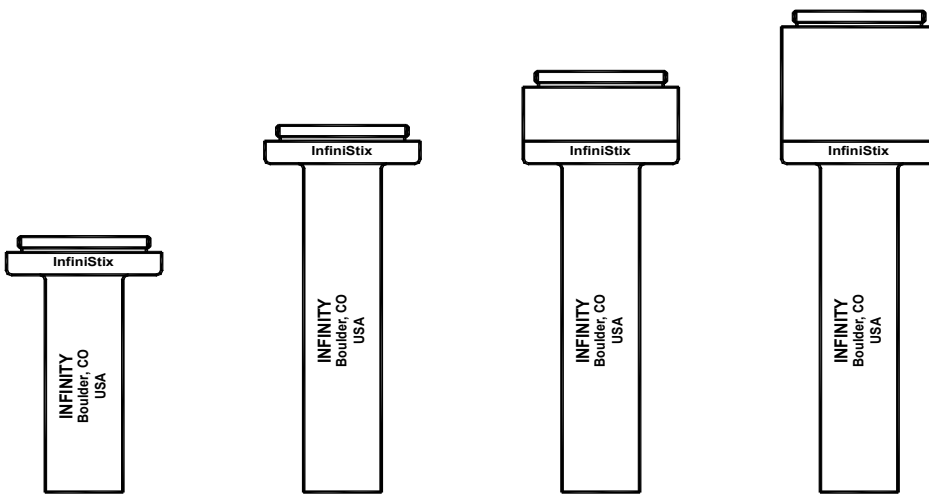


PROXIMITY SERIES:

InfiniStix™



 **INFINITY** Photo-Optical Company • Manufacturers of precision optical instruments.

7108-D S. Alton Way, Centennial, CO 80112 • Tel: (303) 440-4544 • Fax: (303) 440-4144 • E-mail: info@infinity-usa.com • Web: www.infinity-usa.com

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InfiniStix™ Standard Series Video Lenses

InfiniStix Standard Series

InfiniStix Standard are compatible with all C-mount and CS-mount* video cameras. There are nineteen InfiniStix Standard lenses; each provides extraordinary image quality at a fixed magnification and field of view. InfiniStix Standard lenses are the simple but effective means to solve some of your most difficult or challenging video imaging problems. Constructed entirely from optical glass and 6061 aluminum, InfiniStix Standard are built to withstand industrial environments. Yet, except for their mounting flanges, InfiniStix Standard are only 15mm in diameter, allowing easy access in restricted areas.

Simply choose the appropriate InfiniStix Standard lens in steps ranging from 0.45x up to 6x, position it at the specified working distance (from 18mm, 44mm, 68mm, 76mm, 94mm or 130mm)—and you will automatically obtain the specified magnification and field of view. There’s no guesswork or fiddling with extension tubes, etc. Superb imagery really is that easy—every time.

All InfiniStix Standard lenses can be amplified 2x by an optional DL Doubler Tube. Although the DL Tube adds 12mm to system length, it maintains the original working distance. In addition, 21mm fiber optic ring lights can be mounted on the InfiniStix Standard by using a simple step-up adapter.

*CS-mount requires a 5mm spacer.

Tables for Standard Series:

Select the most appropriate lens based on the CCD camera sensor’s size. InfiniStix are designed for 1/4-in., 1/3-in., and 1/2-in. CCD Camera sensors. The standard sizes are always 3:4 height to width ratio. For instance, the 1/2-in. sensor is twice the size of the 1/4-in. Although the 1/2-in. is the most common format, 1/3-in. and 1/4-in. formats are becoming increasingly popular. The Tube Factors listed below are based in the 1/2-in. video sensor.

To select the InfiniStix most appropriate for your application, choose the best combination of FOV (field of view) and WD (working distance). Remember that when the DL Doubler tube is added, the FOV is halved.

Standard Series Magnification Options

| Working Distance | | | | |
|-------------------------|-------|-------|-------|-------|
| 18mm | 2.00x | 3.00x | 4.00x | 6.00x |
| 44mm | 1.00x | 1.50x | 2.00x | 3.00x |
| 68mm | 0.66x | 1.00x | 1.33x | 2.00x |
| 76mm | 0.73x | | | |
| 94mm | 0.50x | 0.75x | 1.00x | 1.50x |
| 130mm | 0.73x | | | |

Standard Series Magnification and Horizontal Field of View

| Horizontal Fields of View for 1/2-in. Video Sensors | | | | | | | | | | |
|---|--------|------|--------|------|--------|------|--------|------|--------|------|
| Working Distance | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag |
| 18mm | | | 3.20 | 2.00 | 2.13 | 3.00 | 1.60 | 4.00 | 1.07 | 6.00 |
| 44mm | | | 6.40 | 1.00 | 4.27 | 1.50 | 3.20 | 2.00 | 2.13 | 3.00 |
| 68mm | | | 9.60 | 0.67 | 6.40 | 1.00 | 4.80 | 1.33 | 3.20 | 2.00 |
| 76mm | | | 8.77 | 0.73 | | | | | | |
| 94mm | 14.22 | 0.45 | 12.80 | 0.50 | 8.53 | 0.75 | 6.40 | 1.00 | 4.27 | 1.50 |
| 130mm | | | 8.77 | 0.73 | | | | | | |

| Horizontal Fields of View for 1/3-in. Video Sensors | | | | | | | | | | |
|---|--------|------|--------|------|--------|------|--------|------|--------|------|
| Working Distance | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag |
| 18mm | | | 2.40 | 2.00 | 1.60 | 3.00 | 1.20 | 4.00 | 0.80 | 6.00 |
| 44mm | | | 4.80 | 1.00 | 3.20 | 1.50 | 2.40 | 2.00 | 1.60 | 3.00 |
| 68mm | | | 7.20 | 0.67 | 4.80 | 1.00 | 3.60 | 1.33 | 2.40 | 2.00 |
| 76mm | | | 6.58 | 0.73 | | | | | | |
| 94mm | 10.67 | 0.45 | 9.60 | 0.50 | 6.40 | 0.75 | 4.80 | 1.00 | 3.20 | 1.50 |
| 130mm | | | 6.58 | 0.73 | | | | | | |

| Horizontal Fields of View for 1/4-in. Video Sensors | | | | | | | | | | |
|---|--------|------|--------|------|--------|------|--------|------|--------|------|
| Working Distance | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag | FOV mm | Mag |
| 18mm | | | 1.60 | 2.00 | 1.07 | 3.00 | 0.80 | 4.00 | 0.53 | 6.00 |
| 44mm | | | 3.20 | 1.00 | 2.13 | 1.50 | 1.60 | 2.00 | 1.07 | 3.00 |
| 68mm | | | 4.80 | 0.67 | 3.20 | 1.00 | 2.40 | 1.33 | 1.60 | 2.00 |
| 76mm | | | 4.38 | 0.73 | | | | | | |
| 94mm | 7.11 | 0.45 | 6.40 | 0.50 | 4.27 | 0.75 | 3.20 | 1.00 | 2.13 | 1.50 |
| 130mm | | | 4.38 | 0.73 | | | | | | |

InfiniStix Standard Series Resolution Data

| Numerical Aperture (NA) InfiniStix | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Magnification | | 2x | 3x | 4x | 6x | 1x | 1.5x | 2x | 3x | 0.66x | 1x | 1.33x | 2x | 0.73x | 0.45x | 0.5x | 0.75x | 1x | 1.5x | 0.73x |
| Working Distance | | | | | | | | | | | | | | | | | | | | |
| 18mm | | 0.044 | 0.064 | 0.096 | 0.116 | | | | | | | | | | | | | | | |
| 44mm | | | | | | 0.032 | 0.048 | 0.068 | 0.068 | | | | | | | | | | | |
| 68mm | | | | | | | | | | 0.025 | 0.039 | 0.052 | 0.052 | | | | | | | |
| 76mm | | | | | | | | | | | | | | 0.032 | | | | | | |
| 94mm | | | | | | | | | | | | | | | 0.019 | 0.024 | 0.034 | 0.055 | 0.055 | |
| 130mm | | | | | | | | | | | | | | | | | | | | 0.030 |

| Resolution InfiniStix (microns) | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|----|----|----|----|----|------|----|----|-------|----|-------|----|-------|-------|------|-------|----|------|-------|
| Magnification | | 2x | 3x | 4x | 6x | 1x | 1.5x | 2x | 3x | 0.66x | 1x | 1.33x | 2x | 0.73x | 0.45x | 0.5x | 0.75x | 1x | 1.5x | 0.73x |
| Working Distance | | | | | | | | | | | | | | | | | | | | |
| 18mm | | 8 | 5 | 3 | 3 | | | | | | | | | | | | | | | |
| 44mm | | | | | | 10 | 7 | 5 | 5 | | | | | | | | | | | |
| 68mm | | | | | | | | | | 13 | 9 | 6 | 6 | | | | | | | |
| 76mm | | | | | | | | | | | | | | 10 | | | | | | |
| 94mm | | | | | | | | | | | | | | | 18 | 14 | 10 | 6 | 6 | |
| 130mm | | | | | | | | | | | | | | | | | | | | 11 |

| Lines per Millimeter InfiniStix (l/mm) | | | | | | | | | | | | | | | | | | | | |
|--|--|-----|-----|-----|-----|----|------|-----|-----|-------|-----|-------|-----|-------|-------|------|-------|-----|------|-------|
| Magnification | | 2x | 3x | 4x | 6x | 1x | 1.5x | 2x | 3x | 0.66x | 1x | 1.33x | 2x | 0.73x | 0.45x | 0.5x | 0.75x | 1x | 1.5x | 0.73x |
| Working Distance | | | | | | | | | | | | | | | | | | | | |
| 18mm | | 132 | 192 | 288 | 348 | | | | | | | | | | | | | | | |
| 44mm | | | | | | 96 | 144 | 204 | 204 | | | | | | | | | | | |
| 68mm | | | | | | | | | | 76 | 116 | 156 | 156 | | | | | | | |
| 76mm | | | | | | | | | | | | | | 96 | | | | | | |
| 94mm | | | | | | | | | | | | | | | 57 | 72 | 102 | 165 | 165 | |
| 130mm | | | | | | | | | | | | | | | | | | | | 90 |

| Depth of Field (DOF) InfiniStix (mm) | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Magnification | | 2x | 3x | 4x | 6x | 1x | 1.5x | 2x | 3x | 0.66x | 1x | 1.33x | 2x | 0.73x | 0.45x | 0.5x | 0.75x | 1x | 1.5x | 0.73x |
| Working Distance | | | | | | | | | | | | | | | | | | | | |
| 18mm | | 0.282 | 0.133 | 0.059 | 0.040 | | | | | | | | | | | | | | | |
| 44mm | | | | | | 0.533 | 0.237 | 0.118 | 0.118 | | | | | | | | | | | |
| 68mm | | | | | | | | | | 0.850 | 0.365 | 0.202 | 0.202 | | | | | | | |
| 76mm | | | | | | | | | | | | | | 0.533 | | | | | | |
| 94mm | | | | | | | | | | | | | | | 1.512 | 0.948 | 0.472 | 0.180 | 0.180 | |
| 130mm | | | | | | | | | | | | | | | | | | | | 0.606 |

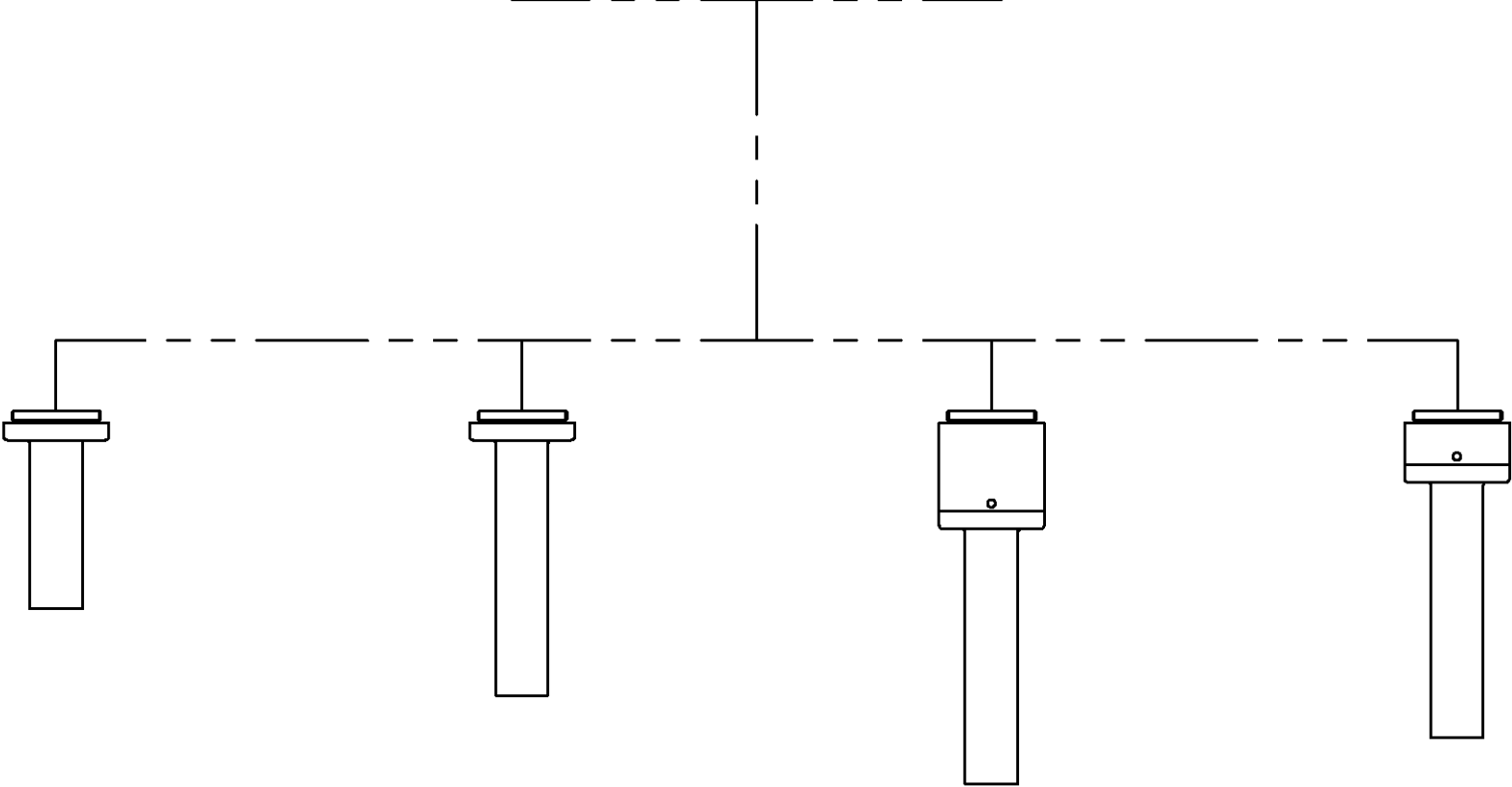
Video Formats

| Format | Factor | Diagram |
|--------|--------|---------|
| 1/4" | 0.5 | |
| 1/3" | 0.75 | |
| 1/2" | 1.0 | |
| 2/3" | 1.375 | |
| 1" | 2.0 | |

Unless otherwise noted all data is given for 1/2" camera sensors. For FOV or magnification in other sensor sizes use the factors listed. For example, a FOV of 25mm listed for a 1/3" camera would be $25 \times 0.75 = 18.75\text{mm}$.

InfiniStix™

Power Module Amplifier
(optional)



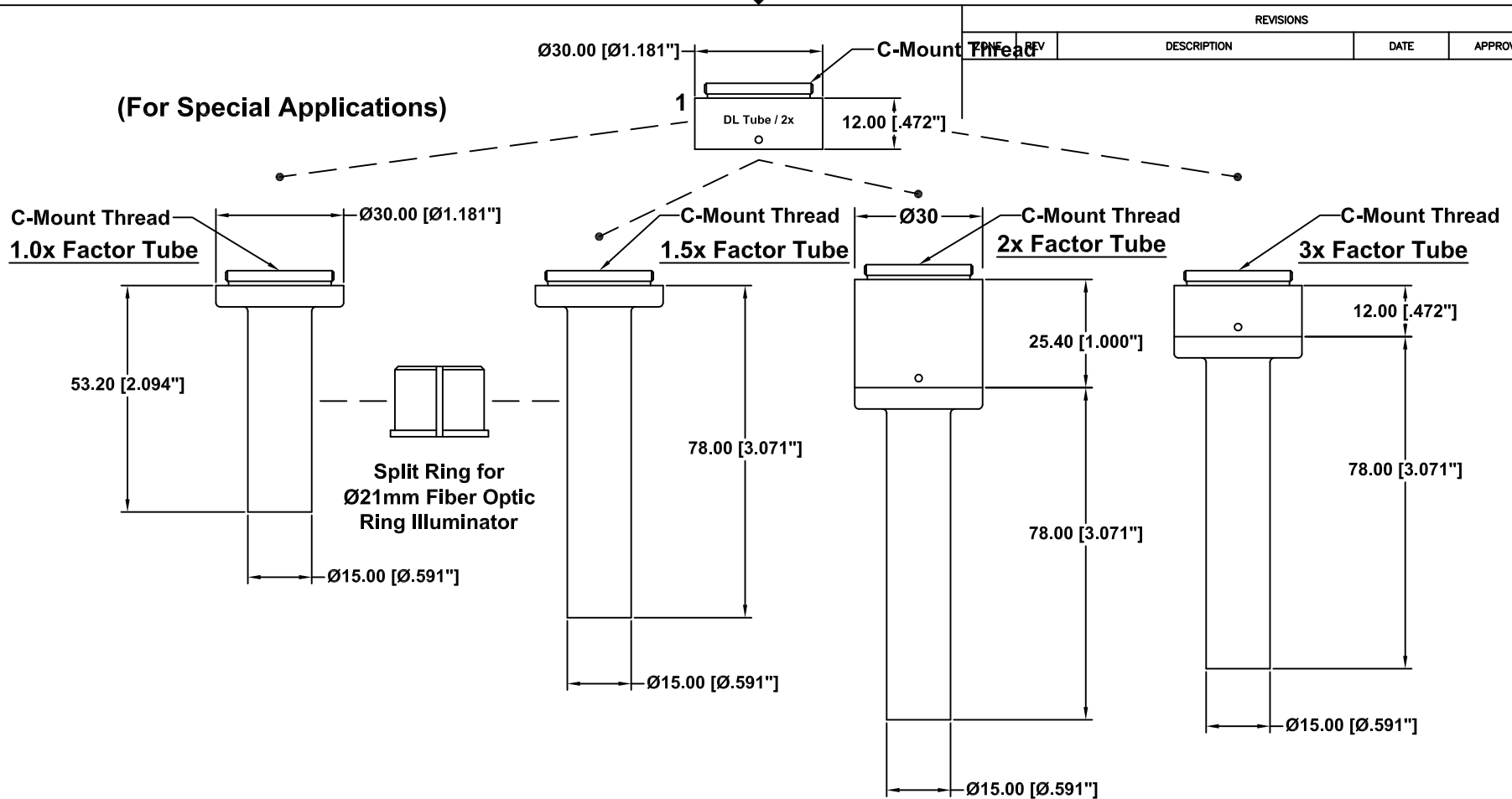
18mm W.D./2.00x
44mm W.D./1.00x
68mm W.D./0.66x
94mm W.D./0.50x

18mm W.D./3.00x
44mm W.D./1.50x
68mm W.D./1.00x
94mm W.D./0.75x

18mm W.D./4.00x
44mm W.D./2.00x
68mm W.D./1.33x
94mm W.D./1.00x

18mm W.D./6.00x
44mm W.D./3.00x
68mm W.D./2.00x
94mm W.D./1.50x

(For Special Applications)



Notes:

1. One DL Tube may be used with the InfiStix objective to further amplify the magnification.
2. A C5 Spacer is required when used with a CS-mount camera.

ALL DIM ARE mm [inches] AND ARE FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

Date: 12/02/1998 MS
Modified: 11/21/08 MB

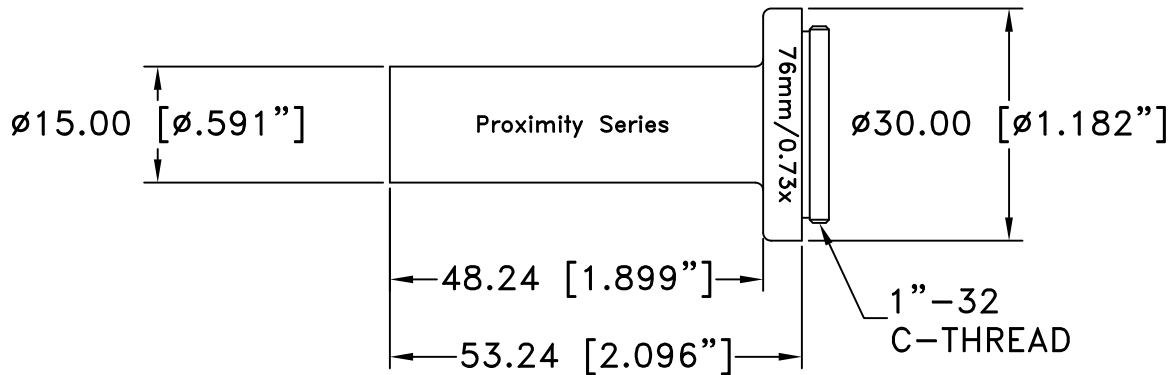
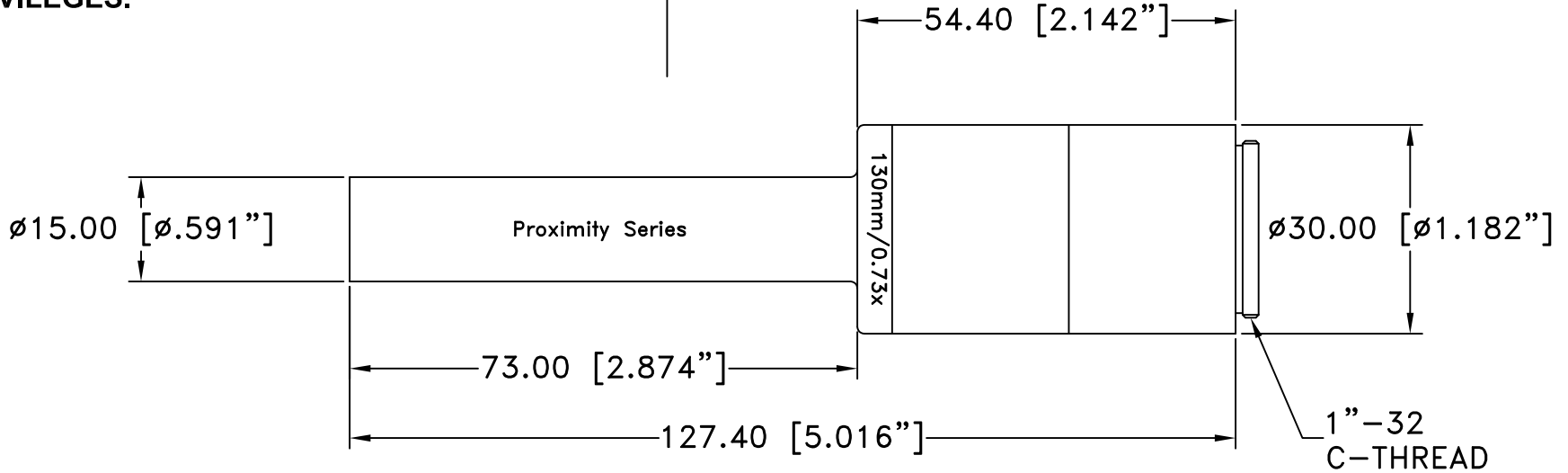
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INFINISTIX CONFIGURATION

| | | | |
|------------|----------|--------------|----------|
| SIZE B | FSCM NO. | DWG NO. | REV C |
| SCALE NONE | | SHEET 1 of 1 | |

NOTE: THIS DRAWING IS FOR INFORMATIONAL PURPOSES ONLY AND CONVEYS NO OTHER RIGHTS OR PRIVILEGES.

| REVISIONS | | | | |
|-----------|-----|-------------|------|----------|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |



ALL DIM ARE mm [inches] AND ARE FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

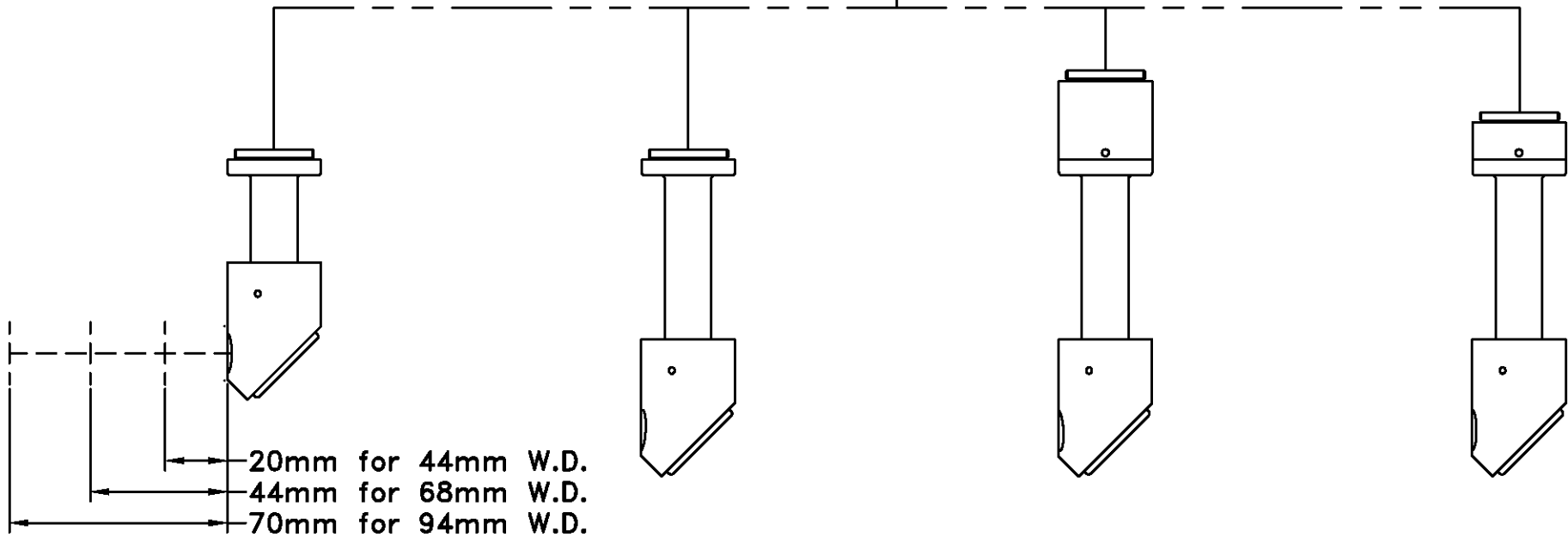
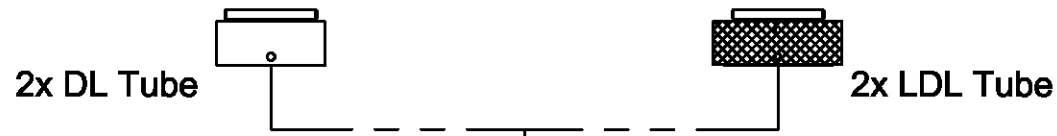
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INFINISTIX 76mm WD 0.73x AND 130mm WD 0.73x

| | | | | |
|--------------------------|----------------------|------------------------|---------|----------|
| Date: 10/18/11 MB | SIZE A | FSCM NO. | DWG NO. | REV - |
| Modified: | SCALE NONE | SHEET 1 of 1 | | |

InfiniStix™ with 90° Mirror mounted

Power Module Amplifier
(optional)



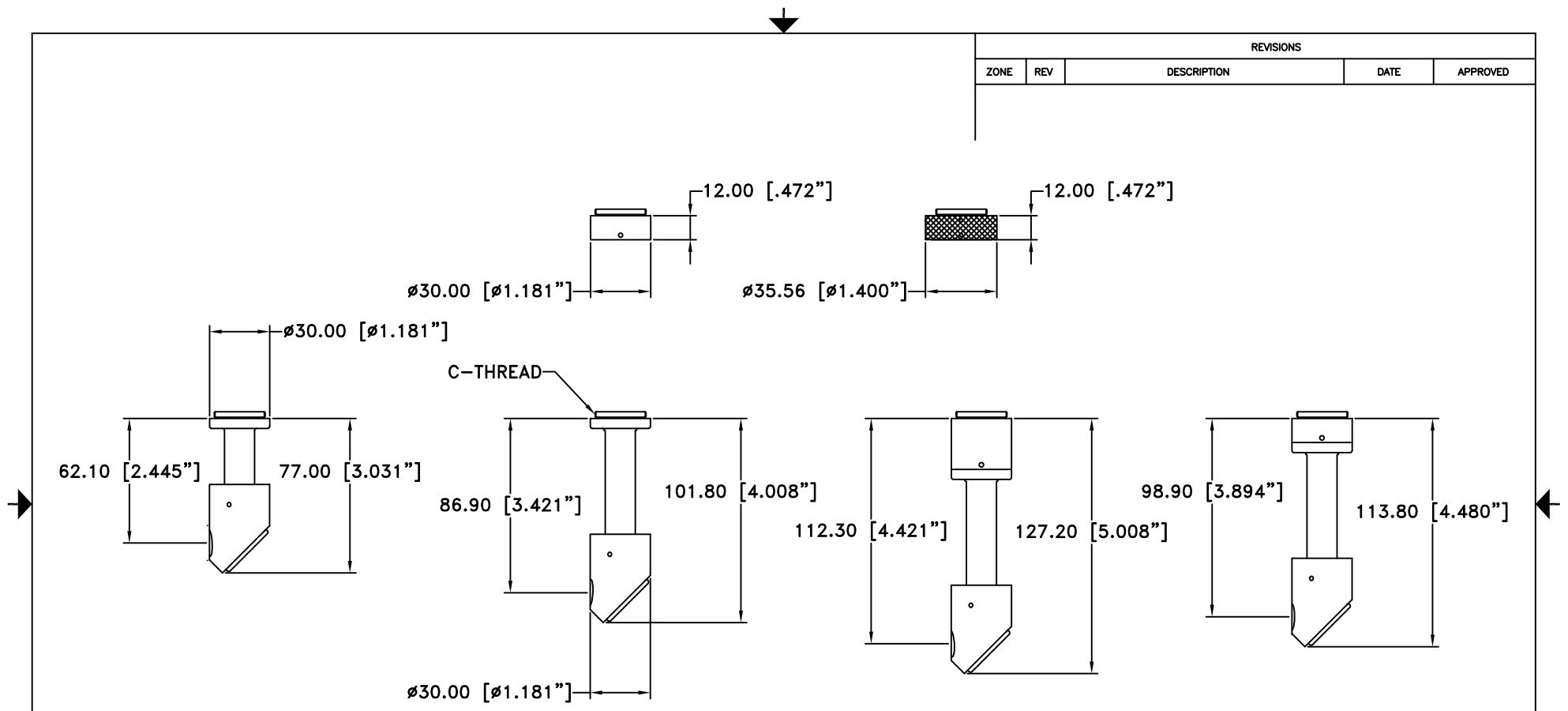
44mm W.D./1.00x
68mm W.D./0.66x
94mm W.D./0.50x

44mm W.D./1.50x
68mm W.D./1.00x
94mm W.D./0.75x

44mm W.D./2.00x
68mm W.D./1.33x
94mm W.D./1.00x

44mm W.D./3.00x
68mm W.D./2.00x
94mm W.D./1.50x

| REVISIONS | | | | |
|-----------|-----|-------------|------|----------|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |
| | | | | |



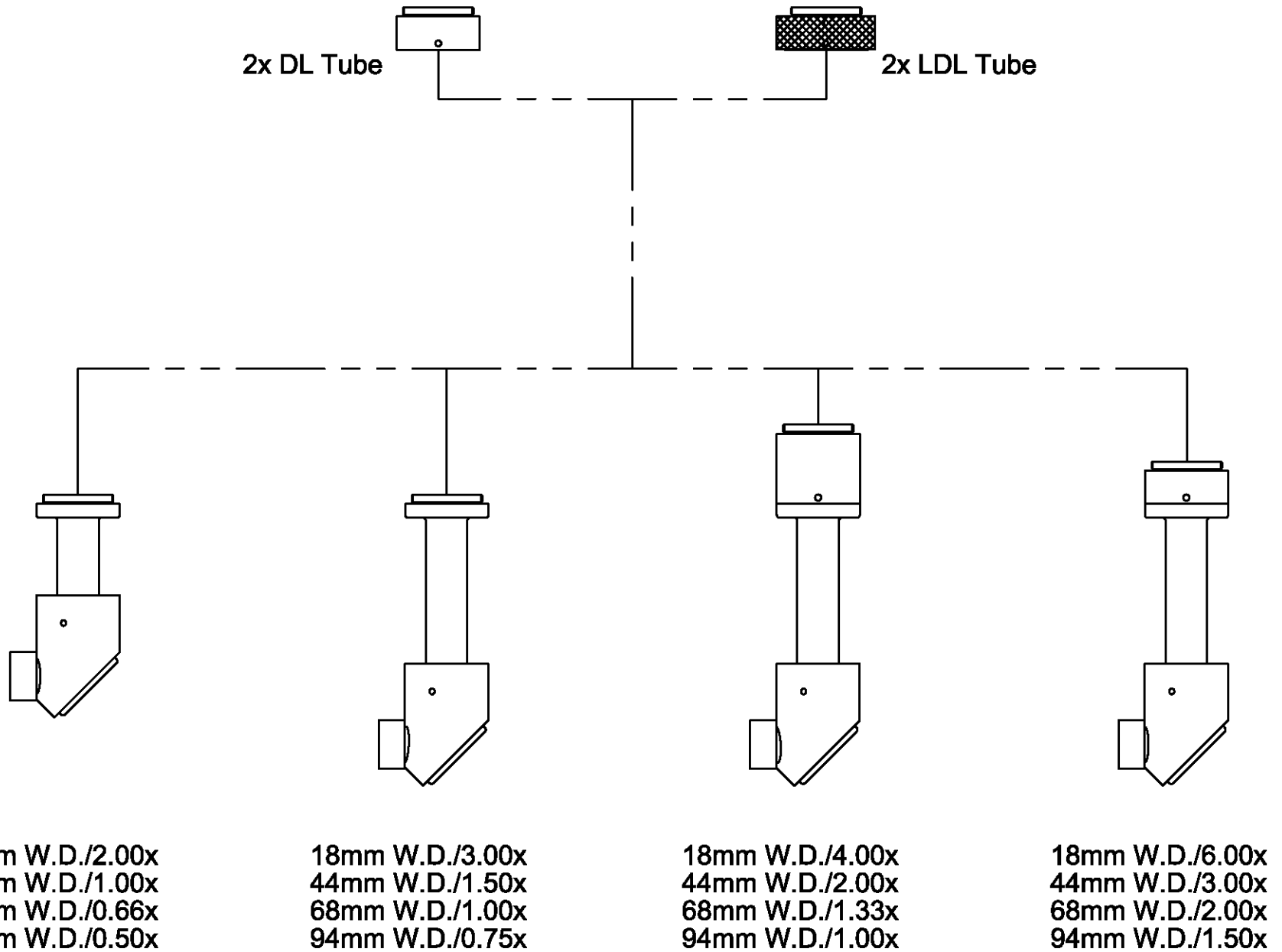
NOTES:

- 1. SURFACE ANODIZED BLACK

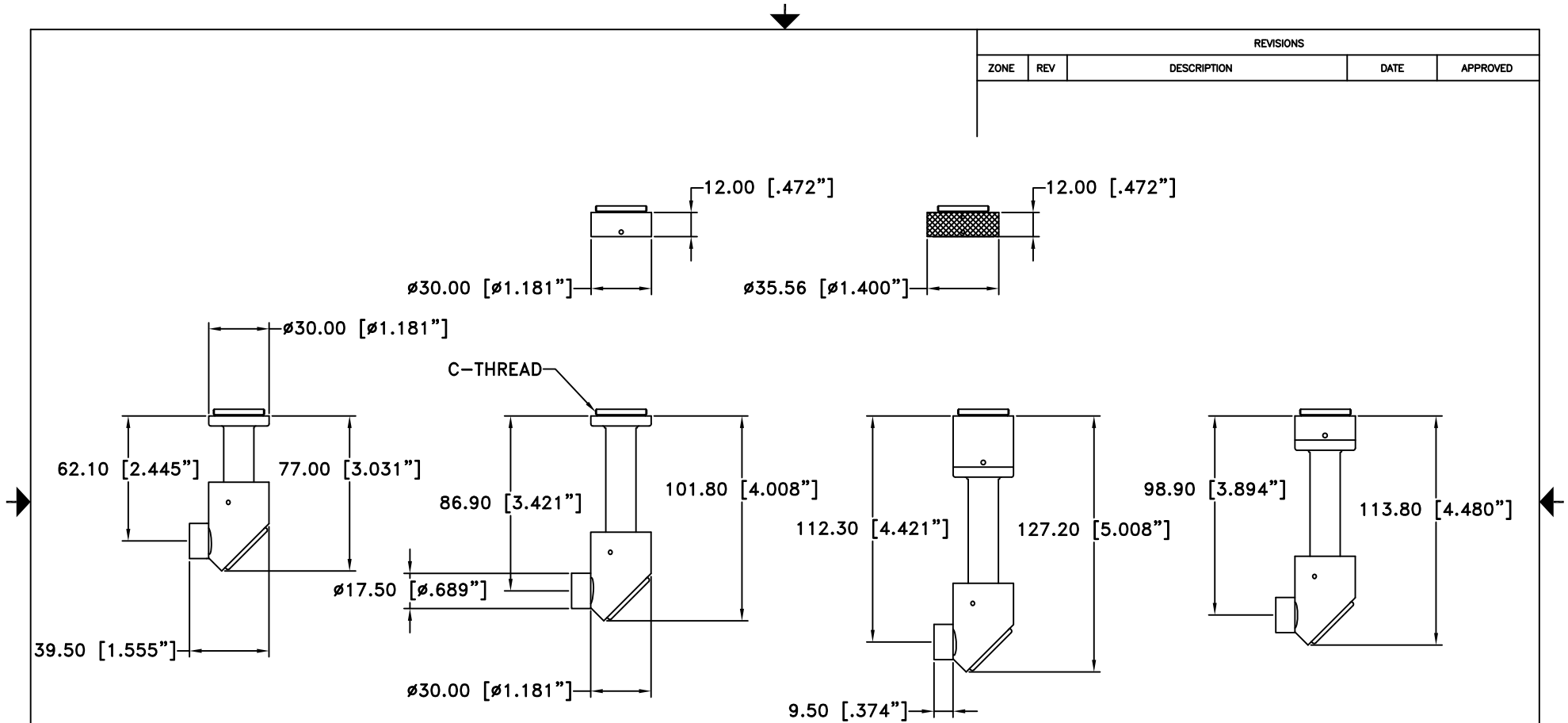
| | | | | |
|---|-------------------|---|--------------|---------------|
| ALL DIM ARE mm [inches] AND ARE FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE. | | INFINITY Photo-Optical Company www.infinity-usa.com | | |
| | | INFINISTIX w/90 DEGREE MIRROR DIMENSIONS | | |
| Date: 12/15/08 MB | SIZE B | FSCM NO. | DWG NO. - | REV - |
| Modified: | SCALE NONE | - | SHEET | 1 OF 1 |

InfiniStix™ 90°

Power Module Amplifier
(optional)



| REVISIONS | | | | |
|-----------|-----|-------------|------|----------|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |
| | | | | |



NOTES:

1. SURFACE ANODIZED BLACK

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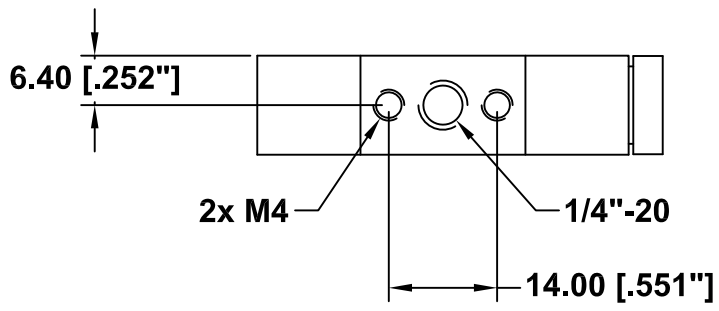
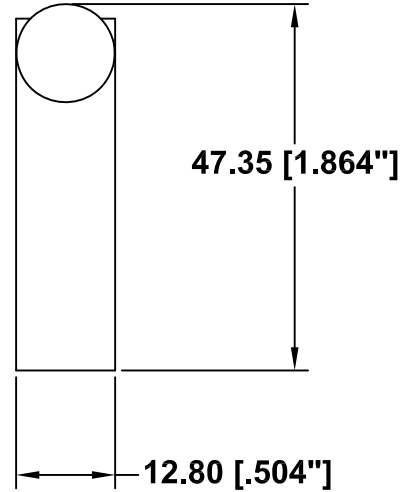
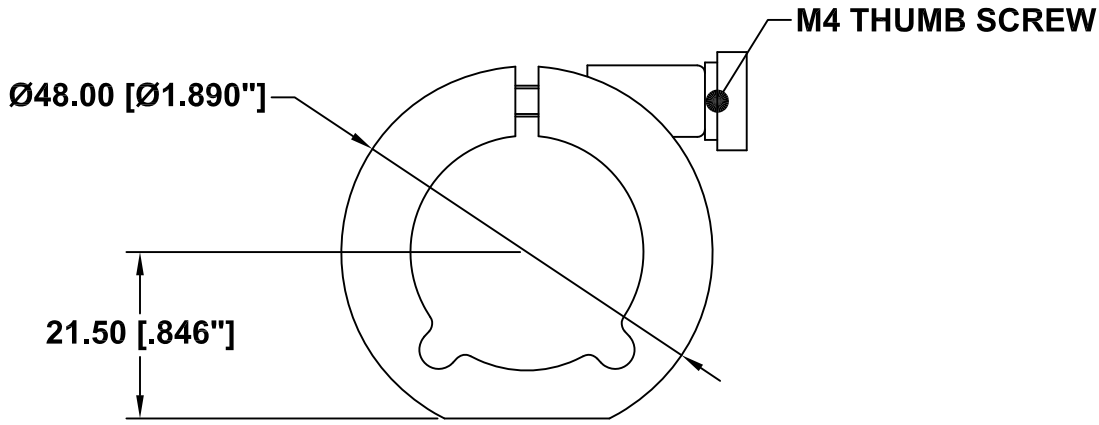
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INFINISTIX 90 DEGREE DIMENTIONS

| | | | | | |
|-----------------------|------------|----------|--------------|---|-------|
| Date: 01/04/02 MB | SIZE B | FSCM NO. | DWG NO. | - | REV A |
| Modified: 12/02/08 MB | SCALE NONE | - | SHEET 1 OF 1 | | |



| REVISIONS | | | | |
|-----------|-----|-------------|------|----------|
| ZONE | REV | DESCRIPTION | DATE | APPROVED |
| | | | | |



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SMALL MOUNTING CLAMP

| | | | | | |
|-----------------------|--|------------|--------------|-----------------|-------|
| Date: 03/19/01 MB | | SIZE A | FSCM NO. | DWG NO. 990 171 | REV A |
| Modified: 04/06/01 MB | | SCALE NONE | SHEET 1 of 1 | | |



INFINITY PHOTO-OPTICAL COMPANY LIMITED WARRANTY

INFINITY PHOTO-OPTICAL COMPANY hereby warrants its products to be free from defects in workmanship or materials for the warranty period set forth below. INFINITY PHOTO-OPTICAL COMPANY, at its option, shall repair or replace the defective product without cost to the purchaser, and such repair or replacement shall be the full extent of this express limited warranty. INFINITY PHOTO-OPTICAL COMPANY shall not be liable for any other damages either direct or consequential.

This warranty is made to the original purchaser, and is effective only on new equipment purchased from INFINITY PHOTO-OPTICAL COMPANY, or a dealer authorized by INFINITY PHOTO-OPTICAL COMPANY to sell the product.

This warranty is valid only when the product is returned to the authorized dealer from whom it was purchased, or returned directly to INFINITY PHOTO-OPTICAL COMPANY, freight prepaid, with proof of date of purchase.

This warranty does not extend to any defect, malfunction or failure caused by misuse, abuse or the use of the product with equipment for which it may not have been intended. Any unauthorized repair voids this warranty.

The warranty period for all products manufactured by INFINITY PHOTO-OPTICAL COMPANY is five (5) years from date of original purchase. Parts or components made or sourced from other manufacturers shall be solely covered by that manufacturer's warranty.

The warranty contained herein is the only warranty made by INFINITY PHOTO-OPTICAL COMPANY. Any implied warranty of merchantability and/or fitness for a particular purpose is expressly excluded from this warranty. INFINITY PHOTO-OPTICAL COMPANY shall not be liable for any expense, loss, incidental or consequential damages which may arise in connection with the use of this equipment. Recovery under this warranty is limited to repair or replacement of the equipment as provided above.

INFINITY PHOTO-OPTICAL COMPANY reserves the right to modify designs, equipment and accessories without notice.

RETURNING INFINITY PRODUCTS FOR SERVICE

Warranty Repairs:

If you have reason to think something is wrong or functioning improperly with your Infinity Photo-Optical product under the terms of the Warranty, please contact us to explain the problem. We can not accept items sent to us without first discussing the problem and providing you with a return merchandise authorization (RMA). Customer is responsible for delivery charges to us. We will examine the product and inform you whether or not the Warranty applies. If so, we will repair/replace the item to factory specifications free of charge. Return delivery charges will be paid by us. If the item(s) is/are deemed out of Warranty, we will advise if repairs can be made at a quoted charge. If customer refuses to authorize a charged repair, item will be returned at the customer's expense.

Repairs of Out of Warranty Products:

Often, we get requests to fix or repair products which are clearly older models out of Warranty. Before attempting to send such to us, please contact Infinity to go over what is desired. It is helpful to send us photos of the product so that we can see if there is a reasonable basis for a repair. Often, older instruments are "inherited" in a department and may have been tampered with by previous users. Infinity products obtained second-hand may have missing parts. After obtaining an RMA as detailed above for Warranty repairs, we will examine the item(s) and provide you with an estimate of charges for repair and return delivery to a level of performance agreed upon. Sometimes it is not possible to cost-effectively repair a product that has been abused or disassembled. A slight cosmetic defect may not affect performance and if so, we will not repair or replace it unless instructed to do so at additional charges. Upon your authorization for us to perform the repair, you will be charged at the price previously quoted for the service and delivery charges involved.