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SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT  
REPORT, CENTRAL MID-ATLANTIC RIDGE, 7 OCTOBER 1975

K. J. Hill, et al

Teledyne Geotech

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SDCS-ER-75-49

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**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT**  
**Central Mid-Atlantic Ridge, 7 October 1975**

**K.J. Hill, M.S. Dawkins, and R.R. Baumstark**  
**Alexandria Laboratories**

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**January 1976**

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Unclassified

SDCS EVENT REPORT NO. 49

Central Mid-Atlantic Ridge, 7 October 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Lat.	Long.	$m_b$	$M_s$
NORSAR	08:38:56.6	08:28:18	01 N	025 W	5.8	N/A
Hagfors	08:38:58.7	08:28:06	02 S	020 W	6.3	6.6

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

08:28:08.5 01.2N 026.8W 5.8 5.8

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR. Horizontal SP channels at all SDCS stations were rotated.

Long-period signals were recorded at all SDCS stations, ALPA, LASA, and NORSAR. Horizontal LP channels at RK-ON were rotated. At WH2YK, CPSO and FN-WV horizontal LP channels were not rotated due to signal clipping. Rotation of the horizontal LP channels at HN-ME could not be accomplished because of unknown operating gains of all the LP channels and signal clipping. The arrival of the LQ phase at RK-ON appears on the LP radial channel; no explanation can be made for this occurrence and validity is therefore questionable. LASA long-period array data recovery is limited by the number of data points on the source tape. Validity of the ALPA and NORSAR long-period vertical beams is uncertain and horizontal beams were not included because of program recovery problems.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES		ELEVATION METERS	INSTRUMENTATION	
		DEG	MN SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65 14	00.0 N 147 44 36.0 W	626	None	31300
CPSO	McMinnville, Tennessee	35 35	41.4 N 085 34 13.5 W	574	6480 V 7515 H	SL210 V SL220 H
FN-WV	Franklin, West Virginia	38 32	58.0 N 079 30 47.0 W	910	KS36000	KS36000
LASA	Billings, Montana	46 41	19.0 N 106 13 20.0 W	744	HS10	7505A V 8700C H
HN-ME	Houlton, Maine	46 09	43.0 N 067 59 09.0 W	213	18300	SL210 V SL220 H
NORSAR	Kjeller, Norway	60 49	25.4 N 010 49 56.5 E	379	HS10	7505A V 8700C H
RK-ON	Red Lake, Ontario	50 50	20.0 N 093 40 20.0 W	366	18300	SL210 V SL220 H
WH2YK	White Horse, Yukon	60 41	41.0 N 134 58 02.0 W	855	18300	SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT 7 OCT 75  
 08:28:18.0 2.000N 26.000W 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CAIC	REST		
HN-NE	08 37 57.4	-0.0	-0.7	57.4	327.1
PN-WV	08 38 22.6	0.7	1.1	60.8	314.4
CFC	08 38 45.1	-0.4	0.6	64.2	309.3
NAO	08 38 56.6	-0.0	0.5	66.0	19.1
FR-CN	08 39 47.8	-0.5	-1.0	74.6	322.8
LAC	08 40 29.1	-0.0	-0.0	81.8	316.9
WH2YK	08 41 44.5	0.3	-0.4	97.7	331.8

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
08:28:57.8	3.032N	27.302W	363. CAIC	0.4	8	7
08:28:08.5	1.220N	26.850W	0. REST	0.8	3	7

CAIC			REST		
1	.	1	1	.	1
5	.	0	5	.	0
0	0.	0	0	0.	0
0	.	0	0	.	0
0	0.	0	0	0.	0
0	.	0	0	.	0
0	0.	0	0	0.	0

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 0.95  
 MAJOR 141.3KM. MINOR 42.1KM. AZ= 168 AREA= 18703 SQ.KM. REST

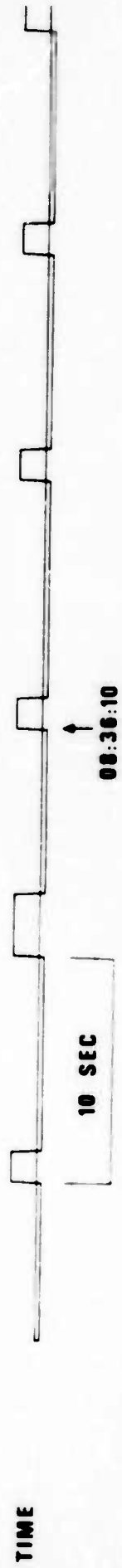
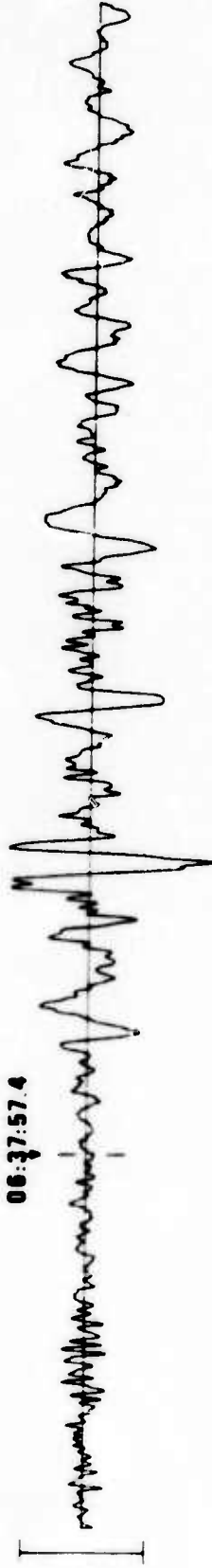
DATA SUMMARY

INPUT FOR EVENT 7 OCT 75  
 08:28:18.0 2.000N 26.000W 0KM.

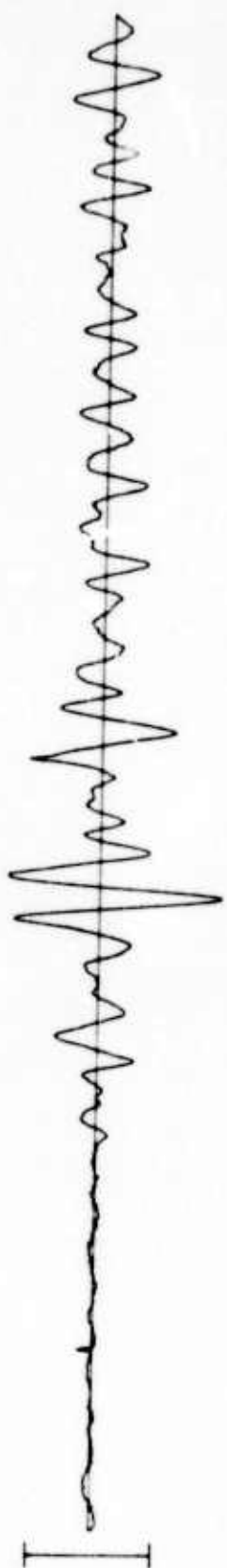
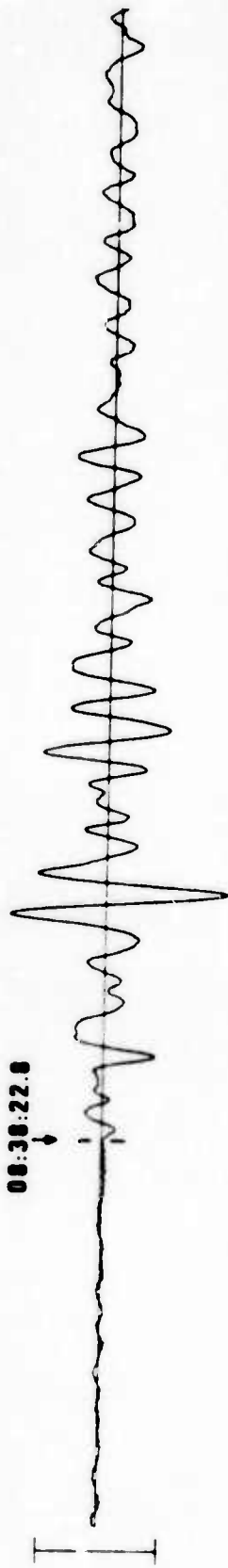
STA.	PHASE	ARRIVAL			INST	PER	A/T	MAGNITUDE		DIP	DIST
		TIME						ME	MS		
HN-ME	EP	08 37	57.4	SPZ	5.5	51.	5.21			57.4	
HN-ME	LQ	08 52	23.0	LPT	33.0	??					
HN-ME	LR	08 56	48.0	LPZ	23.0	9999.		0.0		57.4	
FN-WV	EP	08 38	22.6	SPZ	1.2	140.	5.72			60.8	
CPC	EP	08 38	45.1	SPZ	1.3	281.	6.15			64.2	
NAC	EP	08 38	56.6	AB	1.3	342.	6.24			66.0	
PK-CN	EP	08 39	47.8	SPZ	1.1	97.	5.49			74.6	
PK-CN	LQ	09 00	56.0	LPR	33.0	1543.					
PK-CN	LR	09 06	30.0	LPZ	23.0	9999.		0.0		74.6	
IAC	EP	08 40	29.1	AB	0.7	550.	6.32			81.8	
WBZYK	EP	08 41	44.5	SPZ	1.5	10.	5.17			97.7	
ALFA	LR	09 23	03.0	LPZ	22.0	517.		5.84		101.4	

CRIGIN	IAT.	ICNG.	DEPTH (KM)	MAG	SDV	STA	LPNAG	LPSLV	IPSTA
08:28:57.8	3.032N	27.302W	363. CAIC	5.10	0.46	6	5.83*****		1
08:28:08.5	1.220N	26.850W	0. REST	5.76	0.49	7	5.84*****		1
IAC NOT USED IN CALC RUN SE AVG. MAG.									

**HN-ME 07 OCT 75**



**FN-WV 07 OCT 75**



**CPSO 07 OCT 75**

00:30:45.1

SPZ  
505.24 MP



SPR  
109.50 MP

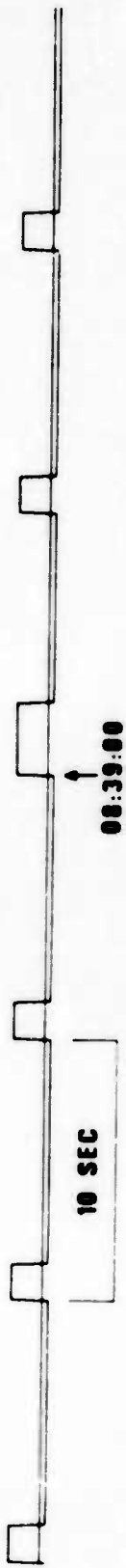


∞

SPT  
00.00 MP

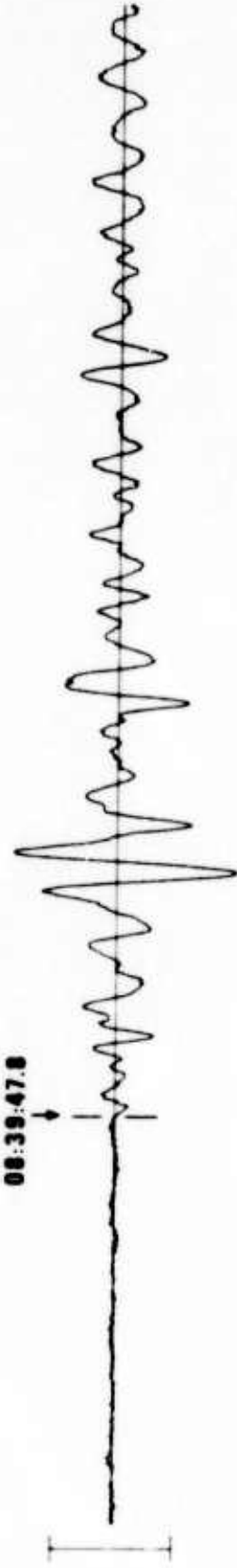


TIME

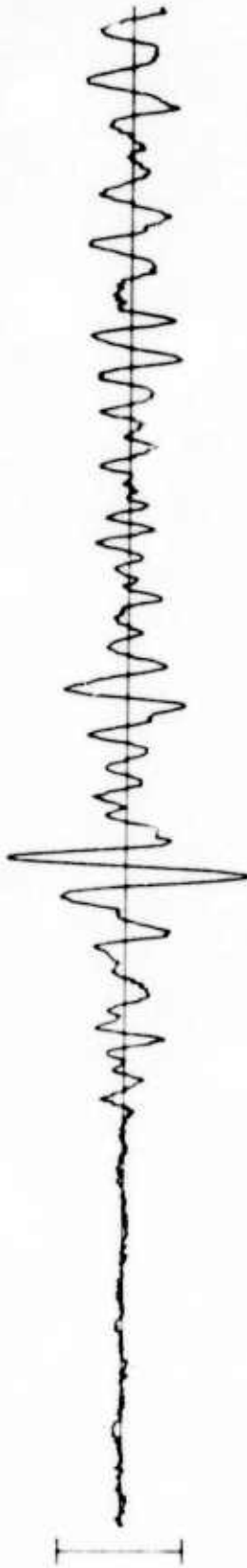


**RK-ON 07 OCT 75**

**SPZ  
417.96 MHz**



**SPR  
204.51 MHz**

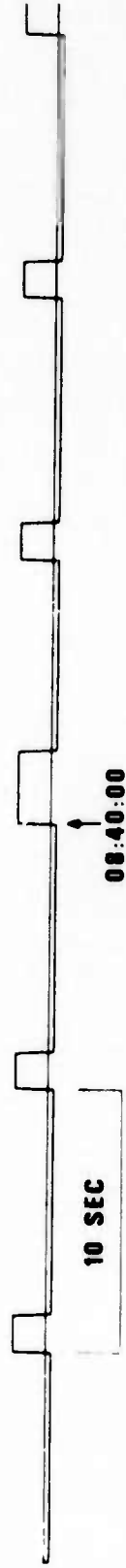


**Ω**

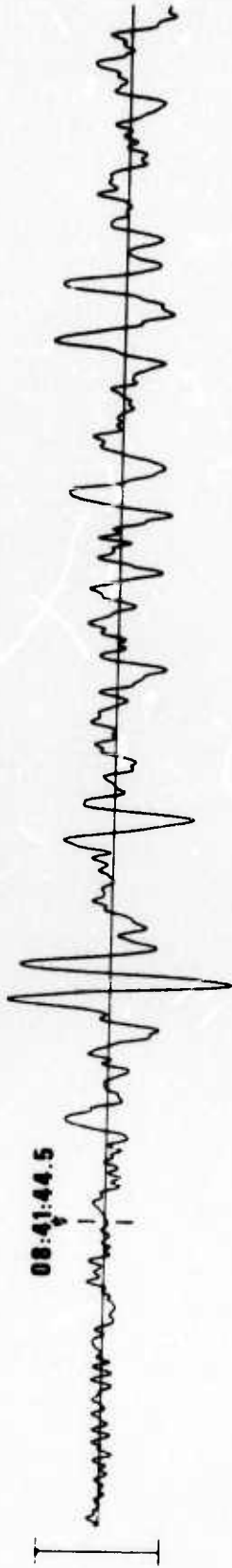
**SPT  
59.73 MHz**



**TIME**



WH2YK 07 OCT 75



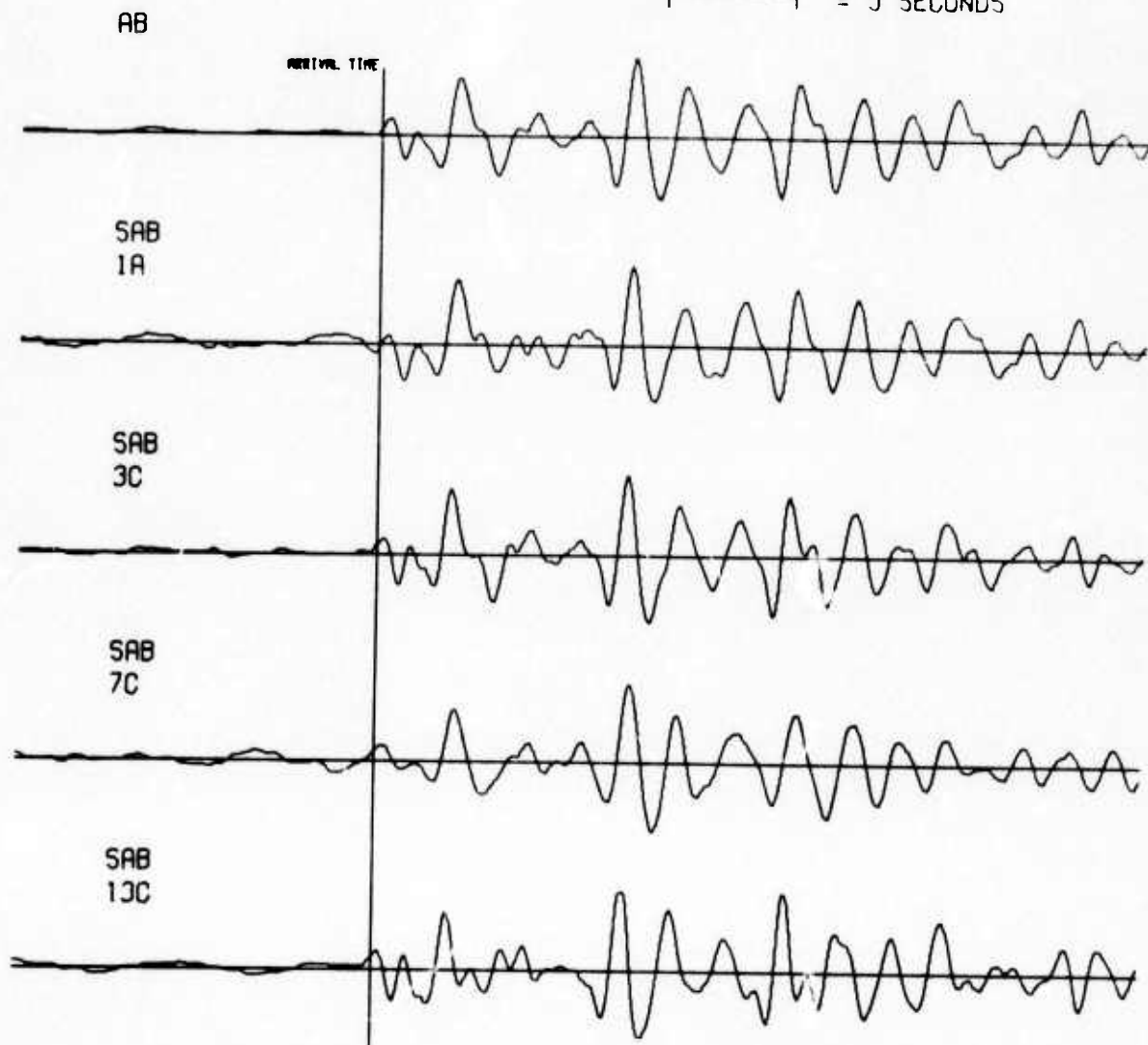
NORSAR EVENT FILE

1975 OCT 7

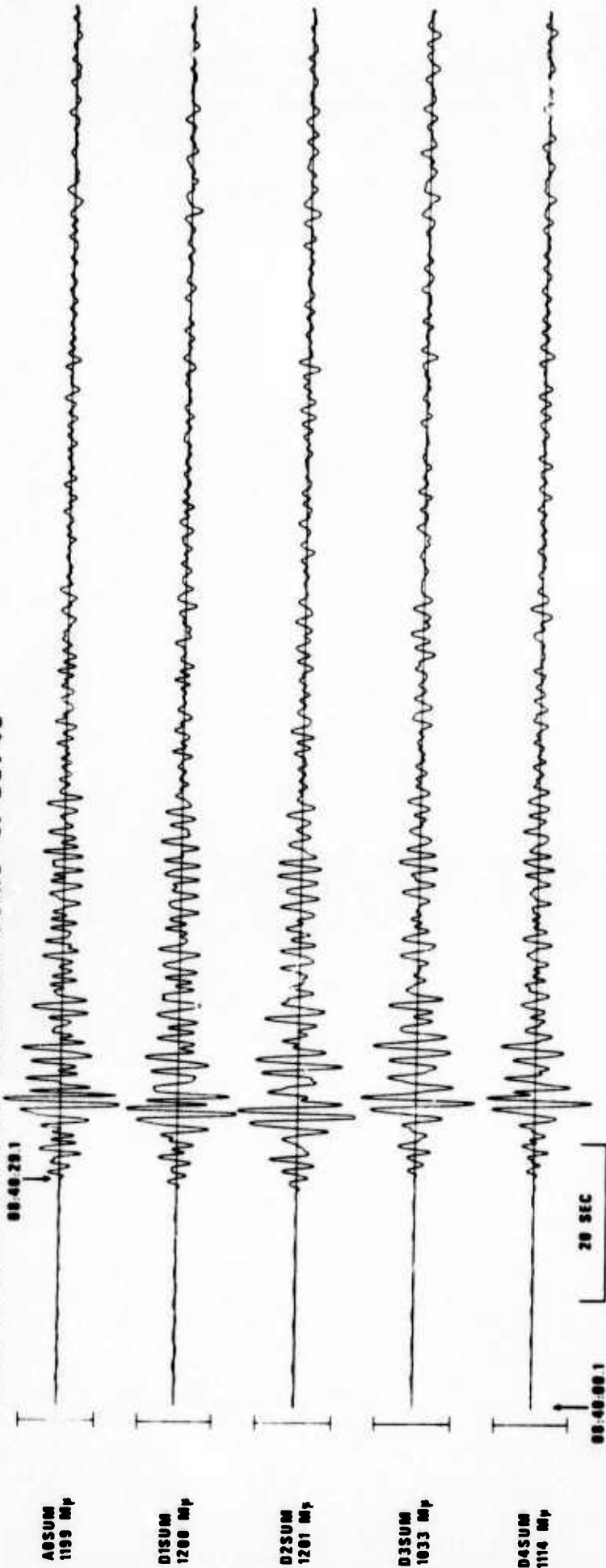
EPX NO. 85750 ARR. 8.38.56.8 1.3N 25.2W 5.4MB 33KM

DIST = 65.4 AZI = 220.2 AMP = 66.5 PER = 1.4

—|—| = 5 SECONDS

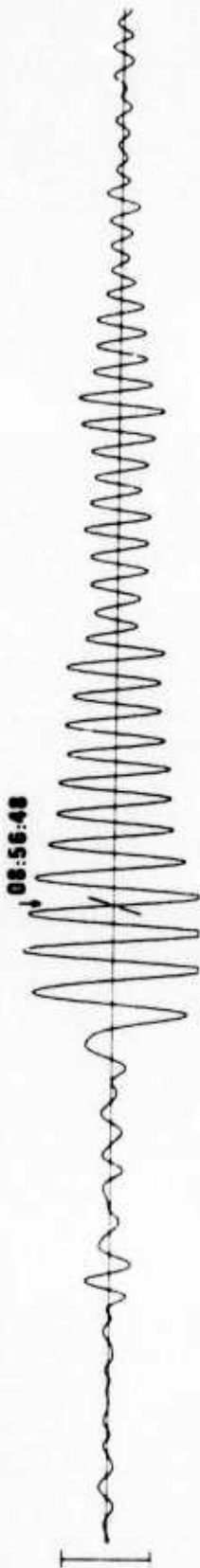


LASA INFINITE VELOCITY SUBARRAY SUMS 07 OCT 75



HN-ME 07 OCT 75

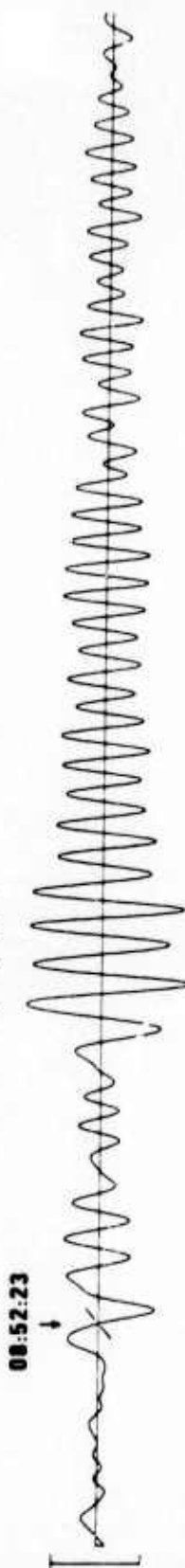
Lpz  
UNKNOWN



13  
LPr  
UNKNOWN



LPT  
UNKNOWN

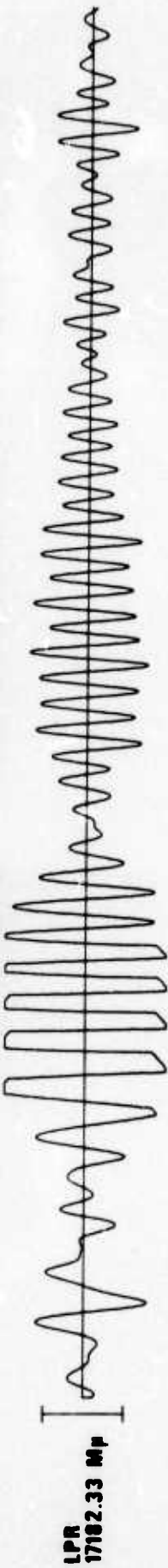
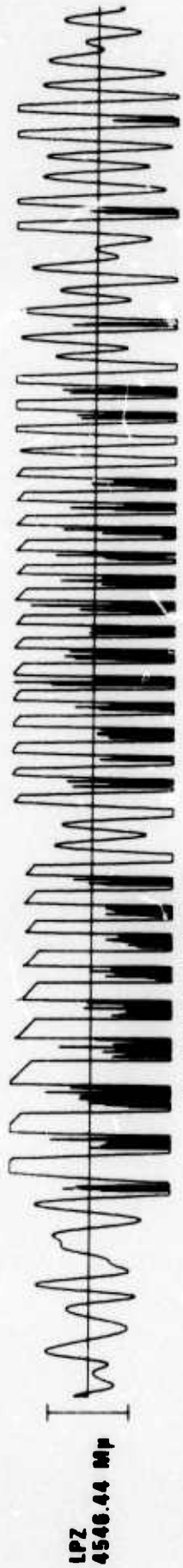


TIME

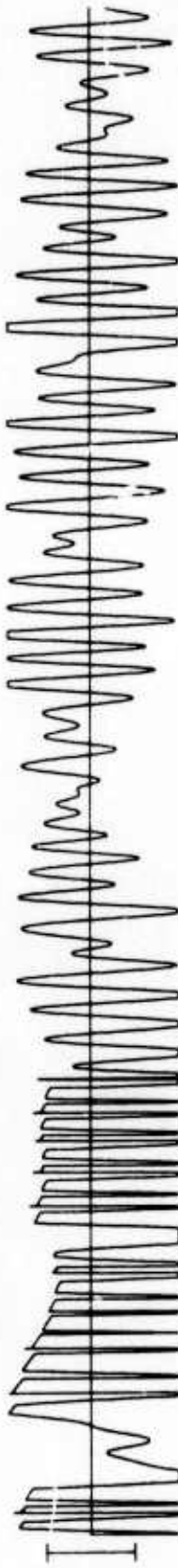
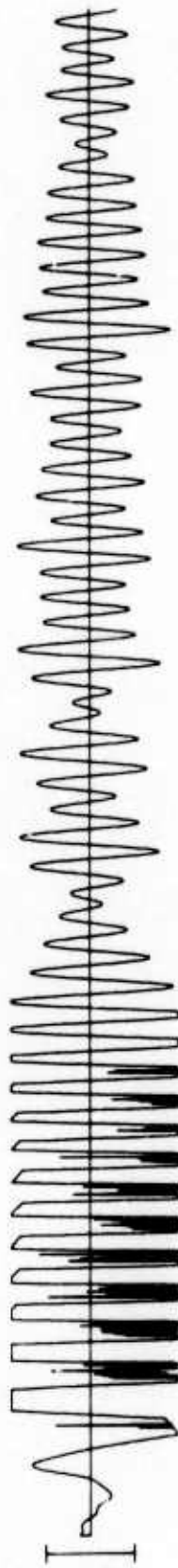


INVALID CALIBRATIONS

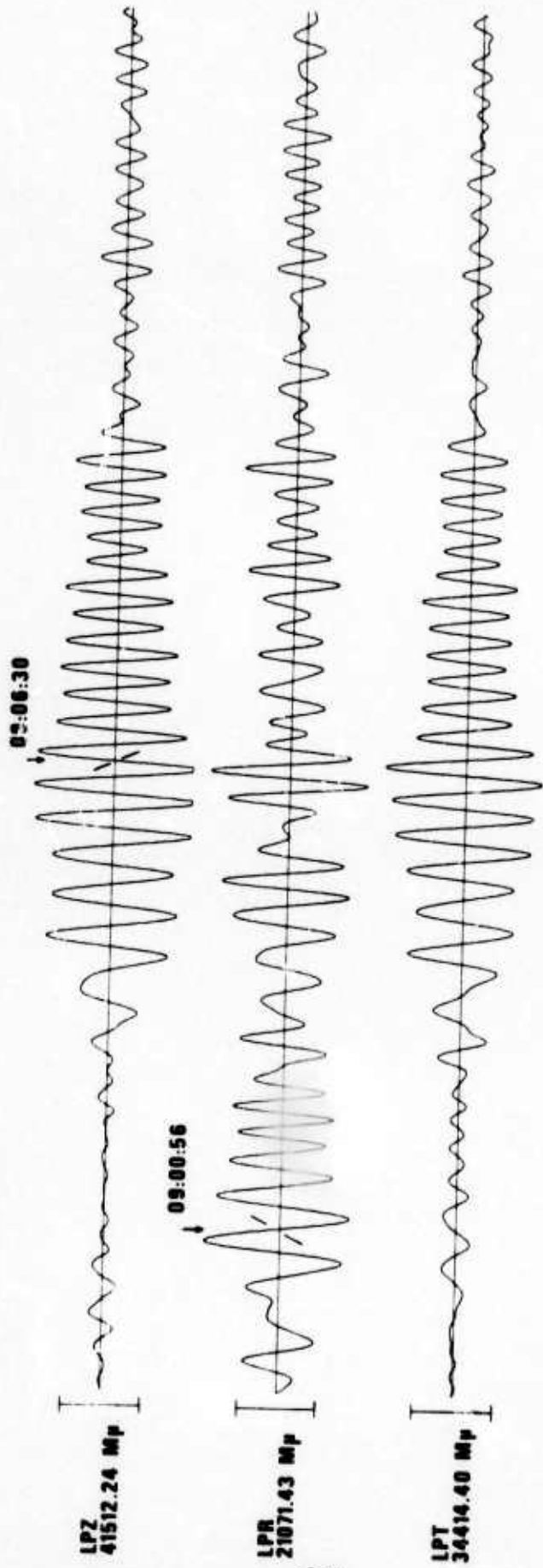
FN-WV 07 OCT 75



CPSO 07 OCT 75



RK-ON 07 OCT 75

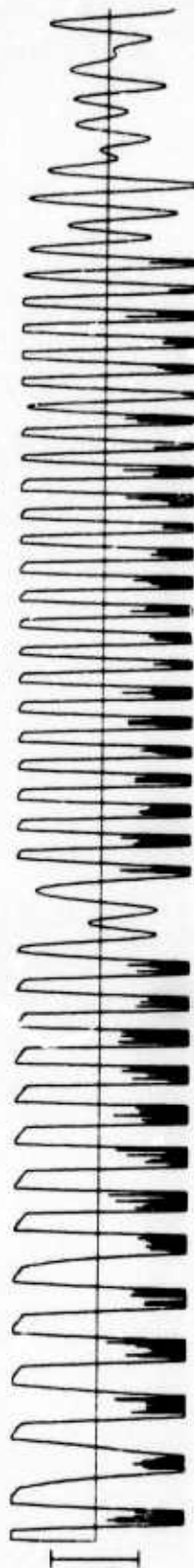
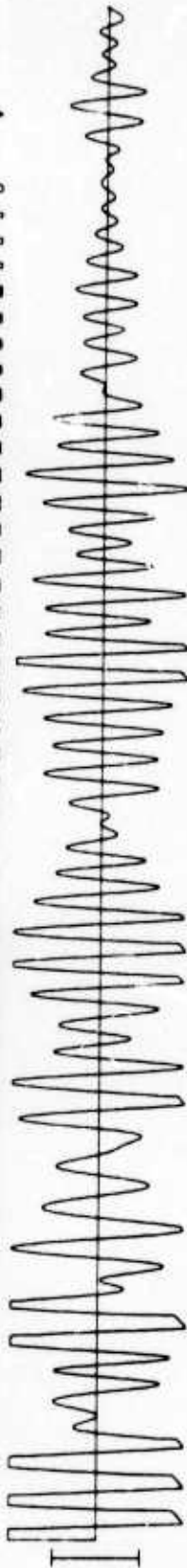
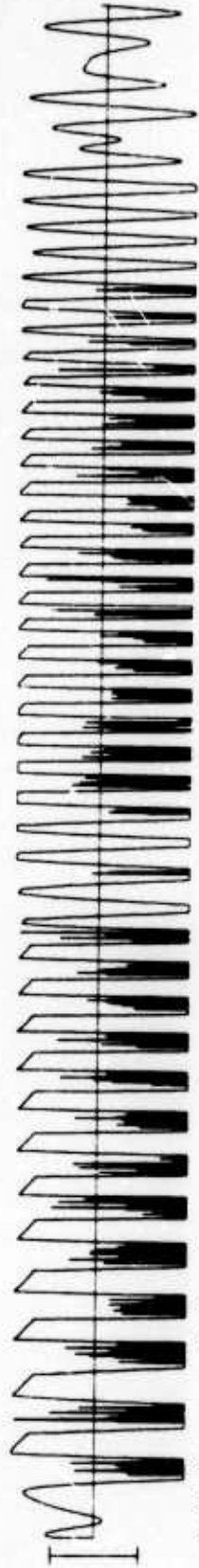


16

TIME



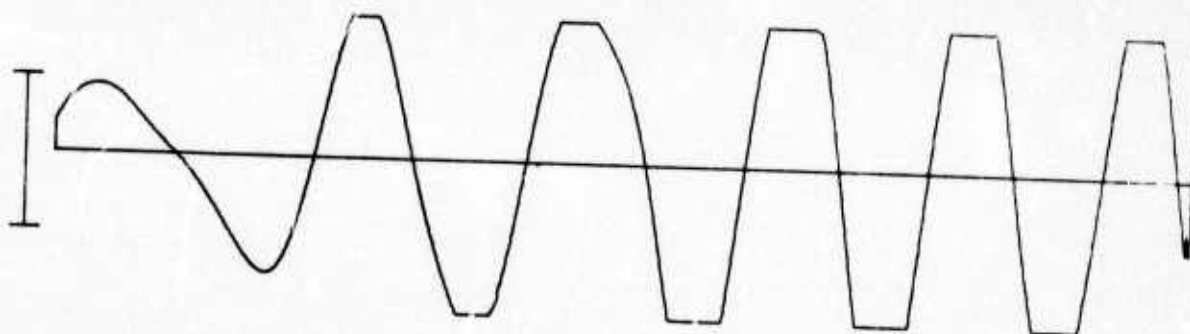
WH2YK 07 OCT 75



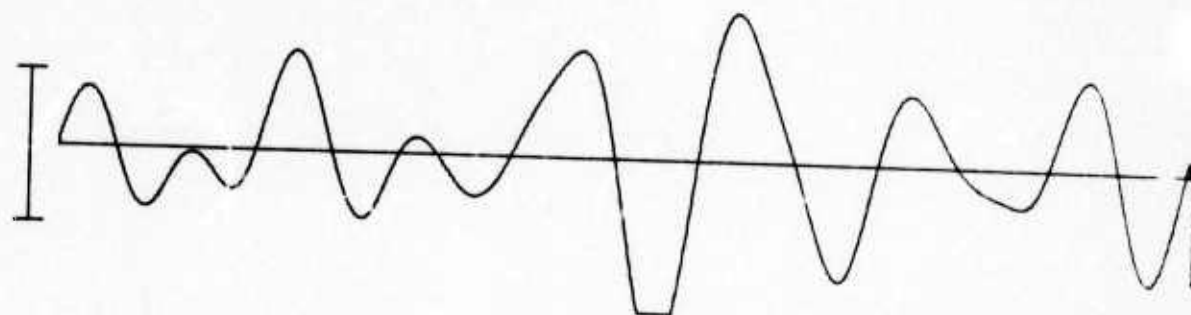
12

# LASA LONG PERIOD C4 SUBARRAY 07 OCT 75

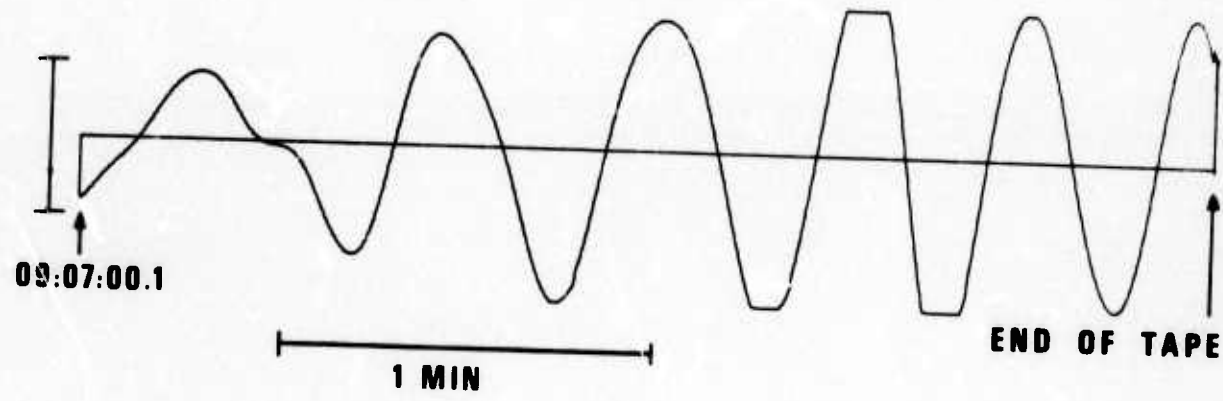
C4LV  
42590.00 M $\mu$



C4LN  
40612.00 M $\mu$



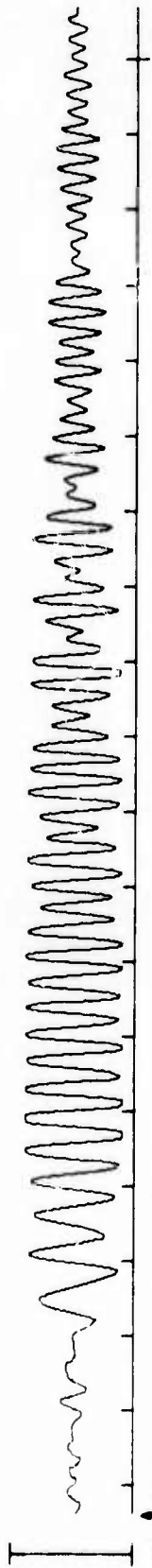
C4LE  
41915.00 M $\mu$



ARRAY LONG PERIOD VERTICAL BEAMS 07 OCT 75

NORSAR

LP VERTICAL  
49228.99 MHz



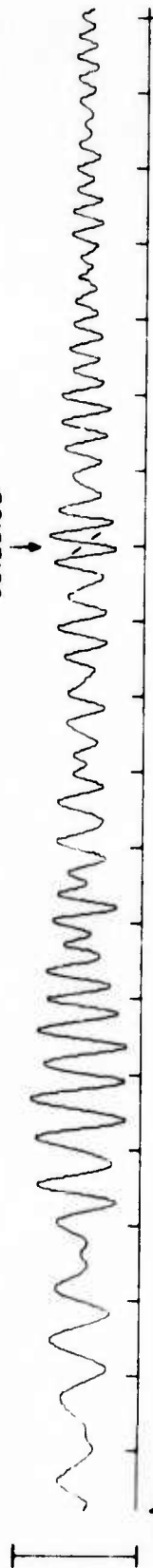
08:56:35

1 MIN

19

ALPA

LP VERTICAL  
19955.26 MHz



09:10:09

1 MIN

09:23:03