#### Department of Quality Assurance Calibration Laboratory

#### CERTIFICATE OF CALIBRATION

Issued to: DIV20 B57 NARASI SRIDHAR

Manufacturer: ABB Model: SE 120

Nomenclature: PLOTTER

Serial Number: 0049616 SwRI No: NONE

Remarks

*م*ر

Accuracy: MFGR

Procedure: MFGR

Device No: 2291

ENVIRONMENT

Temperature: 72 Humidity: 39 Location: ROOM All B68 SWRI

CONCLUSION

Tolerance/Remarks: Received into the system, introduced or reactivated

Calibration was in accord with requirements of MIL-STD-45662A. Measurements are traceable to the National Institute of Standards and Technology. Inspection and test data are on file and available for inspection.

signed \_\_\_\_ Chitting & liman

Calibration Date: 04/05/93

Record Number: 00010992

Next Calibration Due: 04/05/94

#### Department of Quality Assurance Calibration Laboratory

Device Serial No: 0049616

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Calibration Date: 04/05/93

STANDARDS

Standard No: 132 Manufacturer: JOHN FLUKE Model: 5100B Nomenclature: CALIBRATOR Serial No: 2730017 Cal.Due: 04/08/93 Cal.Rec.No: 00009975

Department of Quality Assurance Calibration Laboratory

CERTIFICATE OF CALIBRATION

SwRI No: NONE

Issued to: DIV20 B57 NARASI SRIDHAR

Device No: 2291

Cal interval 12 Mo.

Procedure: MFGR

Model: SE 120 Manufacturer: ABB

Nomenclature: PLOTTER

Serial Number: 0049616

Remarks

\*Accuracy: .5% of input

Accuracy: \*

ENVIRONMENT

Temperature: 74 Humidity: 45 Location: ROOM All B68 SWRI

CONCLUSION

Tolerance/Remarks: Received in tolerance, no adjustments made

Calibration was in accord with requirements of MIL-STD-45662A. Measurements are traceable to the National Institute of Standards and Technology. Inspection and test data are on file and available for inspection.

atty Ola Signed \_\_\_\_

Calibration Date: 04/05/94 Cal interval: 12 Months

Record Number: 00013772

Next Calibration Due: 04/05/95

Department of Quality Assurance Calibration Laboratory

Device Serial No: 0049616

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Calibration Date: 04/05/94

#### STANDARDS

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Standard No:168Manufacturer:JOHN FLUKEModel:335ANomenclature:DC VOLTAGE STANDARD/DIFFERENTIAL VOLTMETER/NULL DET.Serial No:775024Cal.Due:04/19/94Cal.Rec.No:00012453

#### Department of Quality Assurance Calibration Laboratory

#### CERTIFICATE OF CALIBRATION 05/02/95

Issued to: Manufacturer: Nomenclature:	DARRELL ABB PLOTTER	DUNN	DIV20	,857	Asset Number: 002291 Model Number: SE 120
Serial Number:	0049616				SwRI/Div. I.D. #:
			ENVIRONM	IENTAL CONDITIONS	
Temperature: 7	4.OF				Relative Humidity: 439
				TON THEODMANTON	

#### CALIBRATION INFORMATION

Accuracy: MFGR SPECS Received IN Tolerance

Procedure Number: MFGR Remarks:

Calibration was in accordance with requirements of MIL-STD-45662A. Measurements are traceable to the National Institute of Standards and Tech-nology. Inspection and test data are on file and available for inspection.

#### STANDARDS USED FOR CERTIFICATION

Asset #	Serial #	Mfg	Model #	Nomenclature	Cal Date	Int.	Cal Due
 000132	2730017	FLUKE	5100B	CALIBRATOR	11/16/94	6	05/16/95
003237	4193001	EXTEC	DL-SW230	STOP WATCH	01/19/95	6	07/19/95

Certified by : \_\_\_\_\_ On They Plansm

Calibration Date: 05/02/95 Interval: 12 months Next Calibration Due: 05/02/96

Certificate#: 17111



Calibration was in accordance with requirements of MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Measurements are traceable to the National Institute of Standards and Technology (NIST). This report may not be reproduced except in full without written approval of the originator. Inspection and test data are on file and available for inspection.

Calibration Date: 23 May 96	Calibration Procedure:	330006703
Interval: 12 months	Accuracy: MFGR SPE	CS
Next Calibration Due: 23 May 97	Received: In Tolerance	

**Remarks:** 

Certificate # 21222

Signed:	anthy Plan	~

LAST PAGE OF REPORT Total Pages Printed: 1



Southwest Research Institute 6220 Culebra Road San Antonio, TX 78238 Department of Quality Assurance Calibration Laboratory

## **Certificate of Calibration**

2 June 1997

Issued to: DAR	RELL DUNN		DIV20	B57
Manufacturer/Mo	del: ABB	SE 120		
Description:	PLOTTER			
Serial Number:	0049616			
Asset Number:	002291			

Environmental Conditions

Temperature: 77.0 Deg. F Humidity: 49%

## **Calibration Information**

Calibration was in accordance with requirements of MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Measurements are traceable to the National Institute of Standards and Technology (NIST). This report may not be reproduced except in full without written approval of the originator. Inspection and test data are on file and available for inspection.

Calibration Date: 2 Jun 97	Calibration Procedure: 300.0067.03
Interval: 12 months	Accuracy: MFG SPECS
Next Calibration Due: 2 Jun 98	Received: In Tolerance
Remarks:	

Standards Used

Asset	MFR	Model	Description	Serial No.	Due Cal
000168	FLUKE	335A	DC VOLTAGE STANDARD/D	775024	4 Aug 97

Certificate # 25530

Signed: \_\_\_\_\_

LAST PAGE OF REPORT Total Pages Printed: 1



Southwest Research Institute 6220 Culebra Road San Antonio, TX 78238 Department of Quality Assurance Calibration Laboratory



# **Certificate of Calibration**

5 June 1998

ARRELL DUNN		DIV20	B57
odel: ABB	SE 120		
PLOTTER			
0049616			
002291			
	ARRELL DUNN odel: ABB PLOTTER 0049616 002291	ARRELL DUNN odel: ABB SE 120 PLOTTER 0049616 002291	ARRELL DUNN DIV20 Del: ABB SE 120 PLOTTER 0049616 002291

#### Environmental Conditions

Temperature: 73.00 Deg. F

Humidity: 48 % RH

## Calibration Information

Calibration was in accordance with requirements of MIL-STD-45662A and ANSI/NCSL Z540-1-1994. Measurements are traceable to the National Institute of Standards and Technology (NIST). This report may not be reproduced except in full without written approval of the originator. Inspection and test data are on file and available for inspection.

The uncertainty of the calibration was sufficient to determine that the instrument met the manufacturer's specifications.

Calibration Date:	5 Jun 98	Calibration Procedure:	MFGR MANUAL
Interval: 12	months		
Next Calibration D	ue: 5 Jun 99	Received: In Tolerance	
Remarks:			

## Standards Used

Asset	MFR	Model	Description	Serial No.	Due Cal
000168	FLUKE	335A	DC VOLTAGE STANDARD/DIFFE	775024	23 Oct 98

	Signed:	ASV
	Title:	Stuft Tech
LAST PAGE OF REPORT		
Total Pages Printed: 1		

Certificate # 29977



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



Certificate # 0972-01

## **Certificate of Calibration**

15 June 1999

Issued to:DARRELL DUNN DIV20 B57Manufacturer/Model:ABBEON SE 120Description:PLOTTERSerial Number:0049616Asset Number:002291

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.

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: 75.0 Degrees Fahrenheit Humidity: 42 % RH

Calibration Date: 15 Jun 99

Calibration Procedure: CL-75, JUNE 99

**Condition as Received:** IN TOLERANCE

Condition as Released: IN TOLERANCE

**Remarks:** 

Approved the

Jim Patterson, Supervisor or Walt Hill, Metrologist Certificate # 34810 m:\a2la.rpt Rev date 10 Mar 99 Measurements performed by:

**Fony Planas**, Technician

Page 1 of 1



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



# **Certificate of Calibration**

4 September 2001

Issued to:DARRELL DUNN DIV20 B57Manufacturer/Model:ABBEON SE 120Description:STRIP CHART RECORDERSerial Number:0049616Asset Number:002291Work Order Number:444044940

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: 42 % RH

Calibration Date: 4 Sep 01 Calibration Procedure: CL-75 6/99

Condition as Received: IN TOLERANCE

Condition as Released: IN TOLERANCE

**Remarks:** 

Approved by: Waltour

Walt Hill, Supervisor Institute Calibration Laboratory m\a2la.rpt Rev date 8 Jan 01

Measurements performed by:

Jong Pla

Tony Planas, Technician

Page 1 of 1

R			6220 Culebra Ro Institute C Institute Cali Phone: 210-522-5 <b>Certificate</b>	ad, P.O. Drawer 28510 Quality Systems bration Laboratory 215 Fax 210-522-3692 of Calibration	
	Submitted By:	DIV20		Work Order:	444050124
	Address:	B57		Date Issued:	Sep 6, 2002
	Contact:	DARRELL DUN	N .	Calibration Date:	Sep 6, 2002
Manufa	cturer Model:	ABBEON SE 1	20	**Calibration Due:	Sep 6, 2003
	Description:	STRIP CHART	RECORDER	Calibration Location:	N/A Tomp 72.0°E Hum 40.9/PH
	Asset No:	0049010		* As Found:	IN TOLER ANCE
	Procedure:	CL-75 6/99		*As Left:	IN TOLERANCE
onforms to IS e reproduced istrument des . S. Governm ncertainty ever presents an e	O/IEC 17025, 1995, except in full, with cribed above. This nent. reluation includes th expanded uncertaint	and ANSI/NCSL Z5 out the written approv certificate shall not be e item under test and y using a coverage fac	40-1-1994 which are equivalent al of the Southwest Research I e used to claim product endorse is calculated in accordance with tor of k=2 to approximate a 950 (sectated in remarks or a path	t to relevant requirements of the ISO 9000-1994 nstitute Calibration Laboratory. The results of t ment by the American Association for Laborato in the ISO "Guide to the Expression of Uncertain % confidence level. The calibration process pro	series of standards. This certificate may his calibration relate only to the individua ry Accreditation (A2LA) or any agency of ty in Measurement" (GUM). The uncerta vides a Test Uncertainty Ratio (TUR) of
	TI			-	
tability of the *Calibration e out of tolera <b>Remarks:</b>	interval is determine ince before the next None	ed by the client and do calibration date.	bes not assure the instrument wi	ill remain within tolerance until this date. Any r	number of factors may cause the instrume
*Calibration *Calibration e out of tolera kemarks: tandards Asset	interval is determinu nice before the next None Used Manufacturer	ed by the client and do calibration date.	wes not assure the instrument wi	ill remain within tolerance until this date. Any r Description	number of factors may cause the instrume Cal Due
Ability of the *Calibration e out of tolera cemarks: tandards Asset 004164	interval is determinu ance before the next None Used Manufacturer FLUKE	ed by the client and do calibration date.	Model 5500A/SC300	ill remain within tolerance until this date. Any r Description CALIBRATOR	number of factors may cause the instrume Cal Due Jul 25, 03
tability of the *Calibration e out of tolera <b>Remarks :</b> itandards Asset 004164	interval is determinu ance before the next None Used Manufacturer FLUKE	ed by the client and do calibration date.	Model 5500A/SC300	ill remain within tolerance until this date. Any r Description CALIBRATOR	number of factors may cause the instrume Cal Due Jul 25, 03

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### Southwest Research Institute Calibration laboratory Calibration Sheet.

Work Order:	444050124	Mfr.	Abb	Technician	Tplanas	
Asset No.	2291	Model	SE120	Procedure	CL-75 06/99	
Serial No.	0049616	Туре.	Chart Recorder	Cal Date.	6 Sept. 02	
Remarks:						

Function/Range	Test Point	TI Reading	Difference	Test Limits+/-	Uncertainty	Found/Left
DCV Ch 1	mVolts	mVolts	mVolts	mVolts	mVolts	Results
1 mV	1.000	0.996	-0.004	0.010	2.7:1	Pass
2 mV	2.000	2.010	0.010	0.010	2.7:1	Pass
5 mV	5.000	4.987	-0.013	0.025	2.5:1	Pass
10 mV	10.00	9.98	~0.02	0.05	>4:1	Pass
20 mV	20.00	19.96	-0.04	0.10	>4:1	Pass
50 mV	50.00	49.85	-0.15	0.25	>4:1	Pass
100 mV	100.0	99.9	-0.1	0.5	>4:1	Pass
	50.0	49.9	-0.1	0.3	>4:1	Pass
	25.00	24.94	-0.06	0.13	>4:1	Pass
DCV	Volts	Volts	Volts	Volts	Volts	Results
1 V	1.000	0.997	-0.003	0.005	>4:1	Pass
2 V	2.000	1.999	-0.001	0.010	>4:1	Pass
5 V	5.000	5.003	0.003	0.025	>4:1	Pass
10 V	10.00	9.98	-0.02	0.05	>4:1	Pass
20 V	20.00	19.94	-0.06	0.10	>4:1	Pass
50 V	50.00	50.00	0.00	0.25	>4:1	Pass
100 V	100.00	99.89	-0.11	0.50	>4:1	Pass
200 V	200.0	199.4	-0.6	1.0	>4:1	Pass

Function/Range	Test Point	TI Reading	Difference	Test Limits+/-	Uncertainty	
DCV Ch 2	mVolts	mVolts	mVolts	mVolts	mVolts	Results
1 mV	1.000	0.999	-0.001	0.010	2.7:1	Pass
2 mV	2.000	1.990	-0.010	0.010	2.7:1	Pass
5 mV	5.000	4.985	-0.015	0.025	2.5:1	Pass
10 mV	10.00	9.98	-0.02	0.05	>4:1	Pass
20 mV	20.00	19.93	-0.07	0.10	>4:1	Pass
50 mV	50.00	50.00	0.00	0.25	>4:1	Pass
100 mV	100.0	99.8	-0.2	0.5	>4:1	Pass
	50.0	49.9	-0.1	0.3	<b>&gt;4</b> :1	Pass
	25.00	24.88	-0.12	0.13	>4:1	Pass
DCV	Volts	Volts	Volts	Volts	Volts	Results
1 V	1.000	0.997	-0.003	0.005	<b>&gt;4</b> :1	Pass
2 V	2.000	1.993	-0.007	0.010	>4:1	Pass
5 V	5.000	4.983	-0.017	0.025	>4:1	Pass
10 V	10.00	9.97	-0.03	0.05	>4:1	Pass
20 V	20.00	19.95	-0.05	0.10	>4:1	Pass
50 V	50.00	50.00	0.00	0.25	>4:1	Pass
100 V	100.00	99.90	-0.10	0.50	>4:1	Pass
200 V	200.0	199.6	-0.4	1.0	>4:1	Pass

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S	750	SOUTHWES	ST RESEA	RCH INSTITU		
	A	62	20 Culebra Road, P.C	D. Drawer 28510 Systems		
			Institute Calibration	1 Laboratory		
		Pho	ne: 210-522-5215 F	ax 210-522-3692		
			Certificate of C	alibration		
Sul	bmitted By:	DIV20		Work Order:	444055347	
	Address:	B57		Date Issued:	Sep 17, 2003	
	Contact:	DARRELL DUNN		Calibration Date:	Sep 16, 2003	
Nanutactu T	lrer Model:	ABBEON SE 120 STRIP CHART RECORD	FR	Calibration Location:	Bldg 64	
I	Serial No:	0049616		Environment:	Temp. 72.0°F Hur	n. 38 %RH
	Asset No:	002291		*As Found:	IN TOLERANCE	
	Procedure:	CL-75, Jun/99		*As Left:	IN TOLERANCE	
nforms to ISO/I reproduced, ex- strument describ S. Government	EC 17025, 1999 cept in full, with bed above. This	and ANSI/NCSL Z540-1-1994 w out the written approval of the So certificate shall not be used to cla	which are equivalent to releva outhwest Research Institute C im product endorsement by	ant requirements of the ISO 9000-1994 Calibration Laboratory. The results of t the American Association for Laborato	series of standards. This c his calibration relate only t ry Accreditation (A2LA) o	ertificate may r o the individual r any agency of
ncertainty evalua presents an expa an or equal to 25	ation includes th anded uncertaint 5% (4:1) of the t	e item under test and is calculate y using a coverage factor of k=2 est limit unless otherwise stated i	l in accordance with the ISO o approximate a 95% confid n remarks or an attachment	"Guide to the Expression of Uncertain ence level. The calibration process pro	ity in Measurement" (GUM wides a Test Uncertainty R	I). The uncertai atio (TUR) of le
The client has so the Test Instruc	le responsibility ment (TI) readin	for determination of in/out of tol $g(s)$ and limits as reported. The r	erance or compliance/noncor eported uncertainty relates of	mpliance. An in/out of tolerance opinion nly to the results at the time of calibration	on is provided for your conv on and does not imply any	venience based o short or long ter
*Calibration inte e out of tolerance emarks: N	rval is determin e before the next None	ed by the client and does not assu calibration date.	re the instrument will remain	n within tolerance until this date. Any r	number of factors may caus	e the instrumen
Calibration inte calibration inte out of tolerance emarks: N tandards Uso	rval is determin e before the next None ed Manufacturer	ed by the client and does not assu calibration date. Model	re the instrument will remain	n within tolerance until this date. Any r Description	number of factors may caus	e the instrumen
Calibration inte cout of tolerance emarks: N tandards Use Asset N 006413 H	erval is determin e before the next None ed Manufacturer FLUKE	ed by the client and does not assu calibration date. Model 5520A/S	re the instrument will remain	n within tolerance until this date. Any n Description MULTI-PRODUCT CALIBR/	number of factors may caus	e the instrumen Cal Due Jan 17, 04
Calibration internation internation internation internation internation internation internation internation internation international internation international internation international internationa	rval is determin e before the next None ed Manufacturer FLUKE	ed by the client and does not assu calibration date. Model 5520A/S	re the instrument will remain	n within tolerance until this date. Any n Description MULTI-PRODUCT CALIBR	number of factors may caus	e the instrumen Cal Due Jan 17, 04

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## Southwest Research Institute Calibration Laboratory Calibration Report

Work Order: Asset No. Serial No. Remarks:	444055347 2291 0049616	Mfr. Model Type.	ABB SE120 Chart Recorder		Technician Procedure Cal Date.	Vmorales 16-Sep-03
Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertaintv	Found/Left
DCV Ch 1	mVolts	mVolts	mVolts	mVolts	mVolts	Result
1 mV	1.000	0.997	-0.003	0.010	0.58	Pass
2 mV	2.000	1.997	-0.003	0.010	0.58	Pass
5 mV	5.000	4.985	-0.015	0.025	0.58	Pass
10 mV	10.00	9,97	-0.03	0.05	0.58	Pass
20 mV	20.00	19.93	-0.07	0.10	0.58	Pass
50 mV	50.00	49.81	-0.19	0.25	0.58	Pass
100 mV	100.0	99.7	-0.3	0.5	0.58	Pass
	50.0	49.8	-0.2	0.3	0.58	Pass
	25.0	24.9	-0.1	0.1	0.58	Pass
DCV	Volts	Volts	Volts	Volts	Volts	
1 V	1.000	0.997	-0.003	0.005	0.58	Pass
2 V	2.000	1.994	-0.006	0.010	0.58	Pass
5 V	5.000	4.985	-0.015	0.025	0.58	Pass
10 V	10.00	9.97	-0.03	0.05	0.58	Pass
20 V	20.00	19.96	-0.04	0.10	0.58	Pass
50 V	50.00	49.88	-0.12	0.25	0.58	Pass
100 V	100.0	99.7	-0.3	0.5	0.58	Pass
200 V	200.0	199.6	-0.4	1.0	0.58	Pass
DCV Ch 2	mVolts	mVolts	mVolts	mVolts	mVolts	
1 mV	1.000	0.998	-0.002	0.010	0.58	Pass
2 mV	2.000	1.995	-0.005	0.010	0.58	Pass
5 mV	5.000	4.985	-0.015	0.025	0.58	Pass
10 mV	10.00	9.97	-0.03	0.05	0.58	Pass
20 mV	20.00	19.95	-0.05	0.10	0.58	Pass
50 mV	50.00	49.89	-0.11	0.25	0.58	Pass
100 mV	100.0	99.8	-0.2	0.5	0.58	Pass
	50.0	49.9	-0.1	0.3	0.58	Pass
	25.00 Volta	24.97	-0.03	U. IS	0.56	Pass
	1 000	1 000	0.000			Page
2.V	2 000	1.000	0.000	0.005	0.58	Pass
2 V 5\/	2.000	1.990	-0.004	0.010	0.00	Pass
10 V	10.000	9.900 9.98	-0.012	0.020	0.50	Pass
20 V	20.00	19 95	-0.02	0.00	0.58	Pass
50 V	50.00	49.90	-0.00 -0.10	0.25	0.58	Pass
100 V	100.00	99.95	-0.05	0.20	0.58	Pass
200 V	200.0	199.5	-0.5	1.0	0.58	Pass

END OF REPORT

Page 1 of 1

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S. R	R R	SOUTHWES	ST RESEARCH INSTITU 20 Culebra Road, P.O. Drawer 28510 Institute Quality Systems Institute Calibration Laboratory one: 210-522-5215 Fax 210-522-3692 Certificate of Calibration	TETM
		DIVION	West Oster	444061100
S	Submitted By:	DIV20	Work Urder:	444061100 Oct 18, 2004
	Address:	DAPPELL DUNN	Date Issued: Calibration Date:	Oct 18, 2004
Manufac	contact.	ABBEON SE 120	**Calibration Due:	Oct 18, 2004
	Description:	STRIP CHART RECORD	DER Calibration Location:	Bldg. 64
	Serial No:	0049616	Environment:	Temp. 73.0°F Hum. 40 %RH
	Asset No:	002291	*As Found:	IN TOLERANCE
	Procedure:	CL-75, Jun/99	*As Left:	IN TOLERANCE
conforms to ISC be reproduced, instrument desc U. S. Governme Uncertainty eva represents an ep number for cali	D/IEC 17025, 1999 except in full, with ribed above. This ent. aluation includes the xpanded uncertaint bration data.	and ANSI/NCSL Z540-1-1994 vout the written approval of the Sc certificate shall not be used to cla the item under test and is calculate y using a coverage factor of k=2 t for determination of in/out of tol	which are equivalent to relevant requirements of the ISO 9000-1994 buthwest Research Institute Calibration Laboratory. The results of aim product endorsement by the American Association for Laborator d in accordance with the ISO "Guide to the Expression of Uncertain to approximate a 95% confidence level. See Remarks or attached C erance or compliance/noncompliance. An in/out of tolerance origin	series of standards. This certificate may not this calibration relate only to the individual ory Accreditation (A2LA) or any agency of the nty in Measurement" (GUM). The uncertainty calibration Report with the same Work Order
on the Test Inst stability of the	rument (TI) readin TI.	g(s) and limits as reported. The r	eported uncertainty relates only to the results at the time of calibrat	ion and does not imply any short or long term
**Calibration in be out of tolerar	nterval is determin nce before the nex	ed by the client and does not assu calibration date.	re the instrument will remain within tolerance until this date. Any	number of factors may cause the instrument to
Standards I	Isad			
Standards U	Jsed Manufacturer	Model	Description	Cal Due
Standards U Asset 004164	Jsed Manufacturer FLUKE	Model 5500A/S	Description C300 CALIBRATOR	Cal Due Aug 03, 05
Standards U Asset 004164	Jsed Manufacturer FLUKE	Model 5500A/S	C300 CALIBRATOR	Cal Due Aug 03, 05
Kemarks: Standards U Asset 004164 Approved by	Jsed Manufacturer FLUKE	Model 5500A/S	C300 CALIBRATOR	Cal Due Aug 03, 05
Approved by Metrology G	Jsed Manufacturer FLUKE Strong Leader Walt Hill Froup Leader	Model 5500A/S	C300 CALIBRATOR	Cal Due Aug 03, 05

\*

## Southwest Research Institute Calibration Laboratory Measurement Report

Work Order:	444061100	Mfr.	ABB	Technician	SRK
Asset No.	002291	Model	SE120	Procedure	
Serial No.	0049616	Туре.	Chart Recorder	Cal Date.	18-Oct-04
Remarks:					

Function/Range	Test Point	TI Reading	Difference	+/-Limit	+/-Uncertainty	Found/Left
DCV Ch 1	mVolts	mVolts	mVolts	mVolts	mVolts	Result
1 mV	1.000	1.000	0.000	0.010	0.58	Pass
2 mV	2.000	2.000	0.000	0.010	0.58	Pass
5 mV	5.000	5.025	0.025	0.025	0.58	Pass
10 mV	10.00	10.05	0.05	0.05	0.58	Pass
20 mV	20.00	20.10	0.10	0.10	0.58	Pass
50 mV	50.00	50.13	0.13	0.25	0.58	Pass
100 mV	100.0	100.3	0.3	0.5	0.58	Pass
200 mV	200.0	200.0	0.0	1.0	0.58	Pass
500 mV	500.0	500.0	0.0	2.5	0.58	Pass
DCV	Volts	Volts	Volts	Volts	Volts	
1 V	1.000	1.003	0.003	0.005	0.58	Pass
2 V	2.000	2.005	0.005	0.010	0.58	Pass
5 V	5.000	5.025	0.025	0.025	0.58	Pass
10 V	10.00	10.05	0.05	0.05	0.58	Pass
20 V	20.00	20.05	0.05	0.10	0.58	Pass
50 V	50.00	50.00	0.00	0.25	0.58	Pass
100 V	100.0	100.0	0.0	0.5	0.58	Pass
200 V	200.0	200.0	0.0	1.0	0.58	Pass
DCV Ch 2	mVolts	mVolts	mVolts	mVolts	mVolts	Deser
1 mV	1.000	1.000	0.000	0.010	0.58	Pass
2 mV	2.000	2.000	0.000	0.010	0.58	Pass
5 mV	5.000	5.000	0.000	0.025	0.58	Pass
10 mV	10.00	10.00	0.00	0.05	0.58	Pass
20 mV	20.00	20.00	0.00	0.10	0.58	Pass
50 mV	50.00	50.00	0.00	0.25	0.58	Pass
100 mV	100.0	100.0	0.0	0.5	0.58	Pass
200 mV	200.0	200.0	0.0	1.0	0.58	Pass
500 mV	500.00	500.00	0.00	2.50	0.58	Pass
DCV	Volts	Volts	Volts	Volts	Volts	_
1 V	1.000	0.998	-0.002	0.005	0.58	Pass
2 V	2.000	1.995	-0.005	0.010	0.58	Pass
5 V	5.000	5.000	0.000	0.025	0.58	Pass
10 V	10.00	10.00	0.00	0.05	0.58	Pass
20 V	20.00	20.00	0.00	0.10	0.58	Pass
50 V	50.00	49.75	-0.25	0.25	0.58	Pass
100 V	100.00	99.75	-0.25	0.50	0.58	Pass
200 V	200.0	199.5	-0.5	1.0	0.58	Pass
		END C	OF REPORT			

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