

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

CERTIFICATE # 33940 ASSET # 007243 DATE 4/2/99

ITEM DATA:

Manufacturer SwRI Model 10K - 100M OHM
Description RESISTANCE BOX Serial # _____
Accessories mm

ACTION REQUESTED ASSEMBLY + CAL.

CUSTODIAN Donnell Dunn DIV 20

Turned in by: _____ Phone _____

CHARGE # 20-1402-571 Date Required _____

INSTRUMENT USED ON: (DOD/NASA) NUCLEAR (GLP) (SPPE) (ISO)
 OTHER _____

COPY OF CALIBRATION CERTIFICATE (Yes) (No)

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.

By [Signature] Date 4/2/99

Work involves proprietary/confidential information or equipment (Yes) (No)

CONDITION RECEIVED: _____ (F) Out of tolerance, repaired to specifications
_____ (G) In tolerance, minor adjustments/repairs made
_____ (J) In tolerance, no adjustments/repairs
_____ (K) Out of tolerance, adjusted to specifications
 (S) Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) ordered resistors on P.R.#489679 MAD!
RESISTANCES READ 100K Ω
10 Meg Ω

CAL ENVIRONMENT:
Temperature 75 °F Humidity 39 %RH

CALIBRATED/REPAIRED:
By [Signature] Cal Procedure CLCP-OR-001 Apr 97
Date 9 June 99 Accuracy _____
Cal Interval 1200 6 Reliability Code: [Signature]
Next Cal due 9 June 00 9 Dec 99 Cal Time 6.5 Repair Time _____
Standards used (Asset#) 1505, 5243

DATE COMPLETED 9 June 99
DATE PICKED UP 6/22/99 PICKED UP BY [Signature]

33940

SOUTHWEST RESEARCH INSTITUTE
Department of Quality Assurance
Calibration Laboratory • 522-5215

WORK ORDER

WORK ORDER # 37059 ASSET # 007943 DATE 08 Dec. 99

ITEM DATA:

Manufacturer SwRI Model 100K/10 Mohm
Description mt box Serial # 7943
Accessories _____

ACTION REQUESTED mt

CUSTODIAN D. J. Dunn

Turned in by: _____ Phone 6096

CHARGE # 20-01 Date Required _____

INSTRUMENT USED ON: (DOD/NASA) (NUCLEAR) (GLP) (SPPE) (ISO)
 OTHER _____

COPY OF CALIBRATION CERTIFICATE (Yes) (No)

NEW WORK Yes No If yes, an evaluation shall be made to verify capabilities.

By mt Date 12-08-99

Work involves proprietary/confidential information or equipment (Yes) (No)

CONDITION RECEIVED: Out of tolerance
 In tolerance
 Damaged (Contact customer)
 Contact _____ Date _____
 Received into system, introduced or reactivated

ACTION TAKEN: (Calibration/Repair/Parts) _____

9.955236 Max ± 1% (.45%)
99.67313 1% (.33%)

CAL ENVIRONMENT:

Temperature 70 °F Humidity 40 %RH

CALIBRATED/REPAIRED:

By Prohm Cal Procedure CH 70 - JUN 99

Date 9 Dec 99 Accuracy _____

Cal Interval 6 Reliability Code 1

Next Cal Due 9 Jun 00 Cal Time .5 Repair Time _____

Standards used (Asset #) 1505

DATE COMPLETED 9 Dec 99

DATE PICKED UP 12/14/99 PICKED UP BY Dunn

37059

WORK ORDER 39643

Date Received 7/6/00

Asset No. 007243 Manufacturer SWRI Model 10K-100M OHMS
 Description RESISTOR BOX Serial Number 7243
 Accessory Received/Required NONE
 Div/CC ID NONE Accessory to Asset No. N/A
 Div/CC DIV20 Location B57 Custodian DARRELL DUNN Tel. 6090
 Charge/Project No. 20.00751.006 Proprietary/Confidential N Date Required ROUTINE
 Work Requested CALIBRATION
 Receiving Inspection OK
 Delivered By DARRELL DUNN Tel. 6090

WORK HISTORY

Date	Start Time	Stop Time	Notes
<u>7 July 00</u>		<u>2w</u>	<u>Calibrate</u>
			<u>10MVA - 99552</u>
			<u>99.6796-</u>

PARTS

Part Name	Part Number	Cost	Failure Description

39643

WORK SUMMARY

Failure Description _____
 Repair Action _____
 Cal Procedure CL70JUN99 Temp 72 F Hum 43 %
 Tech ADL Cal Hrs. 2 Repair Hrs. _____ Part Cost _____
 Action Taken Calibrate
 Standards Used 007001
 Date Cal 7 July 00 Int. 6 Mo. Date Due 7 JAN 01 Reliability Code 2
 Date Picked Up _____ Picked Up By _____



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory

Accredited



Certificate #
0972-01

Certificate of Calibration

7 July 2000

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: SWRI 10K-100M OHMS
Description: RESISTOR BOX
Serial Number: 7243
Asset Number: 007243

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. The results of this calibration relate only to the individual item as described above. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results of this calibration certificate were determined in accordance with the terms of accreditation unless stated otherwise below.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 72.0 Degrees Fahrenheit Humidity: 43 % RH

Calibration Date: 7 Jul 00 **Calibration Procedure:** CL70JUN99

Condition as Received: In Tolerance

Remarks:

Approved by:

Jim Patterson, Supervisor, or Walt Hill, Metrologist

Certificate # 39643

m:\a2la.rpt Rev date 22 May 00

Measurements performed by:

Tony Planas, Technician

Page 1 of 1

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Processed by RCRUZ at 4:00:53PM on 4/26/01

||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

Work Order **444043366**

Arrived 4/26/01

Asset No. 007243 Manufacturer SWRI

Model 10K-100M OHMS

Instrument Type/Class RESISTOR BOX

Serial No. 7243

Accessory No. Calibration Procedure CL70JUN99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel. 6090

Charge/Project No. 20.00751.006

Delivered By / Telephone

IN4CAL

Special Instructions _____

WORK NOTES

Date	Hours	Remarks/Notes
<u>4-27-01</u>	<u>0.5</u>	<u>Calibrate</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

REPAIR PARTS

Date	Hours	Part Name	Part Number	Failure Description	Cost
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description None

Repair Action None

Calibration Procedure CL70, Jun 99 Temp 72 F Hum. 40 %

Tech R Dykstra / T Hannon Totals Cal Hours 0.5 Repair Hours _____ Parts Cost _____

Standards Used 007001

Date Picked Up 5/2/01

Picked Up By [Signature]

43366



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6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory



Certificate #
0972-01

Certificate of Calibration

27 April 2001

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: SWRI 10K-100M OHMS
Description: RESISTOR BOX
Serial Number: 7243
Asset Number: 007243
Work Order Number: 444043366

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NC SL Z540-1-1994. The results of this calibration relate only to the individual item as described above. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

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The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 72.0 Degrees Fahrenheit Humidity: 40 % RH

Calibration Date: 27 Apr 01 **Calibration Procedure:** CL-70, JUN99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Walt Hill, Supervisor
Institute Calibration Laboratory

Measurements performed by:

Tom Hannon, Technician

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Received by RCRUZ,10/26/01 11:23:26AM

1 00011 0011 0011 1000 1001 0100 111 1001

Arrived 10/26/01

Work Order **444045919**

Asset No 007243 Manufacturer SWRI

Model 10K-100M OHMS

Equipment Type RESISTOR BOX

Serial No. 7243

Accessory No.

Interval 6 M

Calibration Procedure CL-70, JUN99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel 6090

IN4CAL

Special Instructions _____

Notify before adjustments or repairs. () Provide data with certificate () Certificate Type 2540

Charge/Project No. 00751.006 1.20

Requester / Telephone _____

This information is correct for the work requested. _____

Darrell Dunn

WORK NOTES

Date	Hours	Remarks/Notes
<u>Oct. 29, 2001</u>		<u>Calibrate</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Date	Hours	Part Name	Part Number	Failure Description	Cost
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

WORK SUMMARY

Failure Description None

Repair Action Calibrate

Tech Ben Cal Hrs. 1.0 Repair Hrs _____ Parts Cost _____ Temp 71 F Hum. 43 %

Standards Used 1505

Date Picked Up 11/16/01

Picked Up By B. Dunn

444045919



Southwest Research Institute
6220 Culebra Road
San Antonio, TX 78238
(210) 522-5215
Department of Quality Assurance
Calibration Laboratory



Certificate #
0972-01

Certificate of Calibration

29 October 2001

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: SWRI 10K-100M OHMS
Description: RESISTOR BOX
Serial Number: 7243
Asset Number: 007243
Work Order Number: 444045919

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. The results of this calibration relate only to the individual item as described above. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results of this calibration certificate were determined in accordance with the terms of accreditation unless stated otherwise below.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 71.0 Degrees Fahrenheit Humidity: 43 % RH

Calibration Date: 29 Oct 01 **Calibration Procedure:** CL-70, JUN99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

Remarks:

Approved by:

Walt Hill, Supervisor
Institute Calibration Laboratory

Measurements performed by:

Tom Hannon, Technician

SOUTHWEST RESEARCH INSTITUTE

Calibration Laboratory

WORK ORDER

Received by RCRUZ, 4/17/02 4:03:18PM

Arrived 4/17/02

Work Order **444048239**

Asset No. 007243 Manufacturer SWRI

Model 10K-100M OHMS

Equipment Type RESISTOR BOX

Serial No. 7243

Accessory No.

Interval 6 M

Calibration Procedure CL-70, JUN99

Location B57

Div/Client DIV20

Custodian DARRELL DUNN

Mail Stop B57

Tel 6090

IN LINE

Special Instructions _____

Notify before adjustments or repairs. () Provide data with certificate () Certificate Typ. _____

Charge/Project No. 00751.006 1.20

Requester / Telephone DARRELL DUNN X6090

This information is correct for the work requested. Darrell Dunn

WORK NOTES

Date Hours Remarks/Notes

April 18, 2002 Calibrate

Date	Hours	Part Name	Part Number	Failure Description	Cost
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WORK SUMMARY

Failure Description None

Repair Action Recal

Techn [Signature] Cal Hrs. 0.5 Repair Hrs _____ Parts Cost _____ Temp 72 F Hum. 42 %

Standards Used 1508 1505

Date Picked Up 5/9/02

Picked Up By Darrell Dunn

444048239



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6220 Culebra Road
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Department of Quality Assurance
Calibration Laboratory

Certificate of Calibration

18 April 2002

Issued to: DARRELL DUNN DIV20 B57
Manufacturer/Model: SWRI 10K-100M OHMS
Description: RESISTOR BOX
Serial Number: 7243
Asset Number: 007243
Work Order Number: 444048239

This certifies the above item was calibrated in compliance with MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Standards used in this calibration, described in the referenced calibration procedure with associated uncertainties or tolerances, are traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request. This certificate is not to be reproduced, except in full, without the written approval of the Southwest Research Institute Department of Quality Assurance Calibration Laboratory.

The uncertainty of the calibration was sufficient to determine that the item met the manufacturer's published specifications unless stated otherwise below.

Ambient Conditions: Temperature: 72.0 Degrees Fahrenheit Humidity: 42 % RH

Calibration Date: 18 Apr 02 **Calibration Procedure:** CL-70, JUN99

Condition as Received: IN TOLERANCE

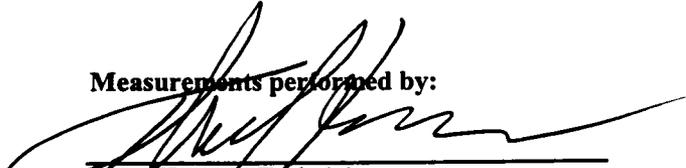
Condition as Returned: IN TOLERANCE

Remarks:

Approved by:


Walt Hill, Metrology Group Leader
Institute Calibration Laboratory

Measurements performed by:


Tom Hannon, Technician