REPORT OF TEST
ON
MODEL SWSH-810-2DR-INV-SMC
SWITCHES
FOR
AMERICAN MICROWAVE CORP

BAE SYSTEMS Advanced Systems

PRODUCT TESTING LABORATORY

PREPARED BY: _____ J.F. Seitz, Test Engineer

American Microwave Corp Purchase Order Number: 20500290

ADMINISTRATIVE DATA

TYPE OF TEST:	Temperature/Altitude
UNIT OF TEST:	Switch, Model SWSH-810-2DR-INV-SMC
DRAWING, SPEC., OR EXHIBIT:	MIL-S-3928C
QUANTITY OF ITEMS TESTED:	Two, Serial Nos. 2MS204328 and 2MS204329
SECURITY CLASSIFICATION:	Unclassified
DATE TESTS COMPLETED:	June 14, 2002
TESTS CONDUCTED BY:	BAE SYSTEMS Advanced Systems Product Testing Laboratory 305 Richardson Road Lansdale, PA 19446
DISPOSITION OF ITEMS:	Returned to: American Microwave Corp Attention: Mr. Dave Bruder 7311-G Grove Road Frederick, MD 21704

INTRODUCTION - This report certifies the performance of Temperature/Altitude testing on two Model SWSH-810-2DR-INV-SMC Switches, Serial Numbers 2MS204328 and 2MS204329, submitted by American Microwave Corp.

TEMPERATURE/ALTITUDE TEST - Temperature/altitude testing was conducted in accordance with MIL-S-3928C, Paragraph 4.8.16, and on-site instructions from American Microwave Corp personnel, as follows:

The Switches were placed in a temperature/altitude chamber and were subjected to the following series of temperature/altitude exposures. Serial Number 2MS204328 was wired for operation and was attached to a thermocouple to record its operating temperature.

STEP	DESCRIPTION
1	Operate and test at ambient pressure, ambient temperature
2	Adjust chamber temperature to -55 degrees C and allow temperature of operating unit to stabilize.
3	Transition from -55 degrees C, ambient pressure, to -55 degrees, 70,000 feet simulated altitude in seven minutes
4	Operate and test at -55 degrees, 70,000 feet simulated altitude for 24 hours
5	Return to ambient pressure, ambient temperature

Operation and functional testing was accomplished by American Microwave Corp personnel throughout the temperature/altitude exposures.

TEST RESULTS - No performance anomalies were reported.

There was no apparent physical degradation of the units as a result of the test.

TEST DATA - The following test data are included in this report.

- Temperature/altitude Test Log
- Temperature and altitude recorder charts
- Calibrated equipment list
- Photograph of Switches in temperature/altitude chamber

PRODUCT TESTING LABORATORY TEST LOG

JOB NO. A4682-2091 CUSTOMER AMERICAN MICROWAVE P.O. NO. 20500290

TEST ENGINEER JFS TEST TECH. [illegible] GSI/WITNESS _____

PRODUCT DESCRIPTION (Model No., Type, Ser. No., Quantity, Etc.) 2 PCS. SWITCHES

MODEL #SWSH-810-2DR-INV-SMC S/N 2MS204328 (OP.) & 2MS204329 (NON-OP)

TEST DESCRIPTION (Vib., Shock, Etc.) TEMPERATURE/ALTITUDE

TEST PROC. LAW SALES ORDER REF. MIL-S-3928C PARA. 4.8.16 & CUST. INSTRUCTIONS

DATE	TIME	EVENT DESCRIPTION
6/13/02		CUST REP SET UP ABOVE LISTED UNITS IN CHAMBER, ATTACHED NECESSARY CABLING THRU PORT HOLE & VERIFIED PROPER OPERATION OF UNIT (S/N 2MS204328), UNIT ENERGIZED & MONITORED THROUGHOUT TEST. ATTACHED TC TO UNIT OPERATING USING METAL TAPE SET UP CIRCULAR CHART RECORDER TO RECORD TC. NOTE: HEAT DISSIPATION OF OPERATING UNIT WILL PREVENT IT FROM REACHING -55°C
	1008	SET CHAMBER FOR -55°C & ALLOW OP. UNIT TEMPERATURE TO STABILIZE
	1035	TEMP OF UNIT STABILE, START ALTITUDE CLIMB TO 70,000 (@ MAX. CHAMBER TRANS. RATE)
	1042	CHAMBER AT -55°C & 70KFT, ALLOW OP. UNIT TEMPERATURE TO STABILIZE.
	1210	UNIT STABILE, START 24HR SOAK - NO PROBLEMS WITH UNITS REPORTED.
	1320	CHECKED TEST - COND. OK, NO PROBLEMS WITH UNITS REPORTED
	1450	CHECKED TEST - NOTED SLIGHT LEAK AT PORT HOLE PLUGGED LEAK, NO PROBLEMS APPARENT WITH UNITS VIA SCOPE DISPLAY, WILL ADD ADDTL 30 MINUTES TO SOAK TIME.
	1645	CHECKED TEST - COND. OK, UNITS - OK
6/14/02	0705	CHECKED TEST - COND. OK, UNITS - OK
	0917	CHAMBER & UNIT CHARTS CHANGED - COND. OK

CONTINUATION SHEET

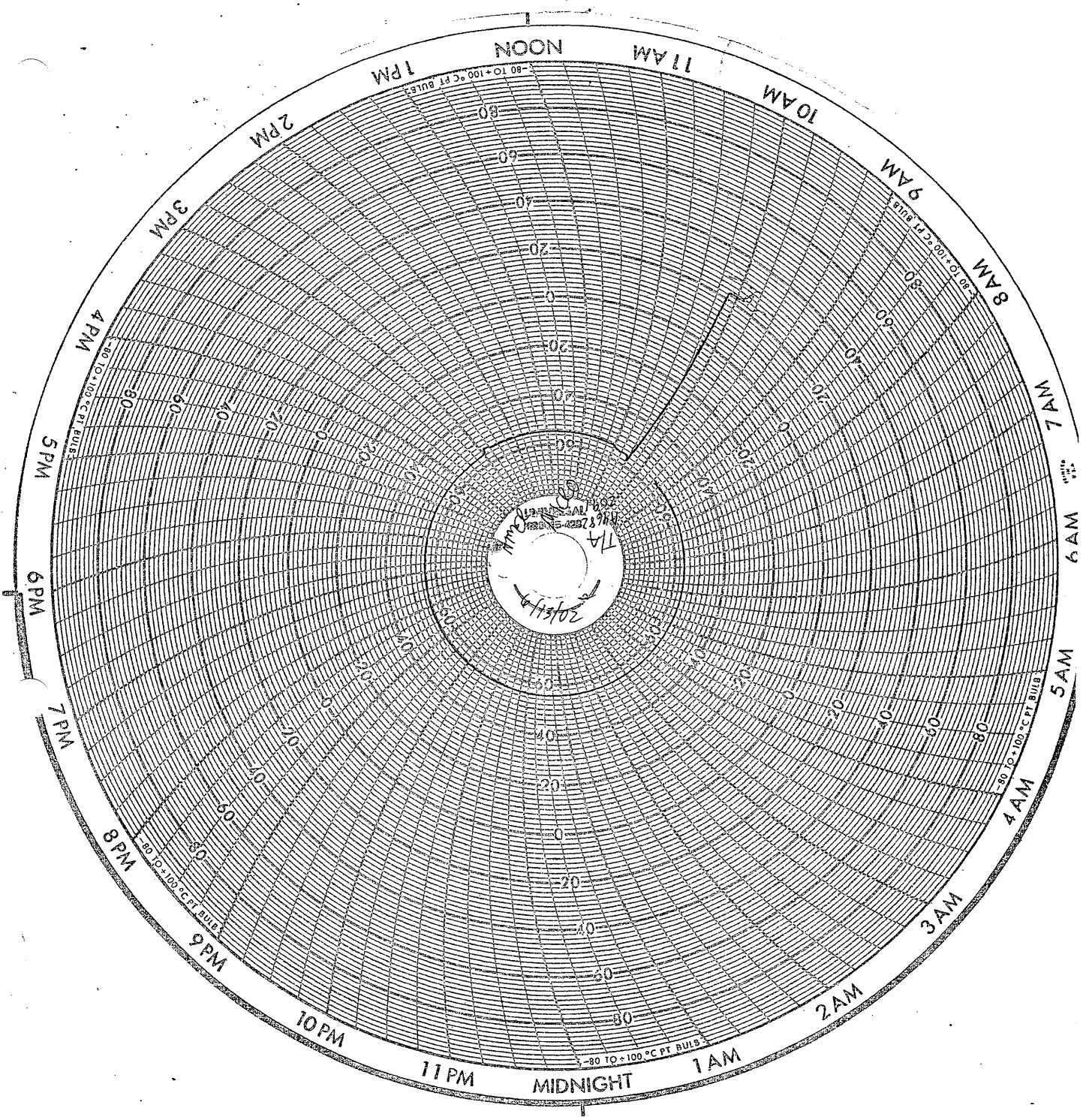
PRODUCT TESTING LABORATORY TEST LOG

JOB NO. A4682-2091 CUSTOMER AMER. MICRO. P.O. NO. 20500290

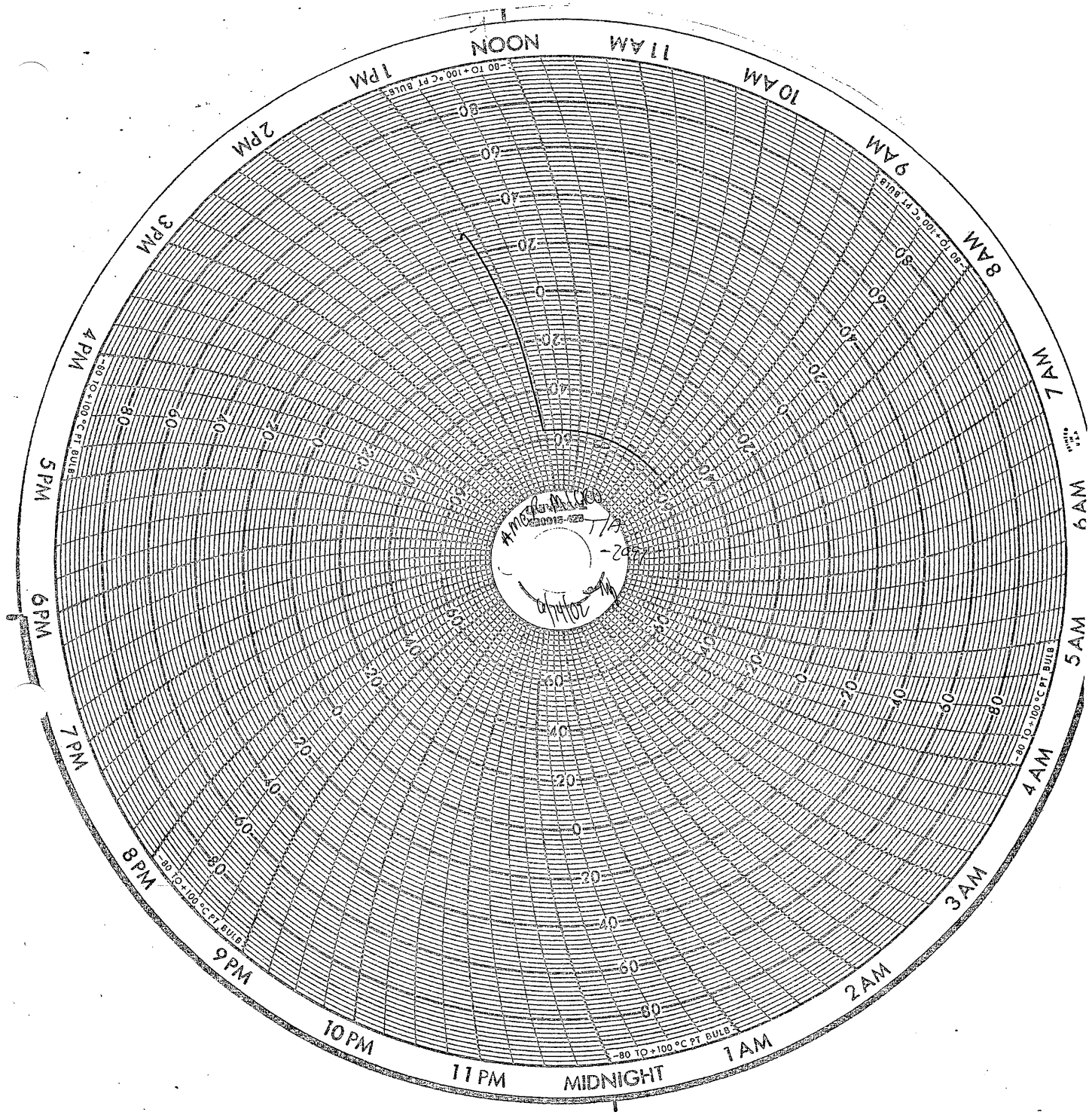
PRODUCT DESCRIPTION SEE P. 1

TEST DESCRIPTION (Vib., Shock, Etc.) T/A

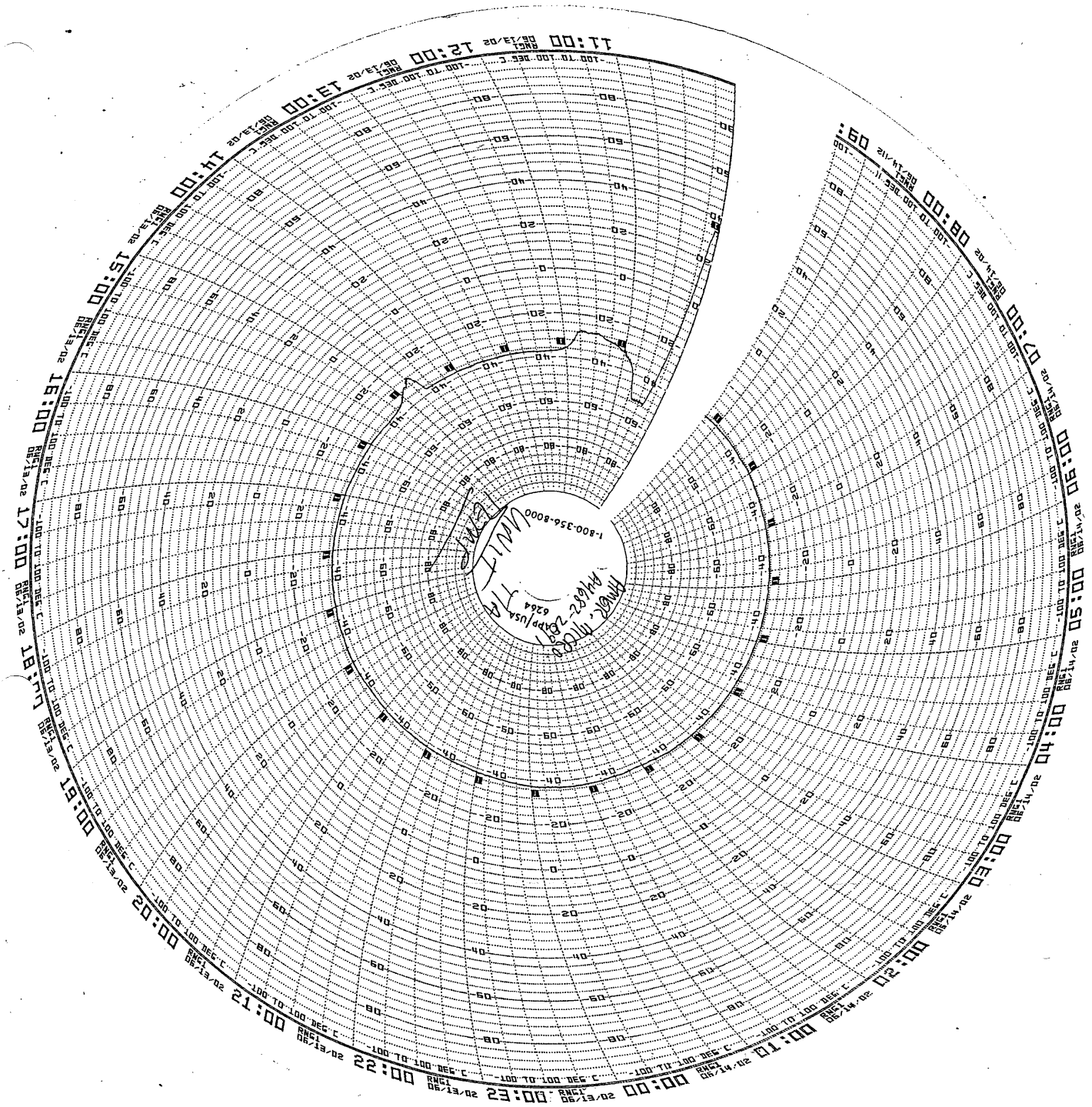
DATE	TIME	EVENT DESCRIPTION
6/14/02	1100	CHECKED TEST - COND. OK. NO PROBLEMS WITH UNIT REPORTED BY CUST. REP
	1252	CHECKED TEST - COND. OK, NO PROBLEMS WITH UNIT REPORTED BY CUST. REP, SET CHAMBER FOR SITE ELEVATION @ 25°C
	1325	CHAMBER & UNIT AT ~25°C - NO EXTERNAL DEGRADATION NOTED. TEST COMPLETED



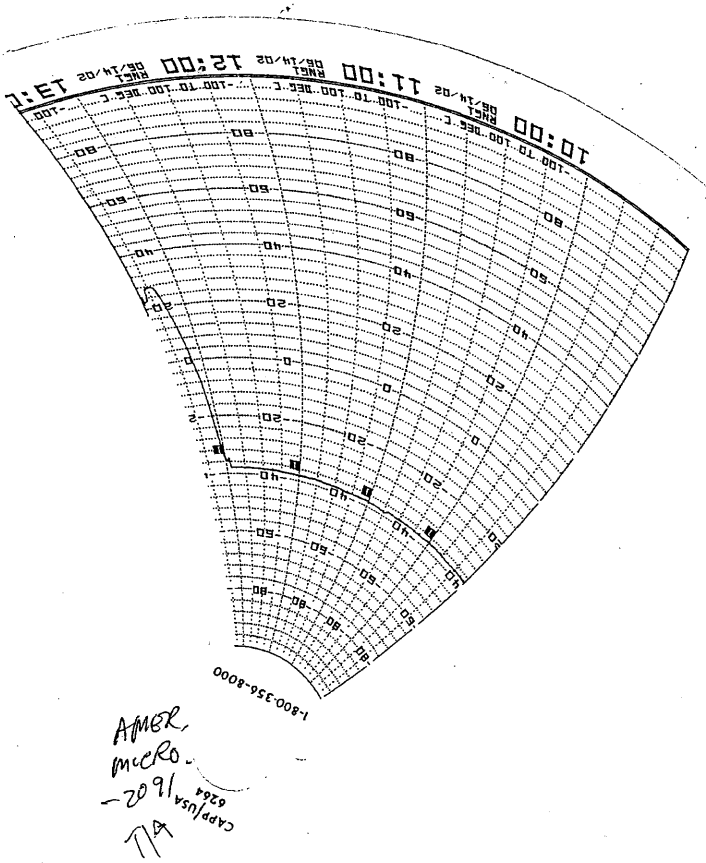
CHAMBER TEMPERATURE (1 of 2)



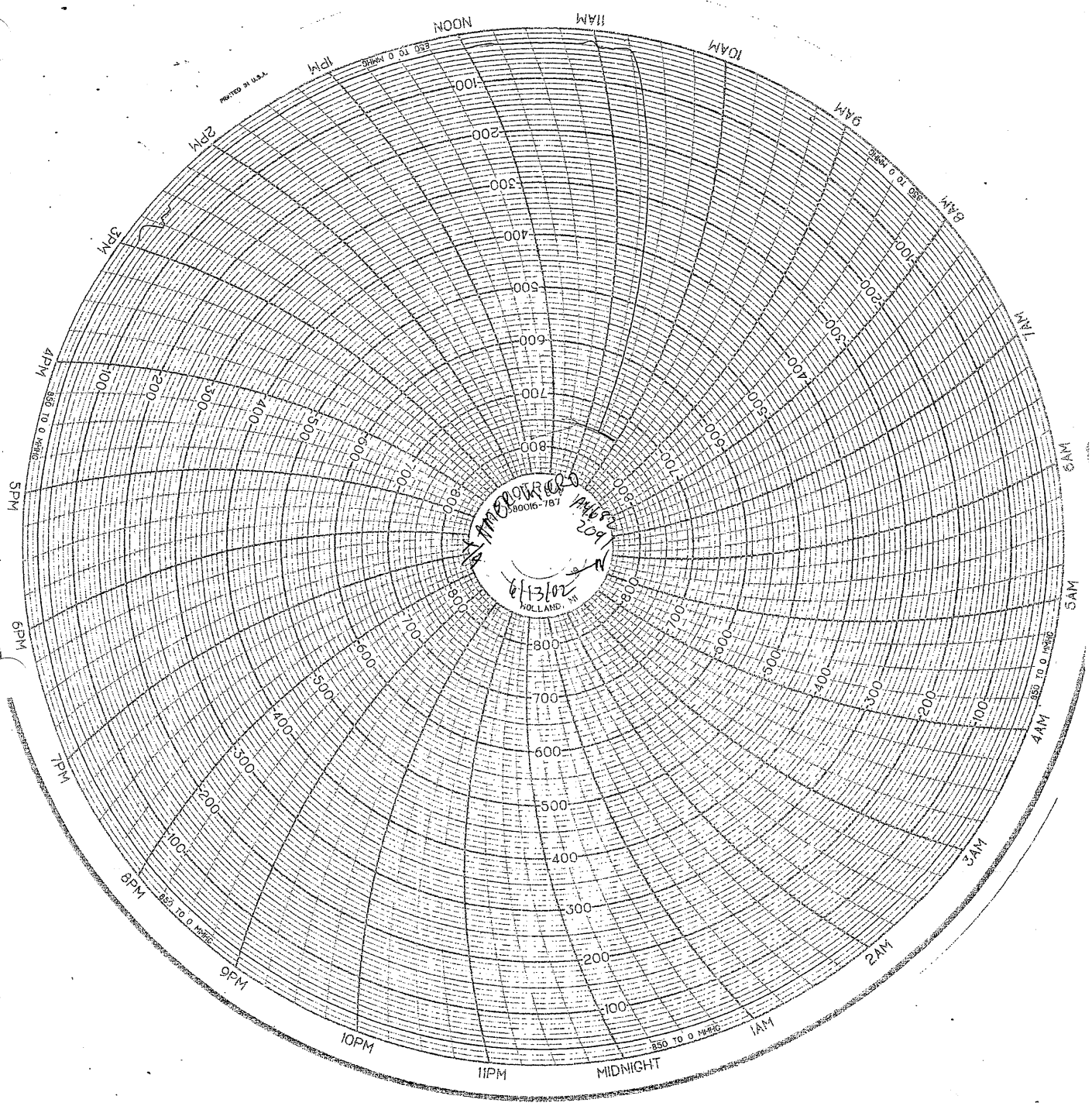
CHAMBER TEMPERATURE (2 of 2)



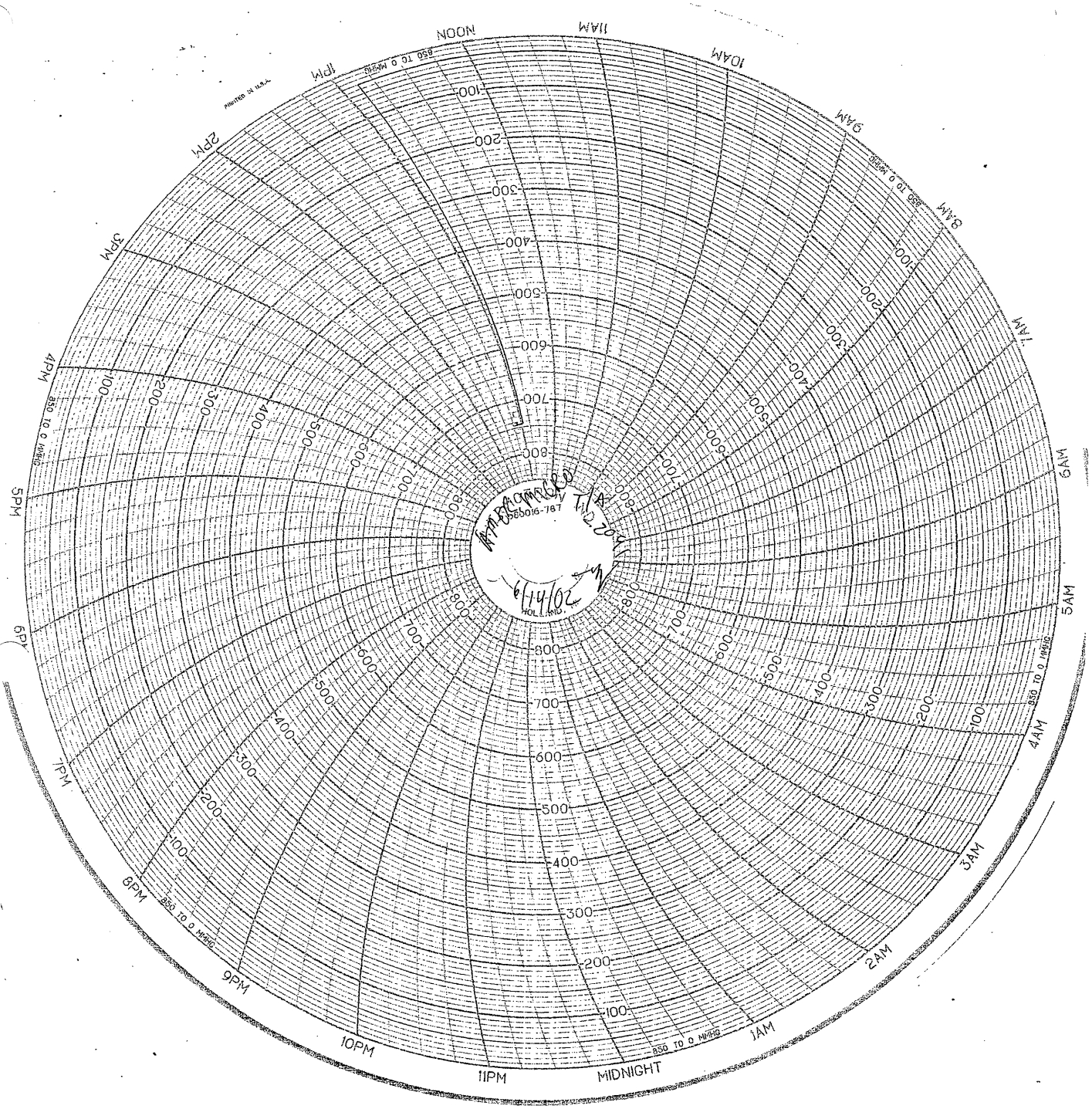
SWITCH TEMPERATURE (1 of 2)



SWITCH TEMPERATURE (2 of 2)



CHAMBER PRESSURE (1 of 2)

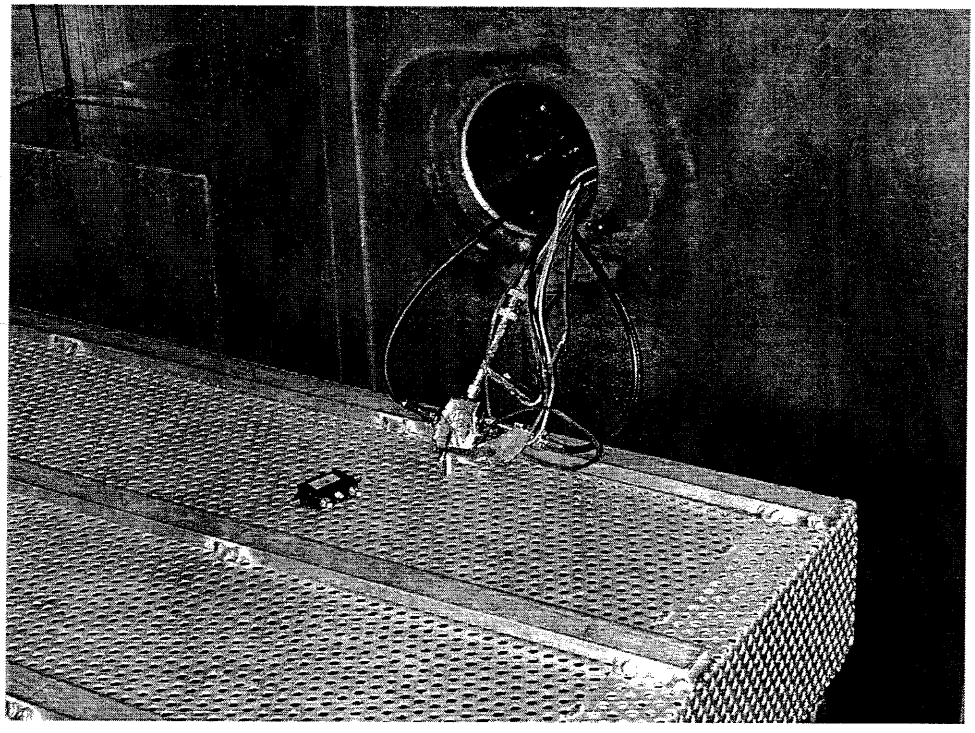


CHAMBER PRESSURE (2 of 2)

EQUIPMENT LIST

EQUIPMENT	MANUFACTURER	MODEL	AES NO.	CAL. DUE
Temp./Altitude Chamber	Thermotron	WS-162	16124	24 OCT 02
Chart Recorder	Honeywell	DR450	20392	12 SEP 02

The above equipment was calibrated by standards which are regularly calibrated and whose accuracies are traceable to the National Institute of Standards and Technology (NIST). The calibration system and procedures maintained by BAE SYSTEMS Advanced Systems are in compliance with the requirements of ANSI/NCSL Z540-1, ISO 9002, ISO 10012-1, and MIL-STD-45662A.



SWITCHES IN TEMPERATURE/ALTITUDE CHAMBER