701

REVISION: B
DATE: 06-19-1996

M1 MODULE ASSEMBLY BILL OF MATERIAL

<u>SYMBOL</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>		
R1	101543011	RESISTOR	154K OHM	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7K OHM	METAL FILM 1/4W 1%
R54	101583011	RESISTOR	158K OHM	METAL FILM 1/4W 1%
R45	101542011	RESISTOR	15.4K OHM	METAL FILM 1/4W 1%
R55	105232011	RESISTOR	52.3K OHM	METAL FILM 1/4W 1%
R46	101052011	RESISTOR	10.5K OHM	METAL FILM 1/4W 1%
R56	108872011	RESISTOR	88.7K OHM	METAL FILM 1/4W 1%
R47	106341011	RESISTOR	6.34K OHM	METAL FILM 1/4W 1%
R57	101583011	RESISTOR	158K OHM	METAL FILM 1/4W 1%
R48	103571011	RESISTOR	3.57K OHM	METAL FILM 1/4W 1%
R58	102943011	RESISTOR	294K OHM	METAL FILM 1/4W 1%
R49	101871011	RESISTOR	1.87K OHM	METAL FILM 1/4W 1%
R59	106043011	RESISTOR	604K OHM	METAL FILM 1/4W 1%
R50	108870011	RESISTOR	887 OHM	METAL FILM 1/4W 1%
R60	101304011	RESISTOR	1.30M OHM	METAL FILM 1/4W 1%
R51	103920011	RESISTOR	392 OHM	METAL FILM 1/4W 1%
R61	103094011	RESISTOR	3.09M OHM	METAL FILM 1/4W 1%
R52	101540011	RESISTOR	154 OHM	METAL FILM 1/4W 1%
R53	1080R6011	RESISTOR	80.6 OHM	METAL FILM 1/4W 1%
R62	108064011	RESISTOR	8.06M OHM	METAL FILM 1/4W 1%

TEMPERATURE RANGE: 600 TO 2600 DEGREES C
SPECTRUM: 1.49 TO 1.60 MICRONS
(current output is nonlinear with Planck)

TEMP. IN DEG. C	% SIGNAL	Iout IN uAMPS
600.0	0.058	0.0119
700.0	0.172	0.0357
800.0	0.418	0.0870
900.0	0.876	0.1821
1000.0	1.635	0.3397
1100.0	2.785	0.5788
1200.0	4.416	0.9176
1300.0	6.606	1.3727
1400.0	9.421	1.9577
1500.0	12.914	2.6836
1600.0	17.125	3.5585
1700.0	22.079	4.5880
1800.0	27.791	5.7750
1900.0	34.266	7.1205
2000.0	41.501	8.6239
2100.0	49.485	10.2831
2200.0	58.204	12.0948
2300.0	67.638	14.0552
2400.0	77.765	16.1596
2500.0	88.561	18.4029
2600.0	100.000	20.7800

PAGE 1 OF 3
DATE: 04-26-1996
REVISION: A
CUSTOMER: IRCON INC.
LOCATION: NILES, IL

INFRARAIL SPECIAL NUMBER R701

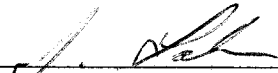
PURPOSE AND DESCRIPTION:

CUSTOMER REQUIRES A INFRARAIL TEMPERATURE SYSTEM WITH A SPECIAL TEMPERATURE RANGE AND OPTICAL RESOLUTION AS FOLLOWS :

MODEL: DNE99-99C
RANGE: 600 - 2600 DEG. C
OPTICAL RESOLUTION: D/100 (1 mm SPOT @ 100mm SPECIAL)

GENERILITY OF APPLICATION AND RESTRICTIONS:

UNRESTRICTED: SUITABLE FOR USE WITH ALL STANDARD OPTIONS.

WRITTEN BY: 

APPROVED BY:  DATE: 4-26-96

INFRARAIL SPECIAL NUMBER R701

REVISION: A
DATE: 04-26-1996

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNE31-50C ELECTRONICS MODULE, AND INSTALL M1 MODULE AS PER BILL OF MATERIAL ON PAGE 3.

FOR THE SENSING HEAD, START WITH A MODEL DNE31-50C SENSOR AND MAKE THE FOLLOWING CHANGES:

DETECTOR ASSEMBLY (C11209) CHANGES:

1. FOR THE DETECTOR , USE DETECTOR 590792 (InGaAs) IN PLACE OF SILICON DETECTOR.
2. FOR THE FILTER USE P.N. 64055-2 (1.49 - 1.6 um).
3. FOR THE FIELD STOP, USE P.N. 45119-5 (0.007" DIAMETER)

SENSING HEAD (C11201) CHANGES:

1. INSTALL 0.063" SPACER P.N. 44748-2 BETWEEN ITEMS 20 AND 21 (REFERENCE DWG. C11201).
2. FOR THE LENS, USE P.N. 61041-2 (5" FOCAL DISTANCE).

CALIBRATION INSTRUCTIONS:

CALIBRATE AS PER STANDARD.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL.

INFRARAIL SPECIAL NUMBER R701

REVISION: A
DATE: 04-26-1996

M1 MODULE ASSEMBLY BILL OF MATERIAL

<u>SYMBOL</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>		
R1	101543011	RESISTOR	154K OHM	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7K OHM	METAL FILM 1/4W 1%
R54	101583011	RESISTOR	158K OHM	METAL FILM 1/4W 1%
R45	101542011	RESISTOR	15.4K OHM	METAL FILM 1/4W 1%
R55	105232011	RESISTOR	52.3K OHM	METAL FILM 1/4W 1%
R46	101052011	RESISTOR	10.5K OHM	METAL FILM 1/4W 1%
R56	108872011	RESISTOR	88.7K OHM	METAL FILM 1/4W 1%
R47	106341011	RESISTOR	6.34K OHM	METAL FILM 1/4W 1%
R57	101583011	RESISTOR	158K OHM	METAL FILM 1/4W 1%
R48	103571011	RESISTOR	3.57K OHM	METAL FILM 1/4W 1%
R58	102943011	RESISTOR	294K OHM	METAL FILM 1/4W 1%
R49	101871011	RESISTOR	1.87K OHM	METAL FILM 1/4W 1%
R59	106043011	RESISTOR	604K OHM	METAL FILM 1/4W 1%
R50	108870011	RESISTOR	887 OHM	METAL FILM 1/4W 1%
R60	101304011	RESISTOR	1.30M OHM	METAL FILM 1/4W 1%
R51	103920011	RESISTOR	392 OHM	METAL FILM 1/4W 1%
R61	103094011	RESISTOR	3.09M OHM	METAL FILM 1/4W 1%
R52	101540011	RESISTOR	154 OHM	METAL FILM 1/4W 1%
R53	1080R6011	RESISTOR	80.6 OHM	METAL FILM 1/4W 1%
R62	108064011	RESISTOR	8.06M OHM	METAL FILM 1/4W 1%


.460 ±.002

.882/.880

DO NOT SCALE

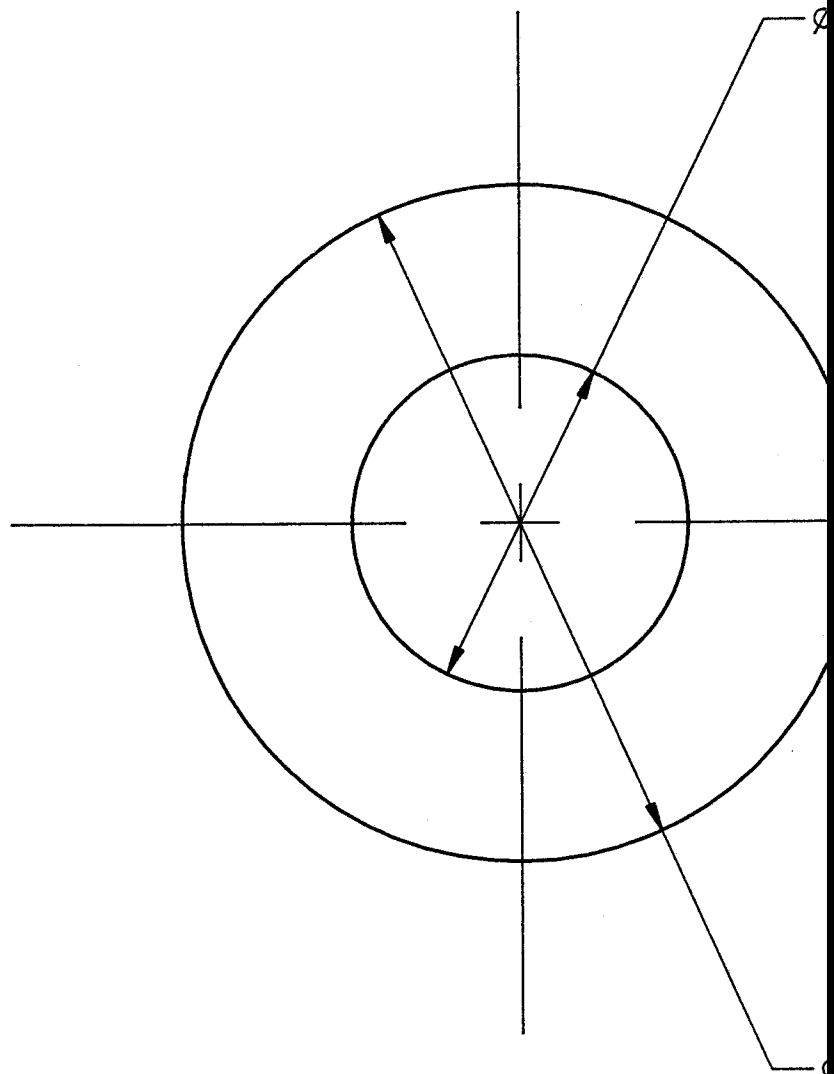
DRAWING NO.		REV.
44748-2		A
REVISION		
LTR.	DESCRIPTION	BY/DATE
A	RELEASED TO PRODUCTION SPECIAL R701	4/26/96 <i>IR</i>
<small>THIS DOCUMENT IS THE PROPRIETARY PROPERTY OF IRCON, INC. AND IS NOT PART OF THE PUBLIC DOMAIN. IT IS ISSUED WITH THE EXPRESS UNDERSTANDING AND AGREEMENT THAT IT IS NOT TO BE 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</small>		
SHEET #		OF

DATE
4/25/96
DATE
4-25-96
4:1

	IRCON, INC. 7301 North Caldwell Ave. Niles, IL 60714	
	TITLE	DRAWING NO.
SPACER-.460 I.D.	44748-2	REV. A

NOTES:

1. MATERIAL: ALUMINUM TYPE 6061 T6 (THK. $.063 \pm .002$)
2. FINISH: BLACK OXIDE PER MIL F 495D.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

MATERIAL	DRAWN BY
	<i>VEY</i>
	APPROVED
	<i>J.L.</i>
	SCALE


.460 ±.002

.882/.880

DO NOT SCALE

DRAWING NO.		REV.
44748-2		A
REVISION		
LTR.	DESCRIPTION	BY/DATE
A	RELEASED TO PRODUCTION SPECIAL R701	4/26/96 VJF
<small>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</small>		
SHEET #		OF

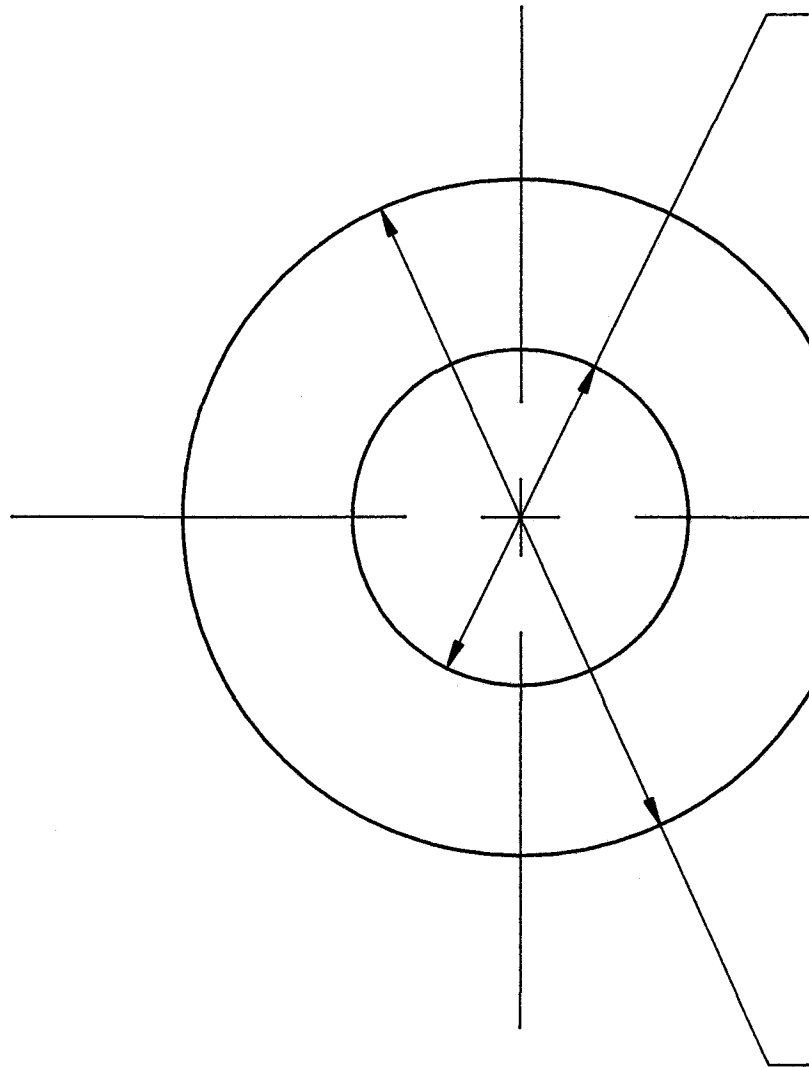
DATE
4/25/96
DATE
4-25-96
4:1

	
TITLE	
SPACER-.460 I.D.	

IRCON, INC.	
7301 North Caldwell Ave. Niles, IL 60714	
DRAWING NO.	REV.
44748-2	A

NOTES:

1. MATERIAL: ALUMINUM TYPE 6061 T6 (THK. $.063 \pm .002$)
2. FINISH: BLACK OXIDE PER MIL F 495D.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

MATERIAL	DRAWN BY
	<i>VES</i>
	APPROVED
	<i>JL</i>
	SCALE

Acknowledgment



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

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

SCHEDULED SHIPPING WEEK		ENDING	MONTH/DAY/YEAR	06/29/96
SOLD TO	CUSTOMER NO.	008241	OUR ORDER NO.	SA 061009/00
IRCON GMBH POSTFACH 1361, D-65221 TAUNUSSTEIN, GRILLPARZERSTR 40 GERMANY			ORDER DATE	MONTH/DAY/YEAR 03/28/96
SHIPPING ADDRESS		TAX CODE	YOUR ORDER NO.	D-5463
INTROPA SFEDITIONSGESELLSCHAFT GMBH FRANKFURT AIRPORT ZUR VERFUEGUNG		NO TAX	TERMS	NET 30 X OTHER NET 60
IRCONGMBH			F.O.B.	X NILES, ILLINOIS
03/28/96			CODE	726 .00
PAGE 1			VIA	DANZAS PPD. X COLL.
SPECIAL SHIPPING INSTRUCTIONS				

LINE NO.	PART NO.	QTY.	DESCRIPTION	UNIT MEAS	DISCOUNT %	PRICE EACH U.S. DOLLAR X	AMOUNT U.S. DOLLAR X
01		2	INFRARAIL TEMPERATURE SYSTEM MODEL DNE99-99C SERIAL NBR 001148 THRU 001149 CABLE(S) 4 MET. EA (4 MET. EA INCLUDED IN ABOVE) ***** * SPECIAL Z999 ***** !!!!!!!!!!!!!!WARNING!!!!!!!!!!!!!! ** SPL # TO BE DETERMINED ** ** SEE ENGINEERING DEPT. ** SUB TOTALS GRAND TOTAL	EA		2073.60	4147.20
<p><i>Aug Qty #1475</i></p> <p><i>New Special IN GAA's Detect Range 600-2600C Spot of 1MM at 100MM per Worksheet</i></p> <p>BILLINGS IN D.M.</p> <p><i>3/28/96</i></p>							4147.20
							4147.20

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

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

Ship To: IRCON, INC.
7300 N. NATCHEZ AVE.
NILES, IL 60714 USA

ORIGINAL

Part No. 020172 Rev C 12/95

MODLINE PLUS SPECIAL NUMBER CONTINUED,

BILL OF MATERIAL

MODEL: ~~2-99C10~~ ONE 99-99C

MODULE M1 REFERENCE: DWG.NO.C-10864

600° - 2600°C
 1.99 - 1.6 μ
 1 mm spot at 100mm

$I_{sc}^{2600^{\circ}C} = 21 \mu A$
 $I_{sc}^{600^{\circ}C} = 12.2 \mu A$

SYMBOL	PART NO.	DESCRIPTION
R45	101542011	RESISTOR 15.4 Kohm METAL FILM 1/4W 1%
R55	105232011	RESISTOR 52.3 Kohm METAL FILM 1/4W 1%
R46	101052011	RESISTOR 10.5 Kohm METAL FILM 1/4W 1%
R56	108872011	RESISTOR 88.7 Kohm METAL FILM 1/4W 1%
R47	106341011	RESISTOR 6.34 Kohm METAL FILM 1/4W 1%
R57	101583011	RESISTOR 158 Kohm METAL FILM 1/4W 1%
R48	103571011	RESISTOR 3.57 Kohm METAL FILM 1/4W 1%
R58	102943011	RESISTOR 294 Kohm METAL FILM 1/4W 1%
R49	101871011	RESISTOR 1.87 Kohm METAL FILM 1/4W 1%
R59	106043011	RESISTOR 604 Kohm METAL FILM 1/4W 1%
R50	108870011	RESISTOR 887 ohm METAL FILM 1/4W 1%
R60	101304011	RESISTOR 1.30 Mohm METAL FILM 1/4W 1%
R51	103920011	RESISTOR 392 ohm METAL FILM 1/4W 1%
R61	103094011	RESISTOR 3.09 Mohm METAL FILM 1/4W 1%
R52	101540011	RESISTOR 154 ohm METAL FILM 1/4W 1%
R53	1080R6011	RESISTOR 80.6 ohm METAL FILM 1/4W 1%
R62	108064011	RESISTOR 8.06 Mohm METAL FILM 1/4W 1%
R1	101543011	RESISTOR 154 Kohm METAL FILM 1/4W 1%

MODULE M2 REFERENCE: DWG.NO.C-10865

SYMBOL	PART NO.	DESCRIPTION
R44	101871011	RESISTOR 18.7 Kohm METAL FILM 1/4W 1%
R54	101583011	RESISTOR 158 Kohm METAL FILM 1/4W 1%
R25	101001011	RESISTOR 1.00 Kohm METAL FILM 1/4W 1%
J2	100000990	JUMPER, DUMMY RESISTOR
J1	100000990	JUMPER, DUMMY RESISTOR
C07	52102-2	CAPACITOR 33pF CERAMIC
R36	101543011	RESISTOR 154 Kohm METAL FILM 1/4W 1%
R38	104992011	RESISTOR 49.9 Kohm METAL FILM 1/4W 1%
R39	102001011	RESISTOR 2.00 Kohm METAL FILM 1/4W 1%
R40	101621011	RESISTOR 1.62 Kohm METAL FILM 1/4W 1%



Engineering Special or System Request

Page ___ of ___

From: V. LARRE

Date: 2-6-96

To: J. LARSEN

Customer: PETKIN ELIWER

Description of Request:

Base standard model or series:

THIS IS A FOLLOW UP TO THE QUESTIONS ON THE ABOVE JOB

1. CE APPROVAL *yes.*
2. WE WANT TO USE INFRARAIL Module.
3. SO NOW ITS THE INGEN DET. WITH INFRARAIL Module -

Details of specific approval: _____

We will supply INFRARAIL WITH A 22A9 SENSING head
This special will require us to USE A NEW Field stop $\approx 0.010"$. This should give approx 19 mHz Z.S. with $\epsilon = 0.99$ CE Approval is O.K.

RANGE 600° - 2600° C
1 mW AT 100 mm
 $\lambda = 1.49 - 1.6 \mu\text{M}$
ACCURACY 1.0%

Order Price \$1150 Total only
\$325 Additional units

Specific Exceptions: _____

Price: SEE ABOVE
(adder to standard)

Delivery: 6-8 wks purchasing & TESTING
(adder to standard)

Approved by: J. Lark

Date: 2-8-96

THIS PRINT SUPERSEDES ANY PRINT PRIOR TO

4-11-78

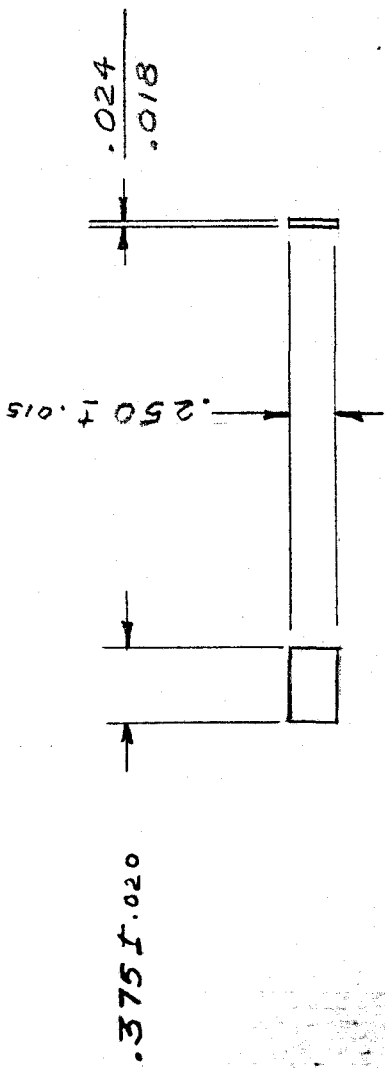
DWG. NO.

63009-2

REVISIONS

A

WAS EX-2079
4-11-78 *SP*



NOTES:

1. LIBERTY MIRROR, COLD MIRROR COATING NO. 956-1 (ONE SIDE ONLY)
2. SUBSTRATE MATERIAL: CORNING MICRO-SHEET (THICKNESS REF. NO. 4)
3. ACCEPTABLE DEFECTS: COATING DEFECTS AND SUBSTRATE CHIPPING MAY EXTEND IN .015 FROM ANY EDGE
4. DO NOT MARK OR TAG MIRROR WITH ANY FOREIGN SUBSTANCE

NEXT HIGHER ASS'Y

NEXT LOWER ASS'Y

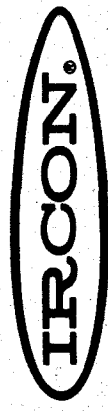
USED ON MODLINE II

DO NOT SCALE PRINT

TOLERANCES (UNLESS OTHERWISE SPECIFIED)

- ± .010 ALL DIMENSIONS EXCEPT ROUND HOLES
- ± .002 ALL ROUND HOLES AND ROUND PARTS
- ± $\frac{1}{2}^\circ$ ALL ANGLES
- ± .010 T.I.R. CONCENTRICITY
- ALL THREADS TO BE CLASS -2A EXTERNAL
CLASS -2B INTERNAL

IRCON, INC.
7555 N. LINDER AVENUE, SKOKIE, ILLINOIS 60076
(312) 967-5151



DRAWN BY *SP* DATE 11-25-77

APPROVED BY

M.E. E.E.

TITLE

FOLDING MIRROR

DRAWING NO.

63009-2

REV.

A

MIDDLE LINE PLUS LINEARIZER ERROR CURVE

DNE 99-99C

DATE: 03-28-1996

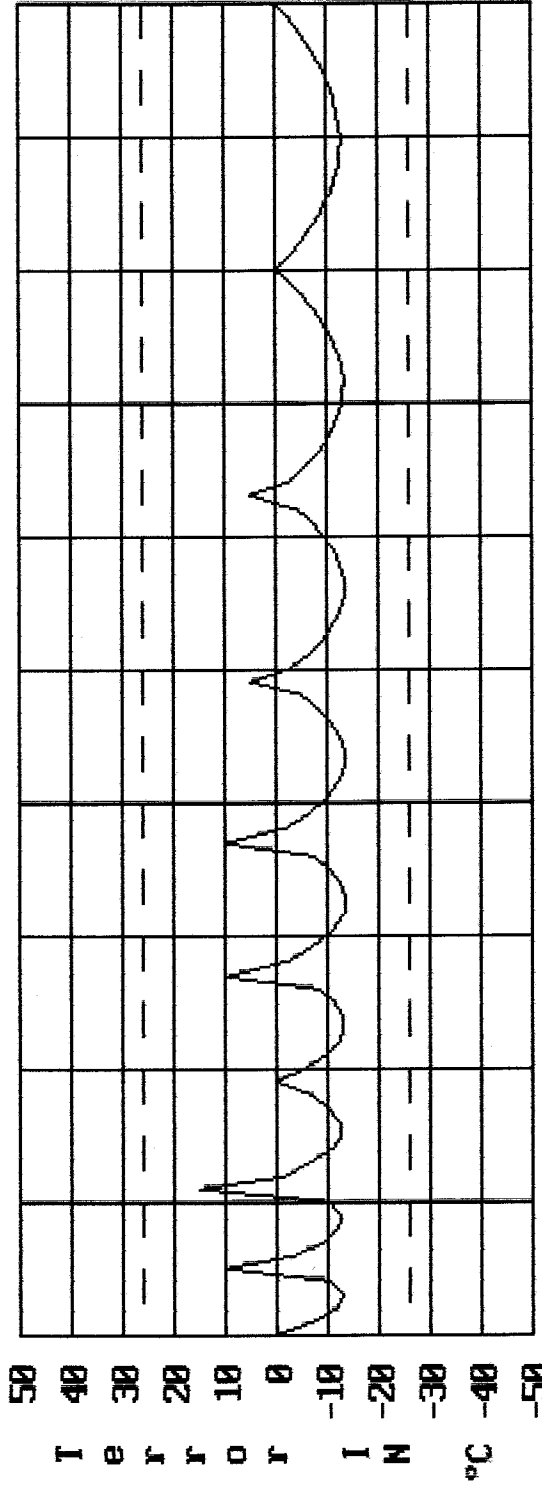
REV.

SPECIAL NO.

MODEL NO. ~~XXXXXXXXXX~~

TEMP. SPAN: 600 - 2600 DEG.C

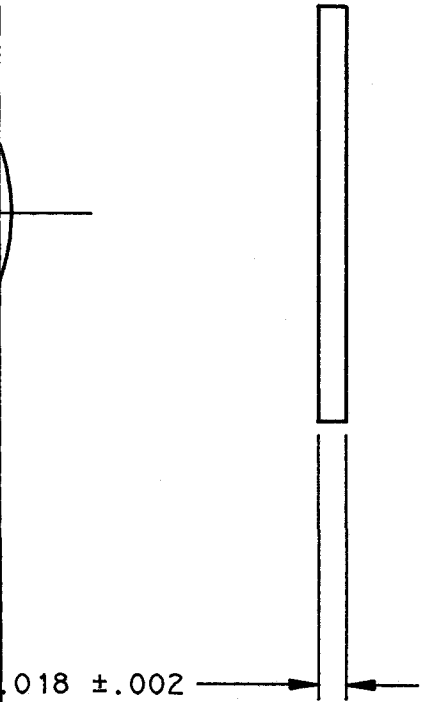
SPECTRUM: 1.49 - 1.6 MICRONS



600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600

BLACKBODY TEMPERATURE IN °C

$\phi .270 \pm .002$



DO NOT SCALE

DRAWING NO.	REV.
64055-2	A

REVISION		
LTR.	DESCRIPTION	BY/DATE

A	ECO 2979 RELEASED TO PRODUCTION	UES, 10/1/93 TCT
---	------------------------------------	------------------------

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 # 1 OF 1

DATE	4/1/93
DATE	4/6/93
8:1	



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

TITLE	DRAWING NO.	REV.
FILTER, BANDPASS, 1.49 - 1.60 MICRON	64055-2	A

THIS PRINT SUPERSEDES ANY PRINT PRIOR TO

3-31-78

DWG. NO.

61041-2

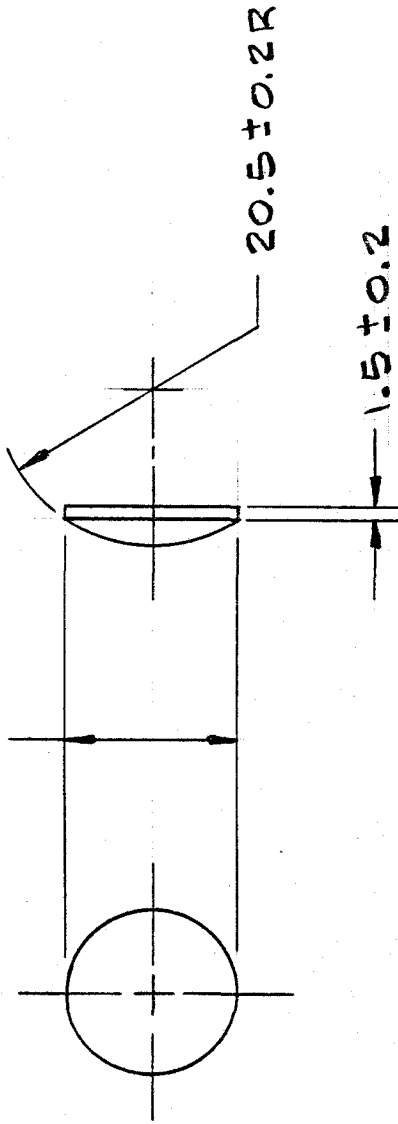
REVISIONS

A

WAS EX-2074

3-31-78

[Signature]



TYPE PLANO-CONVEX LENS
 MATERIAL C-1 GLASS (523586)

D.I.E.T. (DIFFERENCE IN EDGE THICKNESS) 0.05 MAX.

ALL DIMENSIONS ARE IN MILLIMETERS

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED DO NOT SCALE PRINT

NEXT HIGHER ASSY

NEXT LOWER ASSY

USED ON **MODLINE II**

TOLERANCES (UNLESS OTHERWISE SPECIFIED)

- ± .010 ALL DIMENSIONS EXCEPT ROUND HOLES
- ± .002 ALL ROUND HOLES AND ROUND PARTS
- ± 1/2° ALL ANGLES
- ± .010 T.I.R. CONCENTRICITY
- ALL THREADS TO BE CLASS -2A EXTERNAL
- CLASS -2B INTERNAL

DRAWN BY *[Signature]* DATE 10-28-77

APPROVED BY

M.E. E.E.

SCALE 1/1



IRCON, INC.
 7555 N. LINDER AVENUE, SKOKIE, ILLINOIS 60076
 (312) 967-5151
 TELEX 72-4412

TITLE

**LENS, MODLINE II
 (5" OBJECT DISTANCE)**

DRAWING NO.

61041-2

REV.

A

THIS PRINT SUPERSEDES ANY PRINT PRIOR TO

5/2/94

DWG. NO.

45119-5

REVISIONS

C .006 ± .001 DIA. WAS
.0059 ± .001 MATL.
WAS CRS(SHIM STOCK)
ADDED NOTE # 2
10-31-78

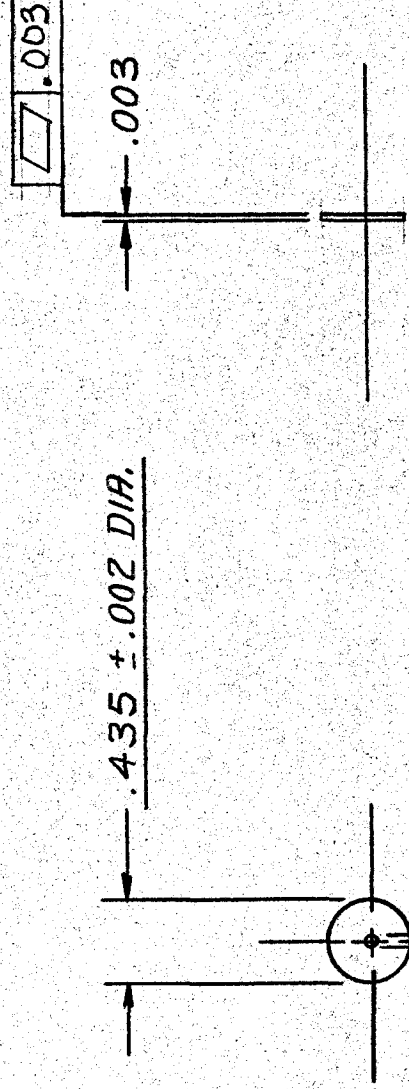
D REDRAWN N.A.
G.R. 11-2-81

E CHANGED TOLERANCE.
.006 DIA HOLE WAS
± .001
1-7-82 F.Y./P.P.

F CHANGED TOLERANCE OF
CENTER HOLE FROM
.006 + .001/- .0005 DIA. TO
.007 + /- .0005 DIA. AND
ADDED NOTE 3
10-25-82 R.V.

G SEE ECO.# 619 L.R.
2-9-83

H ECO 3174
ADDED FLATNESS SPEC.
CHANGED TITLE, WAS
"TO 5 APERTURE"
5/2/94 JAS PP



.007 + /- .0005 DIA.
HOLE MUST BE FREE OF BURRS
BELL MOUTHING AND CONCENTRIC
WITHIN ± .002

- NOTES:
1. MATERIAL: .003 THK. BERYLLIUM COPPER (BeCu).
 2. ALTHOUGH PARTS MUST BE SUPPLIED INDIVIDUALLY (ie. DETACHED), IRCON WILL ALLOW .001" TABS (2) ON PERIPHERY.
 3. VENDOR TO 100% INSPECT TO MAINTAIN TOLERANCE OF CENTER HOLE.

NEXT HIGHER ASSY
NEXT LOWER ASSY
USED ON MODEL 11 X 30

DO NOT SCALE PRINT



IRCON, INC.
7555 N. LINDER AVENUE SKOKIE, ILLINOIS 60077
(312) 967-5151
TELEX 72-4412

DRAWN BY DATE

G.RIZZO 11-2-81

APPROVED BY

M.E. N.J.A. E.E.

SCALE 1:1

TOLERANCES (UNLESS OTHERWISE SPECIFIED)

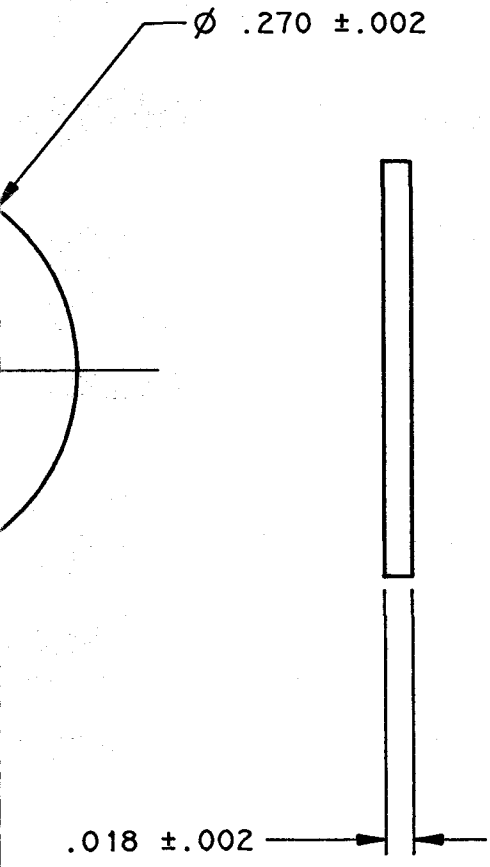
- ± .010 ALL DIMENSIONS EXCEPT ROUND HOLES
- ± .002 ALL ROUND HOLES AND ROUND PARTS
- ± ½° ALL ANGLES
- ± .010 T.I.R. CONCENTRICITY
- ALL THREADS TO BE CLASS -2A EXTERNAL
CLASS -2B INTERNAL

DRAWING NO.

45119-5

REV.

G



DRAWING NO. REV.

64055-2 A

REVISION

LTR.	DESCRIPTION	BY/DATE
------	-------------	---------

A	ECO 2979 RELEASED TO PRODUCTION	VES 10/1/93 TCT
---	------------------------------------	-----------------------

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

DO NOT SCALE

SHEET # 1 OF 1

DESIGNED BY	DATE
	4/1/93
APPROVED	DATE
	4/6/93
SCALE 8:1	

	IRCON, INC. 7301 North Caldwell Ave. Niles, IL 60714	
	DRAWING NO.	REV.

TITLE	DRAWING NO.	REV.
FILTER, BANDPASS, 1.49 - 1.60 MICRON	64055-2	A

NOTES:

1. SPECIFICATIONS:

BAND PASS 1.49 ±.03 MICRON
(50% POWER POINTS) 1.60 ±.016 MICRON

TRANSMISSION ≤ 1% @ 1.45 MICRON.

TRANSMISSION ≤ 0.1% BELOW 1.40 MICRON.

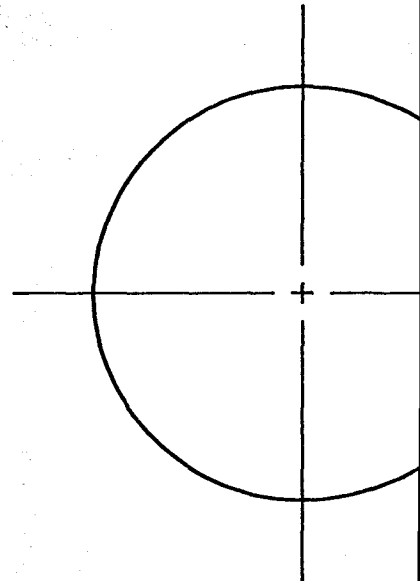
TRANSMISSION ≤ 1% @ 1.65 MICRON.

TRANSMISSION ≤ 0.1% 1.70 - 1.85 MICRON.

NO ATTENUATION REQUIRED FOR WAVELENGTHS > 1.85 MICRON.

JIG MARKS, EDGE CHIPS .020 MAX.

OPERATION 0 - 70 °C.



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE

MATERIAL	DR
	P
	APP
	J
	SC

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

**TO VIEW THE ORIGINAL
DESIGN,**

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

INFRARAIL SPECIAL NUMBER R701

REVISION: B
DATE: 06-19-1996

PRODUCTION INSTRUCTIONS:

START WITH A MODEL DNE31-50C ELECTRONICS MODULE, AND INSTALL MI MODULE AS PER BILL OF MATERIAL ON PAGE 3.

FOR THE SENSING HEAD, START WITH A MODEL DNE31-50C SENSOR AND MAKE THE FOLLOWING CHANGES:

DETECTOR ASSEMBLY (C11209) CHANGES:

1. FOR THE DETECTOR , USE DETECTOR 590792 (InGaAs) IN PLACE OF SILICON DETECTOR.
2. WIRE THE DETECTOR PER **DETAIL A** OF DRAWING **C-11207**.
3. FOR THE FILTER USE P.N. 64055-2 (1.49 - 1.6 μm).
4. FOR THE FIELD STOP, USE P.N. 45119-5 (0.007" DIAMETER)

SENSING HEAD (C11201) CHANGES:

1. INSTALL 0.063" SPACER P.N. 44748-2 BETWEEN ITEMS 20 AND 21 (REFERENCE DWG. C11201).
2. FOR THE LENS, USE P.N. 61041-2 (5" FOCAL DISTANCE).

CALIBRATION INSTRUCTIONS:

CALIBRATE AS PER STANDARD.

MANUAL INSTRUCTIONS:

GENERIC INFRARAIL SERIES MANUAL.

INFRARAIL SPECIAL NUMBER R701

REVISION: B
DATE: 06-19-1996

M1 MODULE ASSEMBLY BILL OF MATERIAL

<u>SYMBOL</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>		
R1	101543011	RESISTOR	154K OHM	METAL FILM 1/4W 1%
R44	101872011	RESISTOR	18.7K OHM	METAL FILM 1/4W 1%
R54	101583011	RESISTOR	158K OHM	METAL FILM 1/4W 1%
R45	101542011	RESISTOR	15.4K OHM	METAL FILM 1/4W 1%
R55	105232011	RESISTOR	52.3K OHM	METAL FILM 1/4W 1%
R46	101052011	RESISTOR	10.5K OHM	METAL FILM 1/4W 1%
R56	108872011	RESISTOR	88.7K OHM	METAL FILM 1/4W 1%
R47	106341011	RESISTOR	6.34K OHM	METAL FILM 1/4W 1%
R57	101583011	RESISTOR	158K OHM	METAL FILM 1/4W 1%
R48	103571011	RESISTOR	3.57K OHM	METAL FILM 1/4W 1%
R58	102943011	RESISTOR	294K OHM	METAL FILM 1/4W 1%
R49	101871011	RESISTOR	1.87K OHM	METAL FILM 1/4W 1%
R59	106043011	RESISTOR	604K OHM	METAL FILM 1/4W 1%
R50	108870011	RESISTOR	887 OHM	METAL FILM 1/4W 1%
R60	101304011	RESISTOR	1.30M OHM	METAL FILM 1/4W 1%
R51	103920011	RESISTOR	392 OHM	METAL FILM 1/4W 1%
R61	103094011	RESISTOR	3.09M OHM	METAL FILM 1/4W 1%
R52	101540011	RESISTOR	154 OHM	METAL FILM 1/4W 1%
R53	1080R6011	RESISTOR	80.6 OHM	METAL FILM 1/4W 1%
R62	108064011	RESISTOR	8.06M OHM	METAL FILM 1/4W 1%

640642 FILTER, BANDPASS
CONCATN NET ST WATTEC 210459

210459 640642 FILTER, BANDPASS
CONCATN NET ST WATTEC 210459

210459 640642 FILTER, BANDPASS
CONCATN NET ST WATTEC 210459

640642 FILTER, BANDPASS
CONCATN NET ST WATTEC 210459

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

**TO VIEW THE ORIGINAL
DESIGN,**

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

R701

Changes to std "E" head

- 1) USE INGAAS DET (59079-2)
- 2) USE 1.47 - 1.6 μ Filter 64055-2 (B) DWG
- 3) USE 0.007" DIA F. Stop 45119-5 0.007"
- 4) INSTALL SPACER BETWEEN ITEMS 20 & 21 44738-2
- 5) USE 5" F. Distance LENS from 22A head. \leftarrow
61041-2

Section 1 — GENERAL INFORMATION

1.5 SPECIAL MODIFICATIONS

IRCON InfraRail Model DNE99-99F, Serial Nos. 001148 and 001149 are modified for a special temperature range of 600 to 2600°C and a special optical resolution of D/100 (1 mm spot @ 100 mm).

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

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

Details of this modification are retained in IRCON Engineering Files as InfraRail Special No. R701.