Cm#: FAST-TEV-071

EMC TESTING ON THE FAST ETU IDPU

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P. Berg
28 March, 1994

INTRODUCTION

The EMC test on the FAST flight payload consisted of a full system test in which all components of the system were operated simultaneously and the output data from each instrument examined to verify that there was no significant raising of the noise floor in any system caused by the operation of any other system. This test was done with the full payload only operating with the payload GSE, and with the full payload operating in the spacecraft with other spacecraft systems including the transmitter and the torque coils operating. No interference was found in either test except for a small effect from the torque coils seen in the E-Field data, and a very large effect from the torque coils on the magnetometer. The latter was of course expected. Since it is not planned to operate the torque coils during science data taking, this is not considered to be a problem.

Since the above described testing was done, the Project has asked UCB to do perform Mil-461 type conducted suseptability testing on the ETU IDPU to get some indication of the level of margin which we have against electromagnetic interference in the payload system. The tests to be performed are CS01, CS02, and CS06 per the methods of Mil-462, and to the levels specified in the SMEX Project document FAST-012. Testing is to be done on the input power line only of the ETU IDPU assembly. This report gives the results of that testing.

CS06 TEST PROCEDURE AND RESULTS

Figure 1 shows the set-up used to perform the CS06 test. The ETU IDPU was connected to the GSE system which simulates the spacecraft interface and allowed selected output data to be displayed. The ETU magnetometers were connected to the system, but no ESA's, boom units, or TEAMS were connected. The dummy load module provides a simulated load of 4 Radial Boom Units, and 2 ESA units. The CS06 Test Pulser was put in series with the power line so that it put pulses directly on the +28 volt power input. The GSE scripts TVSFA, TVADC1, and TVSVY0 were run to look for interference in the E-Field system. SHOMON2 was also run to view the full engineering housekeeping, and to verify correct operation of the processor system.

Figure 2 below shows the voltage and current waveforms of the spikes put onto the input power line.

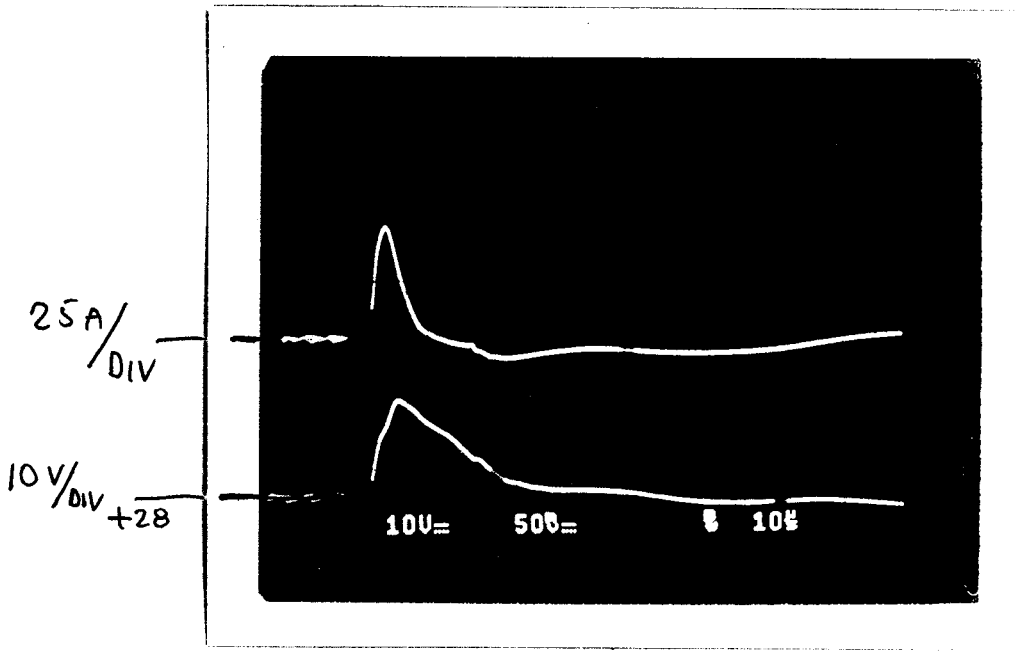

FIGURE 2

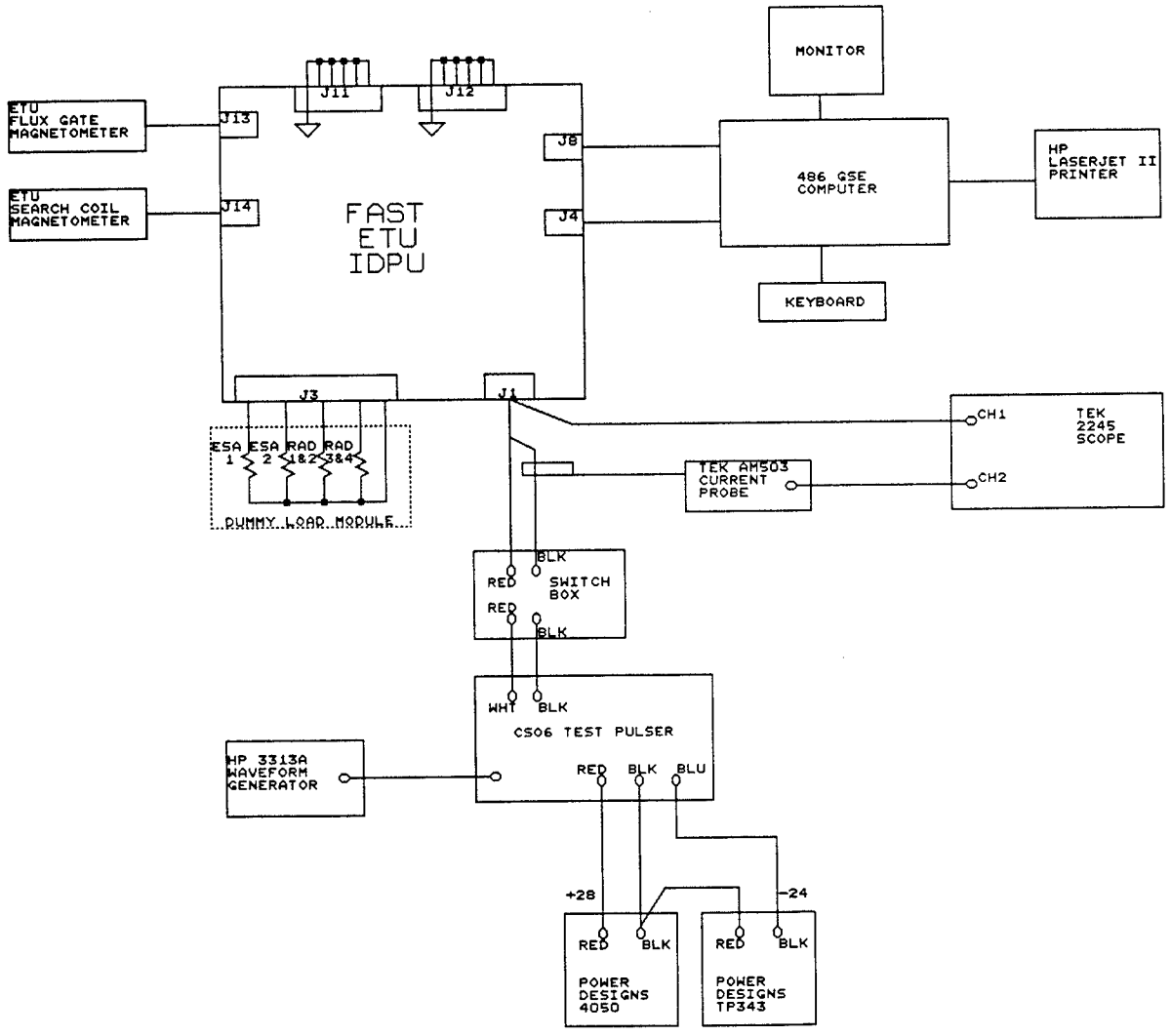

FIGURE 1

CSØ6 TEST SET-UP

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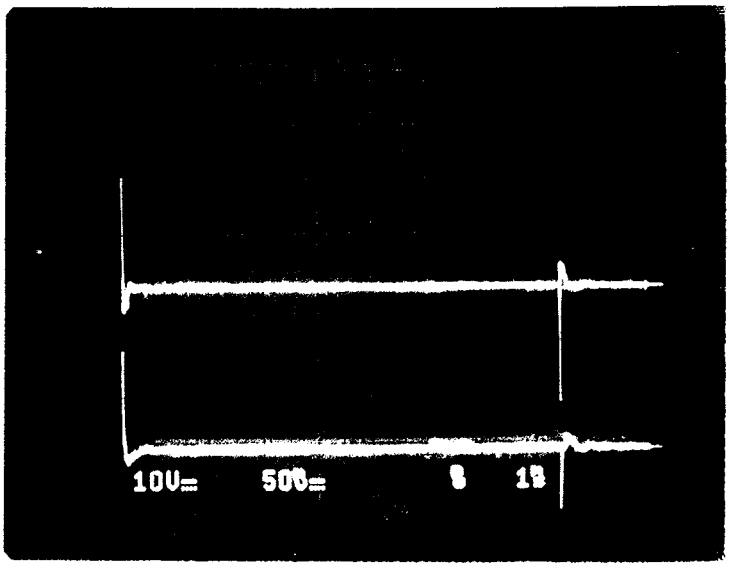


FIGURE 3

Figure 3 shows the same waveforms at a slower time scale so that it can be verified that the pulses are occurring with one positive pulse and one negative pulse 60 times each second. Note that the peak voltage of the pulses is +/- 18 volts from the nominal +28 volt power line, and that a little over 50 Amperes is required to achieve this. Since 50 Amperers is the maximum capability of the pulser we used, we were not able to develop the full 28 volts across the input EMI filters in the IDPU power supply that is called for by Mil-462. We deemed this to be acceptable since there are no known interferance sources on the spacecraft which can develop current pulses which approach 50 Amperers.

Figure 4 below shows the voltage on the internal +5 volt supply in the IDPU while the test pulses are present. The interferance pulses are about 150 mV in amplitude. This will pose no problem for digital circuitry, but may cause some problems in the analog circuits as will be seen below.

CH1
+5V SUPPLY

CH1 - CH2

CH2
LOCAL GND

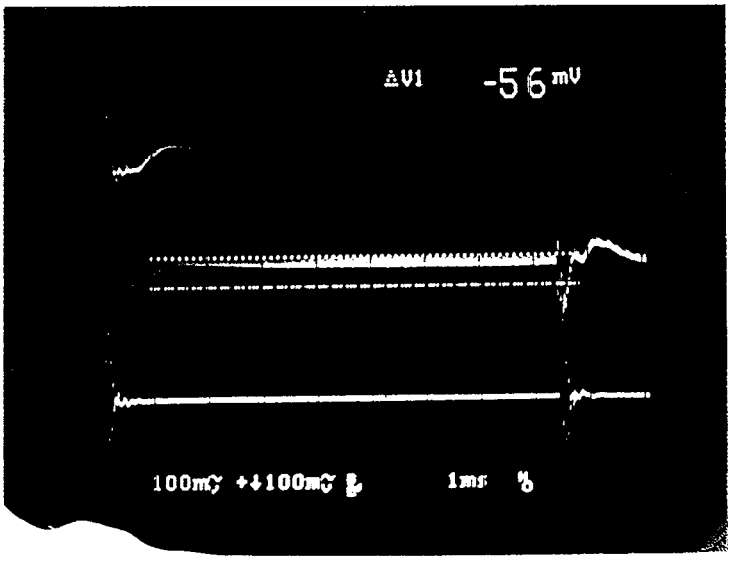


FIGURE 4

CH1
LOCAL GND

CH2 - CH1

CH2
+28 VOLTS
OUTPUT

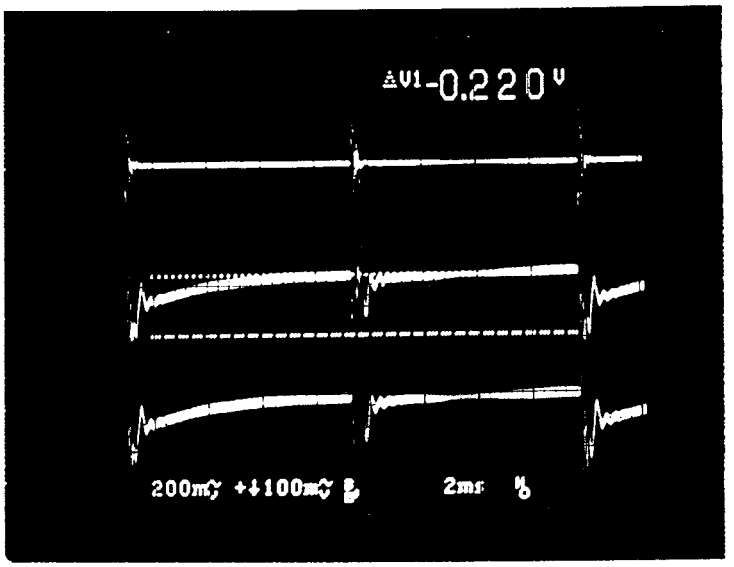


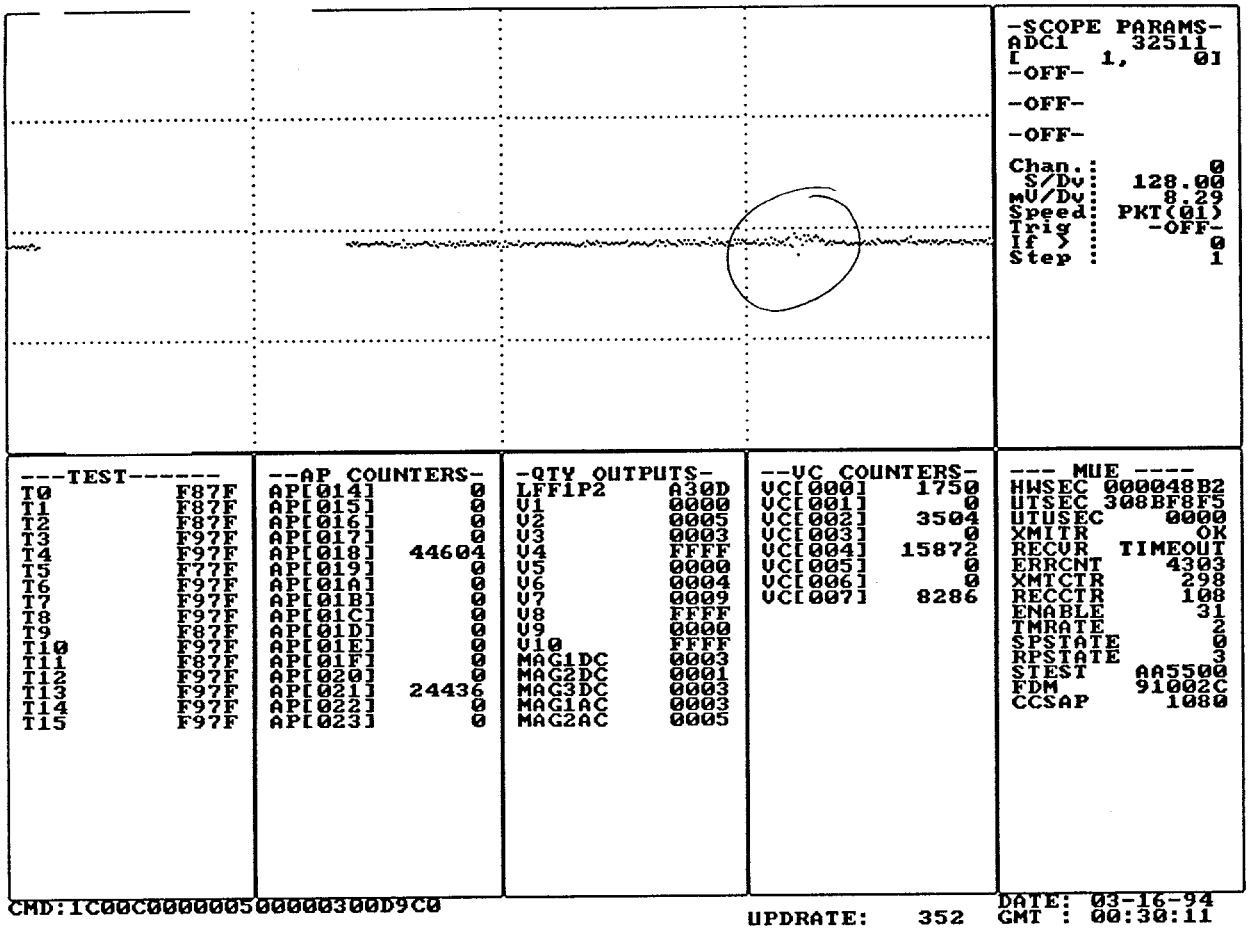
FIGURE 5

Figure 5 shows the interferance which appears on the +28 volt out put power from the IDPU to the ESA's and boom units. This voltage, of about 250 mV, is not expected to cause any problem with either the ESA's or the boom units.

Figure 6 is a print out from the GSE while running the TVADC1 script. Note the spurious data point (circled).

Figure 7 shows the output from TVSVY0. Note the same level of interferance in the 3 ADC channels displayed. That the spurious data points appear to occur more often here is due to the lower sample rate of these channels.

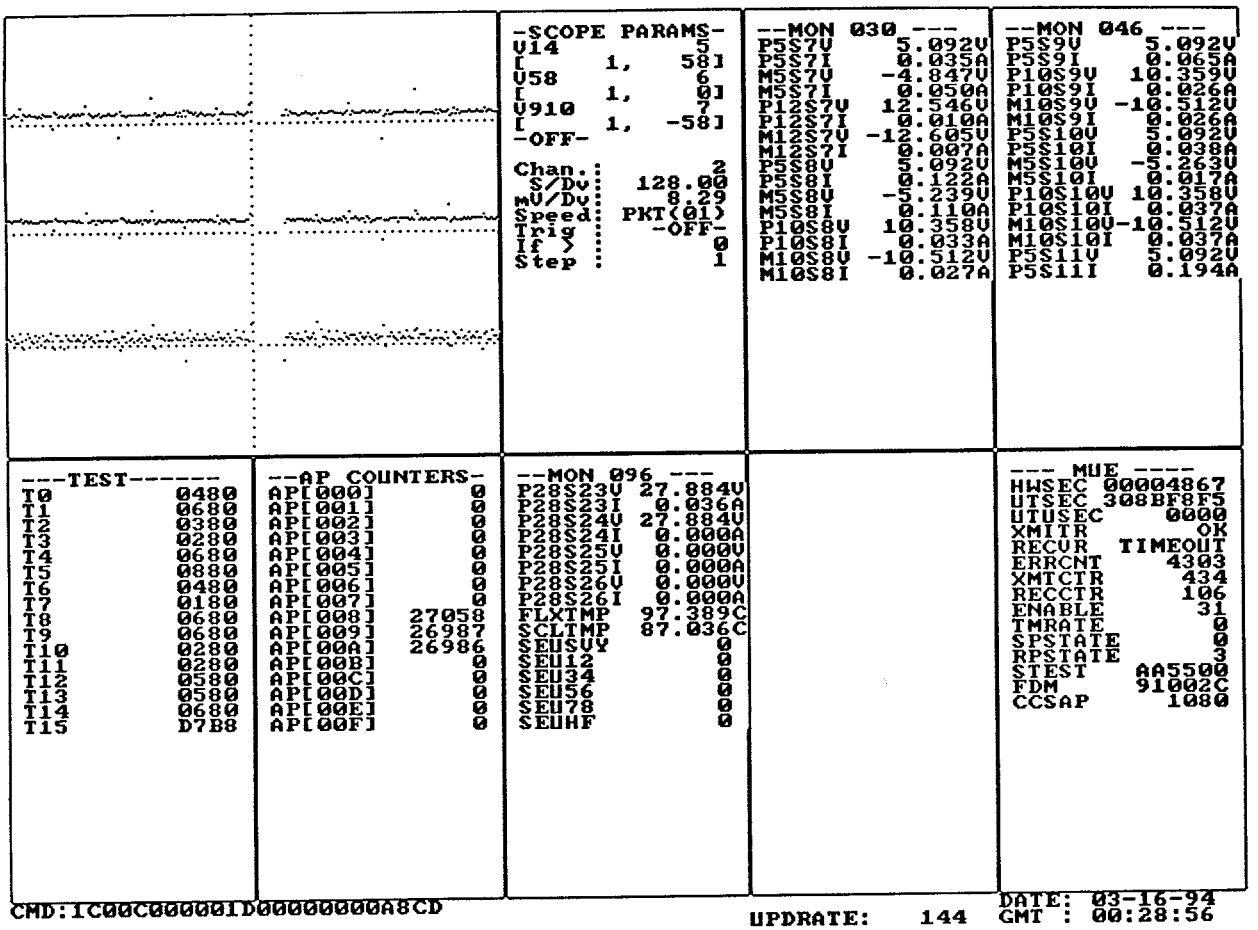
Figure 8 shows the output from TVSFA. The six lines which stand above the noise floor are spurious. On repeated sweeps, this pattern shifts in phase showing that the interferance is associated with the time that the pulses occur rather than being due to specific frequency components of the pulses.



-V_1 - V_4

16 k bits/sec

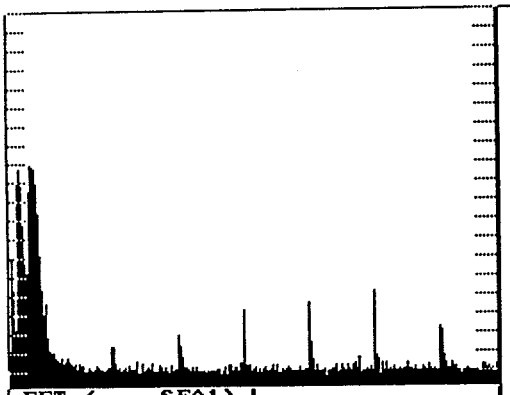
FIGURE 6



16 March, 1997

CSO6 w/ 20v pulses

FIGURE 7



FFT (SFA1)
FFTSC 256 dB
Peak -103.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.359V
P10S3I 0.000A
M10S3V -10.461V
M10S3I 0.001A
P5S4V 5.092V
P5S4I 0.000A
P12S4V 12.546V
P12S4I 0.000A
M12S4V -12.605V
M12S4I 0.002A
P28S5V 32.715V
P28S5I 0.017A
P28S6V 27.746V
P28S6I 0.038A
P5S7V 5.092V
P5S7I 0.035A

--MON 030 ---
P5S7V 5.092V
P5S7I 0.035A
M5S7V -4.920V
M5S7I 0.050A
P12S7V 12.546V
P12S7I 0.010A
M12S7V -12.605V
M12S7I 0.007A
P5S8V 5.092V
P5S8I 0.122A
M5S8V -5.239V
M5S8I 0.114A
P10S8V 10.358V
P10S8I 0.033A
M10S8V -10.512V
M10S8I 0.027A

--MON 046 ---
P5S9V 5.092V
P5S9I 0.065A
P10S9V 10.359V
P10S9I 0.026A
M10S9V -10.512V
M10S9I 0.026A
P5S10V 5.092V
P5S10I 0.038A
M5S10V -5.239V
M5S10I 0.017A
P10S10V 10.358V
P10S10I 0.037A
M10S10V-10.461V
M10S10I 0.037A
P5S11V 5.043V
P5S11I 0.194A

---TEST------
T0 1F0D
T1 2418
T2 2210
T3 231B
T4 471B
T5 3F41
T6 5F5A
T7 4148
T8 3A43
T9 A127
T10 1E2A
T11 690F
T12 8C86
T13 747C
T14 8C97
T15 7477

--AP COUNTERS-
AP[020] 0
AP[021] 27152
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--VC COUNTERS-
VC[000] 1786
VC[001] 0
VC[002] 6395
VC[003] 0
VC[004] 15872
VC[005] 0
VC[006] 0
VC[007] 15499

--- MUE ----
HWSEC 000049DB
UTSEC 308BF8F5
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 232
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 0
SIEST AA5500
FDM 91002C
CCSAP 1081

CMD:1C00C0000000500000FF000097

UPDRATE: 256

DATE: 03-16-94
GMT : 00:35:08

CS06 STIMULATION ON

FIGURE 8

CS01 TEST PROCEDURE AND RESULTS

Figure 9 shows the set-up used to perform the CS01 test. The ETU IDPU was connected to 486 GSE system which simulated the spacecraft interface and allowed selected output data to be displayed. The ETU magnetometers were connected to the system, but no ESA's, boom units, or TEAMS were connected. The dummy load module provided a simulated load of 4 Radial Boom Units and 2 ESA units. The current amplifier driven by a sine wave from the HP 3313A was put in series with the power line so that the waveform specified by CS01 was added to the DC value of the voltage on the +28 volt power input. For frequencies from 30 Hz to 2 kHz, the added signal was an unmodulated sine wave. From 2kHz to 50 kHz, the waveform was a sine wave which was modulated with a 50% duty cycle at 1000 Hz. From 30 Hz to 1500 Hz, the amplitude of the unmodulated sine wave was 2.8 volts rms. From 1500 Hz it was ramped down to 1 volt rms at 50 kHz (per figure 5.2.2.1-1 of FAST-SPEC-001). The input amplitude was also limited by the constraint that the AC component of the input current shall not exceed 6 Amperers peak to peak.

The GSE scripts TVSFA, TVADC1, and TVSVY0 were run to look for interferance in the E-Field system. SHOMON2 was also run to view the full engineering housekeeping and to verify correct operation of the processor system, and the value of the voltage which fed thru to the internal +5 volt supply and to the +28 volts supplied by the IDPU to the external instruments.

Table 1 below summarizes the effects on the other supplies and the operation of the instrument and shows the value of the voltage which was attained on the input power line as a function of input frequency.

Table 1 -- Summary of CS01 Test Results

Input Freq	V p-p	AC Current on Input	AC on IDPU Int. 5 v bus	AC on IDPU Supplied +28	Disturbance on: SFA	ADC	SVY	MON
					X	X	X	N
15 Hz	9 Vp-p	100 mA p-p	50 mVp-p		VL	N	N	N
30 Hz	9 Vp-p	300 mA p-p	110 mVp-p	1.3 Vp-p	X	X	X	N
60 Hz	9 Vp-p	400 mA p-p	200 mVp-p	1.8 Vp-p	X	L	X	N
100 Hz	9 Vp-p	750 mA p-p	320 mVp-p	2.0 Vp-p	VL	X	M	N
200 Hz	9 Vp-p	1.9 A p-p	580 mVp-p	2.0 Vp-p	M	M	S	N
290 Hz	8 Vp-p	2.5 A p-p	750 mVp-p	2.2 Vp-p	M	M	S	N
500 Hz	8 Vp-p	3.7 A p-p	450 mVp-p	1.8 Vp-p	M	M	S	N
1 kHz	8 Vp-p	4.5 A p-p	210 mVp-p	1.7 Vp-p	L	M	M	N
2 kHz	5 Vp-p	6 A p-p	130 mVp-p	.85 Vp-p	X	X	X	N
2 kHz	5	6 A p-p	200 mVp-p	.85 Vp-p	L	L	M	N
4 kHz	2.5	6 A p-p	200 mVp-p	.42 Vp-p	X	N	L	N
8 kHz	2.5	6 A p-p	300 mVp-p	.29 Vp-p	X	X	X	N
13 kHz		6 A p-p		.58 Vp-p	L	X	X	N
16 kHz	1	6 A p-p	390 mVp-p	.54 Vp-p	X	X	X	N
32 kHz		6 A p-p		.48 Vp-p	VL	N	N	N
50 kHz	3	6 A p-p	300 mVp-p	.62 Vp-p	X	X	X	N
80 kHz		6 A p-p		.75 Vp-p	N	N	X	N
100 kHz	4.5	6 A p-p		.80 Vp-p				

end: N -- No Effect VL -- Very Low L -- Low Effect
M -- Moderate Effect S -- Severe Effect

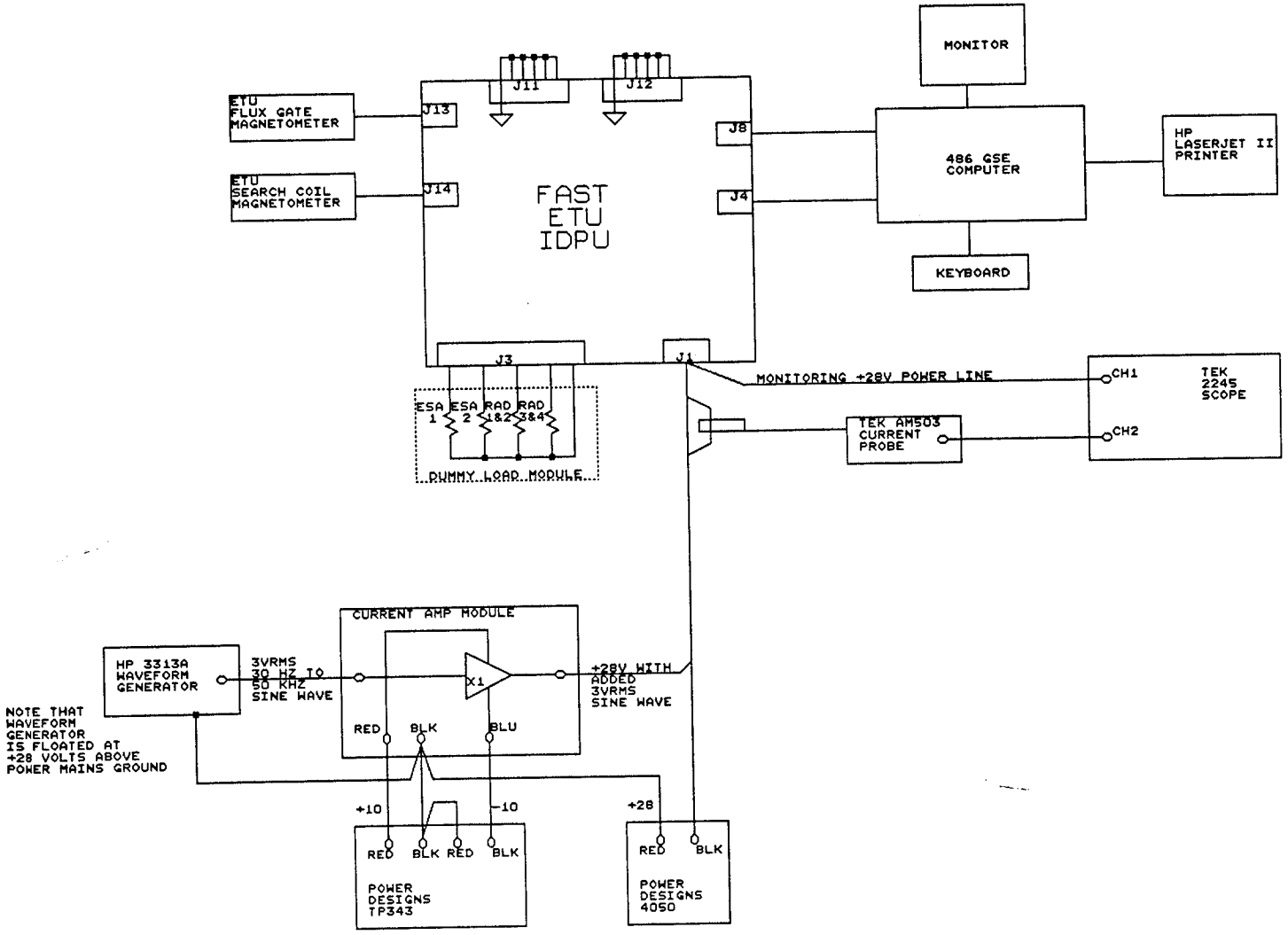


FIGURE 9

CS01 TEST SET-UP		
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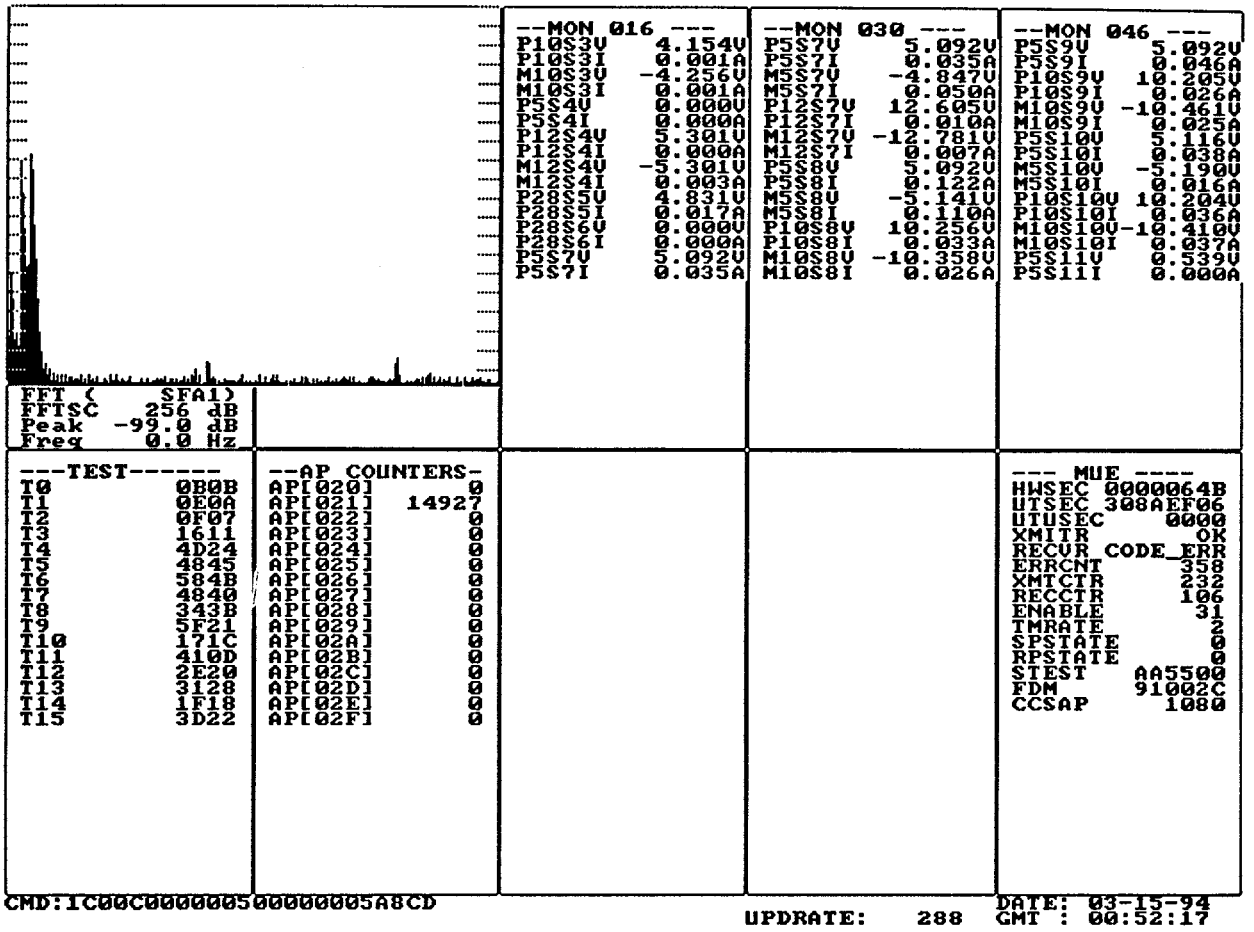
Figures 10 thru 39 show data output from the instrument under the various conditions of stimulation and provide the basis for the assessment of the operation shown in the four right columns of Table 1.

The E-Field instrument shows some sensitivity to this test. Disturbance of the science data starts at around 100 Hz and continues to about 10 kHz with a peak at 290 Hz. Examination of the IDPU internal +5 volt power bus and the +28 volt bus which is supplied to the external instruments shows that the effect on those lines also peaks at 290 Hz. From that we conclude that the primary way in which the conducted interference affects the science data is via less than ideal power line rejection in the analog circuits in the E-Field electronics.



30 H3

FIGURE 10

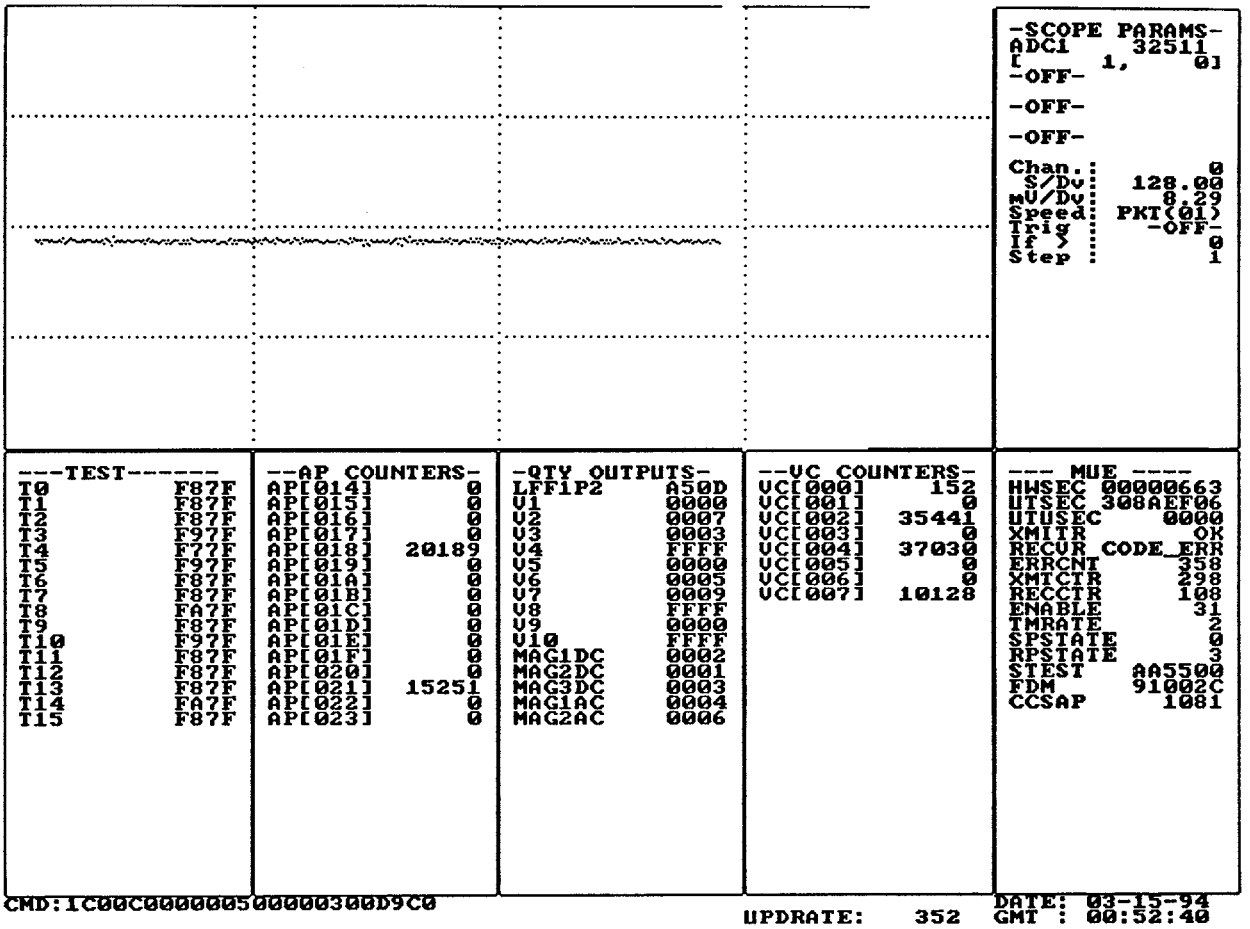


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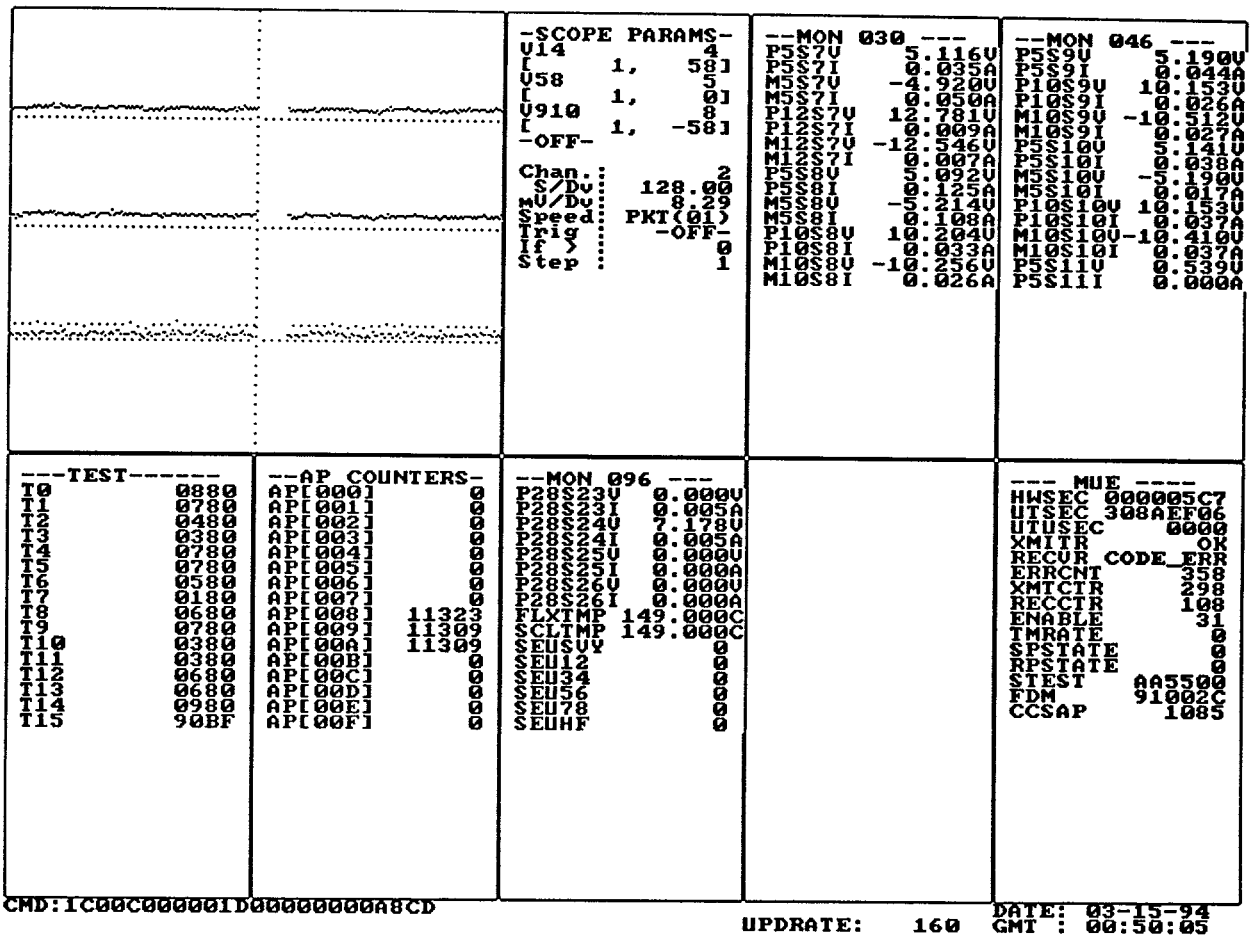
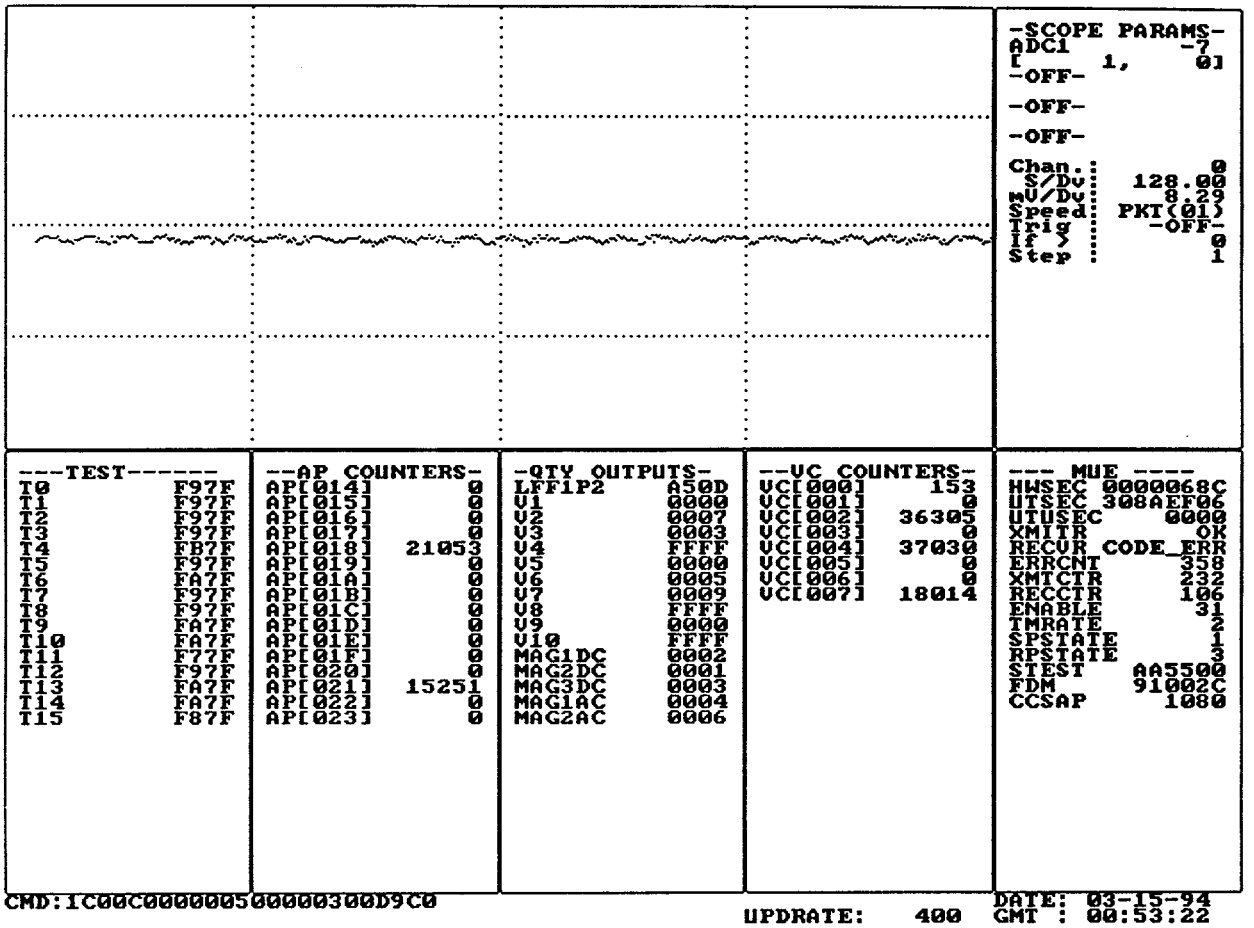
FIGURE 11



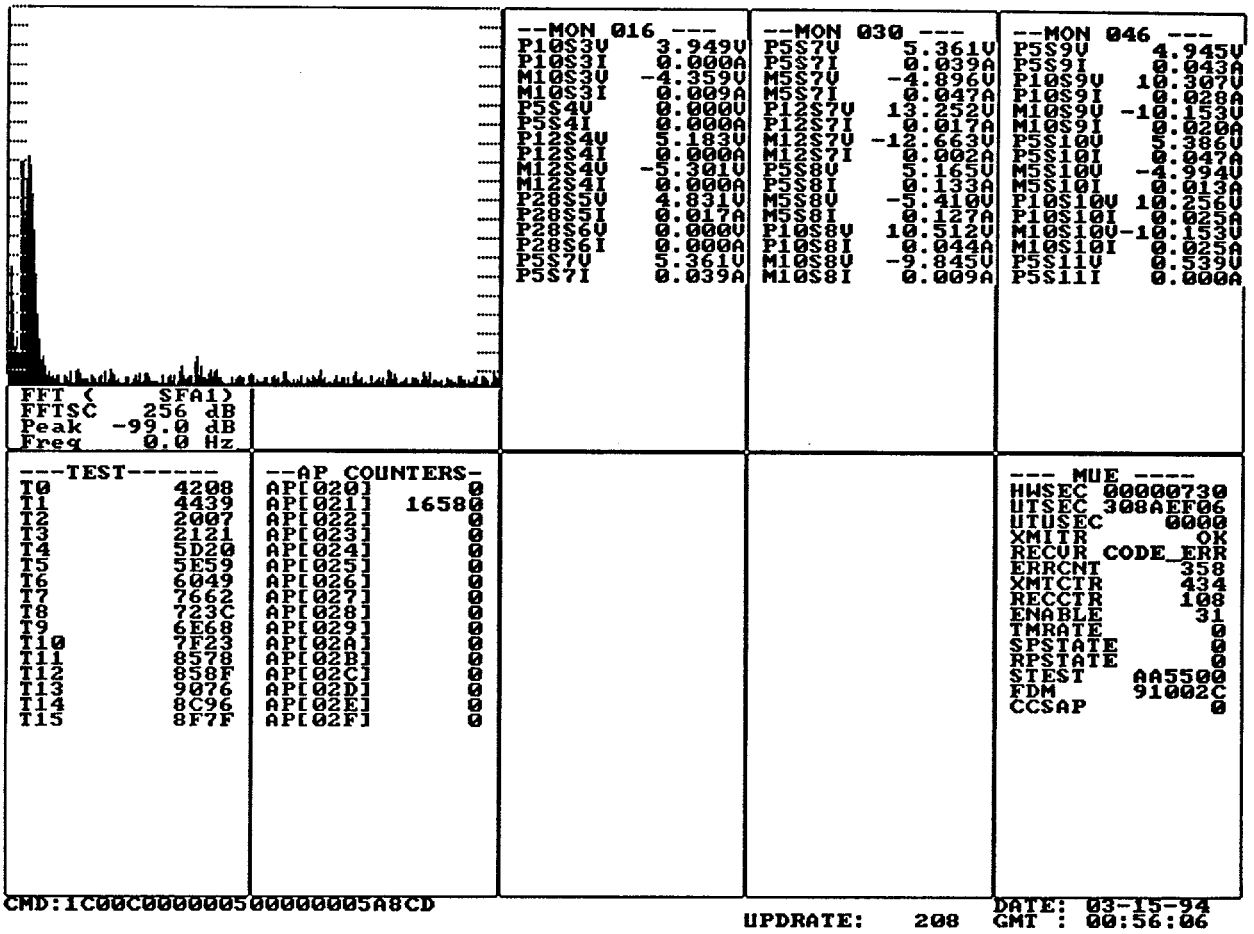
30 HB

FIGURE 12



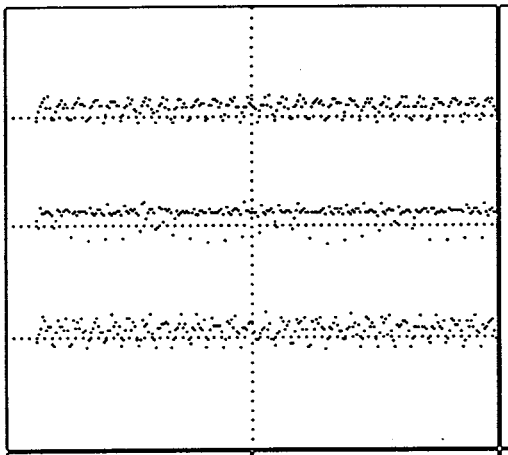
100 Hz

FIGURE 13



200 Hz

FIGURE 14



```
-SCOPE PARAMS-
V14          5
[     1,    58]
V58          9
[     1,     0]
V910         8
[     1,   -58]
-OFF-

Chan.        2
 S/Dv    128.00
mV/Dv      8.29
Speed   PKT(01)
Trig       -OFF-
If >           0
Step           1
```

```
--MON 030 ---
P5S7V     4.798V
P5S7I     0.039A
M5S7V    -4.847V
M5S7I     0.059A
P12S7V   12.899V
P12S7I    0.005A
M12S7V  -12.958V
M12S7I    0.002A
P5S8V     5.312V
P5S8I     0.118A
M5S8V    -5.386V
M5S8I     0.139A
P10S8V    9.692V
P10S8I    0.044A
M10S8V  -10.410V
M10S8I    0.044A
```

```
--MON 046 ---
P5S9V     5.337V
P5S9I     0.048A
P10S9V   10.051V
P10S9I    0.023A
M10S9V   -9.897V
M10S9I    0.034A
P5S10V    5.386V
P5S10I    0.047A
M5S10V   -5.337V
M5S10I    0.021A
P10S10V  10.717V
P10S10I   0.031A
M10S10V -10.000V
M10S10I   0.036A
P5S11V    0.539V
P5S11I    0.000A
```

```
---TEST-------
T0          0280
T1          0780
T2          FE7F
T3          0280
T4          0580
T5          FF7F
T6          FB7F
T7          0180
T8          0380
T9          FF7F
T10         0280
T11         0380
T12         0680
T13         0A80
T14         0980
T15         E8BE
```

```
--AP COUNTERS-
AP[000]          0
AP[001]          0
AP[002]          0
AP[003]          0
AP[004]          0
AP[005]          0
AP[006]          0
AP[007]          0
AP[008]      12747
AP[009]      12733
AP[00A]      12734
AP[00B]          0
AP[00C]          0
AP[00D]          0
AP[00E]          0
AP[00F]          0
```

```
--MON 096 ---
P28S23V   0.000V
P28S23I   0.001A
P28S24V   7.178V
P28S24I   0.000A
P28S25V   0.000V
P28S25I   0.000A
P28S26V   0.000V
P28S26I   0.000A
FLXTMP  149.000C
SCLTMP  149.000C
SEUSVY           0
SEU12            0
SEU34            0
SEU56            0
SEU78            0
SEUHF            0
```

```
--- MUE ----
HWSEC 000006C3
UTSEC 308AEF06
UTUSEC      0000
XMITR         OK
RECVR CODE_ERR
ERRCNT        358
XMTCTR        232
RECCTR        106
ENABLE         31
TMRATE          0
SPSTATE         0
RPSTATE         0
STEST    AA5500
FDM      91002C
CCSAP       1080
```

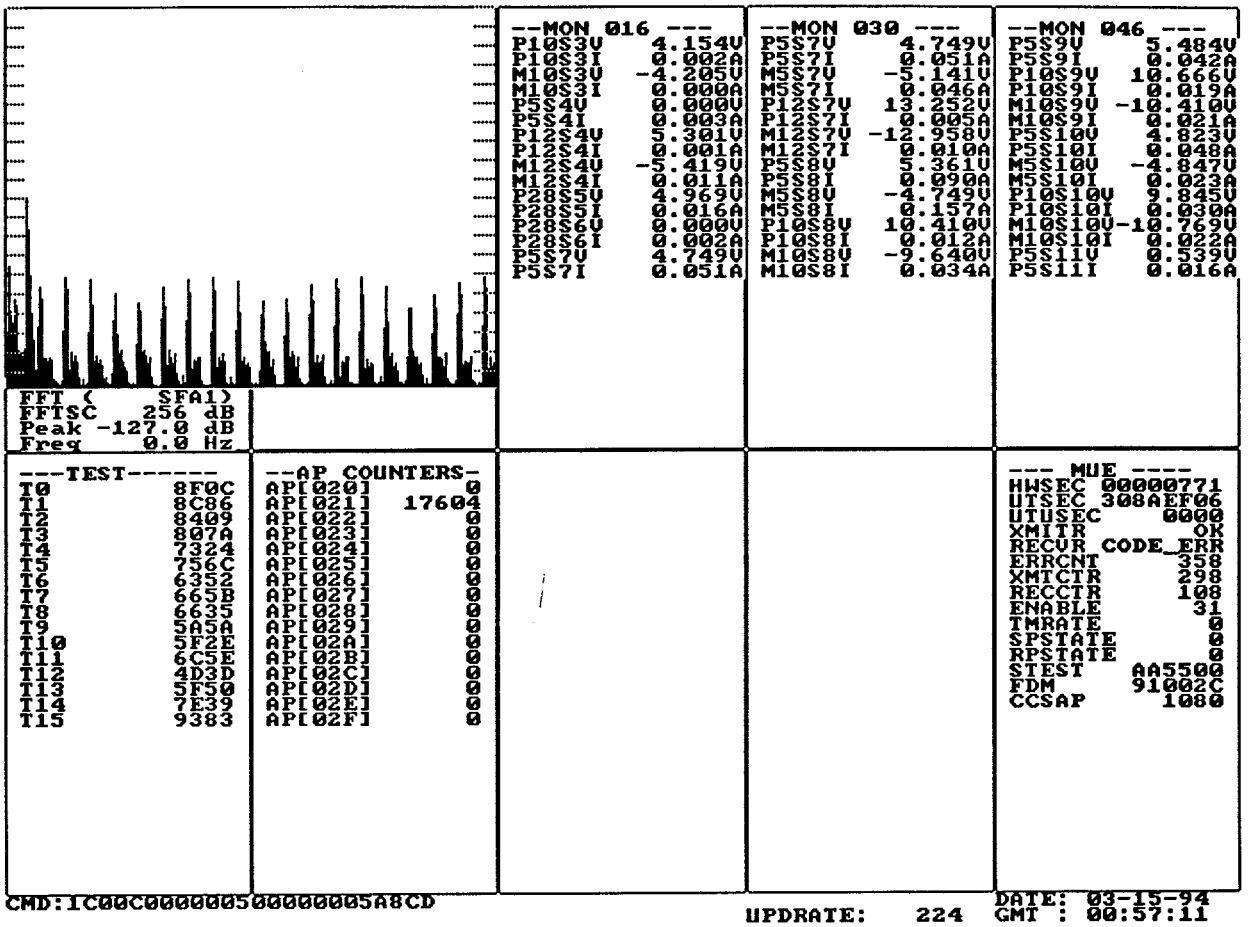
```
CMD:1C00C000001D00000000A8CD
```

```
UPDRATE:    144
```

```
DATE: 03-15-94
GMT : 00:54:17
```

200Hz

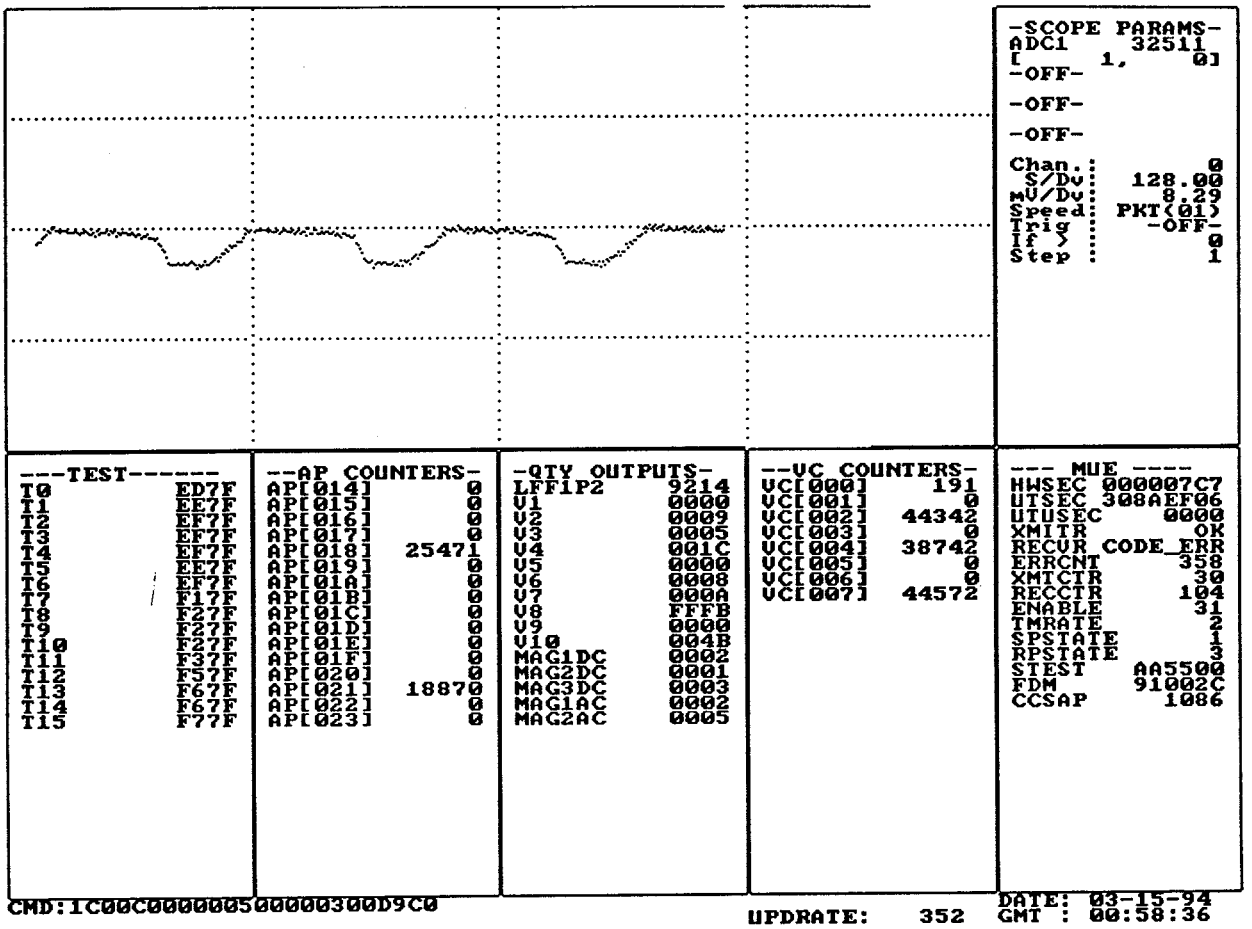
FIGURE 15



290 Hz

(Higher Feedthrough

FIGURE 16



390 HB

FIGURE 17

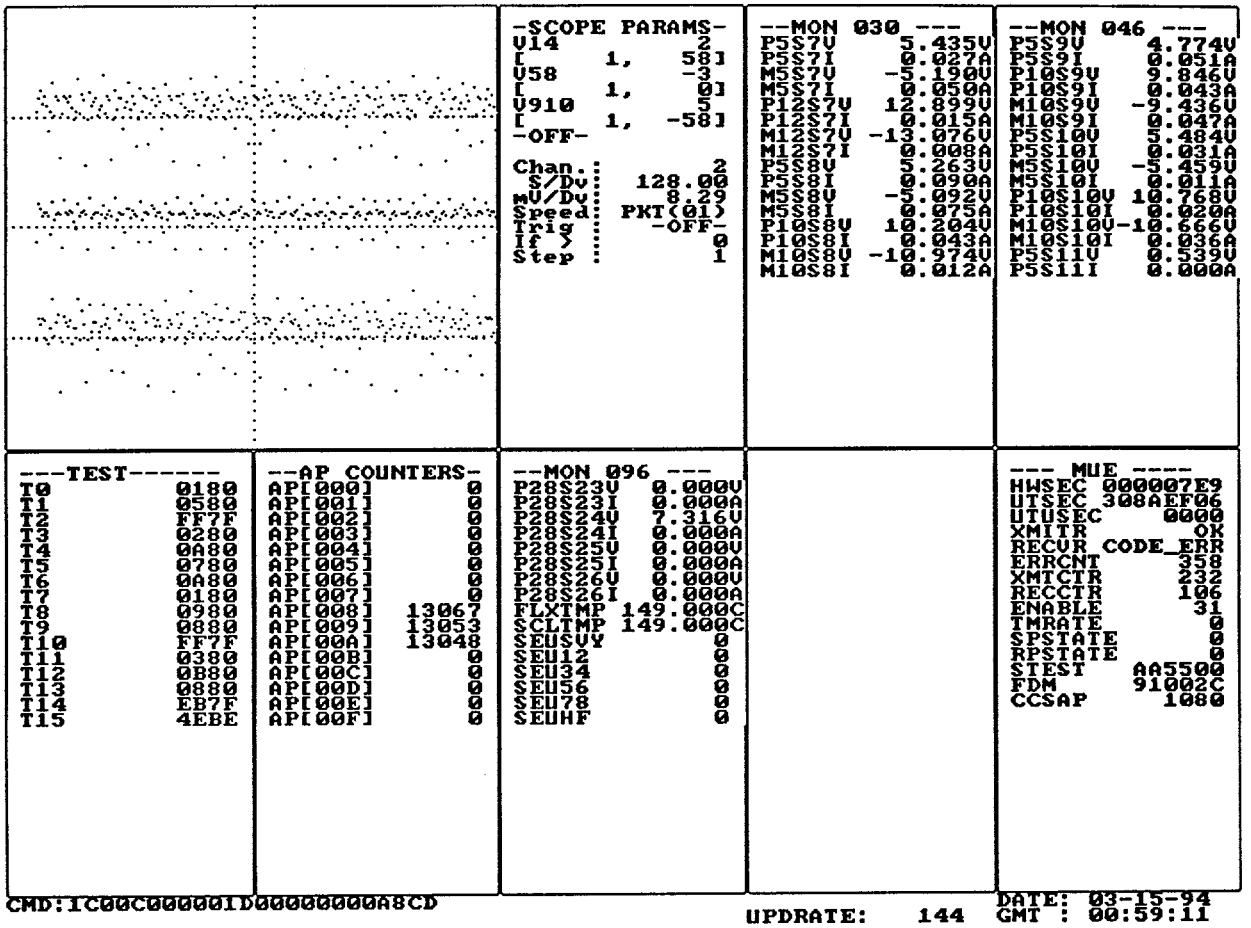
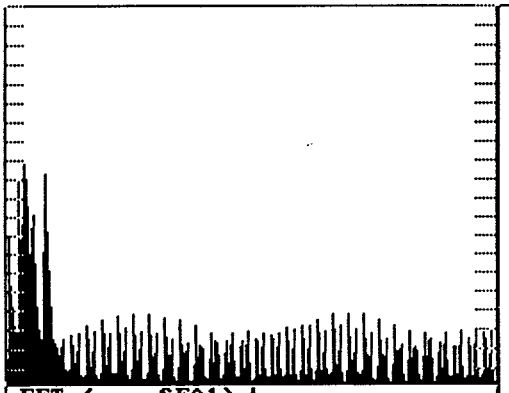

-SCOPE PARAMS-
V14 2
[1, 58]
V58 -3
[1, 0]
V910 5
[1, -58]
-OFF-
Chan.: 2
$/Dv: 128.00
mV/Dv: 8.29
Speed: PKT(01)
Trig: -OFF-
If >: 0
Step: 1
--MON 030 ---
P5S7V 5.435V
P5S7I 0.027A
M5S7V -5.190V
M5S7I 0.050A
P12S7V 12.899V
P12S7I 0.015A
M12S7V -13.076V
M12S7I 0.008A
P5S8V 5.263V
P5S8I 0.090A
M5S8V -5.092V
M5S8I 0.075A
P10S8V 10.204V
P10S8I 0.043A
M10S8V -10.974V
M10S8I 0.012A
--MON 046 ---
P5S9V 4.774V
P5S9I 0.051A
P10S9V 9.846V
P10S9I 0.043A
M10S9V -9.436V
M10S9I 0.047A
P5S10V 5.484V
P5S10I 0.031A
M5S10V -5.459V
M5S10I 0.011A
P10S10V 10.768V
P10S10I 0.020A
M10S10V -10.666V
M10S10I 0.036A
P5S11V 0.539V
P5S11I 0.000A
---TEST------
T0 0180
T1 0580
T2 FF7F
T3 0280
T4 0A80
T5 0780
T6 0A80
T7 0180
T8 0980
T9 0880
T10 FF7F
T11 0380
T12 0B80
T13 0880
T14 EB7F
T15 4EBE
--AP COUNTERS-
AP[000] 0
AP[001] 0
AP[002] 0
AP[003] 0
AP[004] 0
AP[005] 0
AP[006] 0
AP[007] 0
AP[008] 13067
AP[009] 13053
AP[00A] 13048
AP[00B] 0
AP[00C] 0
AP[00D] 0
AP[00E] 0
AP[00F] 0
--MON 096 ---
P28S23V 0.000V
P28S23I 0.000A
P28S24V 7.316V
P28S24I 0.000A
P28S25V 0.000V
P28S25I 0.000A
P28S26V 0.000V
P28S26I 0.000A
FLXTMP 149.000C
SCLTMP 149.000C
SEUSVY 0
SEU12 0
SEU34 0
SEU56 0
SEU78 0
SEUHF 0
--- MUE ----
HWSEC 000007E9
UTSEC 308AEF06
UTUSEC 0000
XMITR OK
RECVR CODE_ERR
ERRCNT 358
XMTCTR 232
RECCTR 106
ENABLE 31
TMRATE 0
SPSTATE 0
RPSTATE 0
STEST AA5500
FDM 91002C
CCSAP 1080
CMD:1C00C000001D00000000A8CD
UPDRATE: 144
DATE: 03-15-94
GMT : 00:59:11

FIGURE 18



FFT (SFA1)
FFTSC 256 dB
Peak -104.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	4.102V
P10S3I	0.000A
M10S3V	-4.308V
M10S3I	0.006A
P5S4V	0.000V
P5S4I	0.002A
P12S4V	5.360V
P12S4I	0.000A
M12S4V	-5.478V
M12S4I	0.000A
P28S5V	4.831V
P28S5I	0.019A
P28S6V	0.000V
P28S6I	0.001A
P5S7V	4.945V
P5S7I	0.024A

--MON 030 ---

P5S7V	4.945V
P5S7I	0.024A
M5S7V	-5.190V
M5S7I	0.055A
P12S7V	12.840V
P12S7I	0.011A
M12S7V	-13.311V
M12S7I	0.007A
P5S8V	5.214V
P5S8I	0.116A
M5S8V	-5.043V
M5S8I	0.090A
P10S8V	10.563V
P10S8I	0.038A
M10S8V	-10.153V
M10S8I	0.047A

--MON 046 ---

P5S9V	5.043V
P5S9I	0.041A
P10S9V	9.948V
P10S9I	0.036A
M10S9V	-10.000V
M10S9I	0.035A
P5S10V	4.994V
P5S10I	0.031A
M5S10V	-4.798V
M5S10I	0.018A
P10S10V	10.102V
P10S10I	0.023A
M10S10V	-10.153V
M10S10I	0.041A
P5S11V	0.539V
P5S11I	0.014A

---TEST------

T0	A00B
T1	9E95
T2	781B
T3	7469
T4	992E
T5	9690
T6	8F5B
T7	8887
T8	863E
T9	7E7D
T10	7925
T11	766F
T12	6771
T13	5C50
T14	8668
T15	9A8C

--AP COUNTERS-

API[020]	0
API[021]	18935
API[022]	0
API[023]	0
API[024]	0
API[025]	0
API[026]	0
API[027]	0
API[028]	0
API[029]	0
API[02A]	0
API[02B]	0
API[02C]	0
API[02D]	0
API[02E]	0
API[02F]	0

--- MUE ----

HWSEC	00000884
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1080

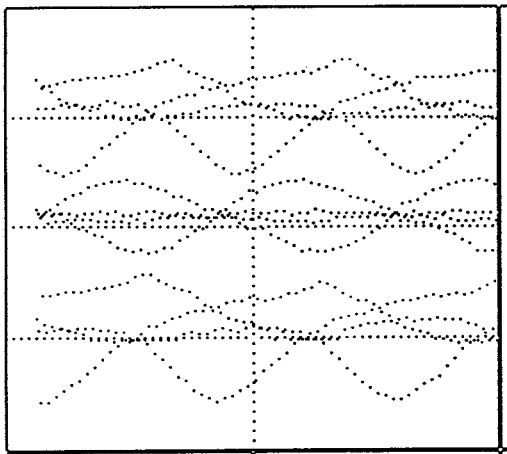
CMD:1C00C0000000900000C00D8C0

UPDRATE: 224

DATE: 03-15-94
GMT : 01:01:46

500 Hz

FIGURE 19



```
-SCOPE PARAMS-
V14          4
[     1,    58]
V58          7
[     1,     0]
V910        -1
[     1,   -58]
-OFF-

Chan.:       2
 S/Dv:  128.00
MV/Dv:    8.29
Speed:  PKT(01)
Trig :    -OFF-
If >:        0
Step :       1
```

```
--MON 030 ---
P5S7V     4.823V
P5S7I     0.031A
M5S7V    -5.288V
M5S7I     0.050A
P12S7V   12.722V
P12S7I    0.007A
M12S7V  -13.252V
M12S7I    0.008A
P5S8V     5.239V
P5S8I     0.112A
M5S8V    -4.872V
M5S8I     0.094A
P10S8V   10.153V
P10S8I    0.036A
M10S8V  -10.410V
M10S8I    0.035A
```

```
--MON 046 ---
P5S9V     5.018V
P5S9I     0.048A
P10S9V   10.102V
P10S9I    0.021A
M10S9V   -9.846V
M10S9I    0.021A
P5S10V    5.018V
P5S10I    0.043A
M5S10V   -5.043V
M5S10I    0.018A
P10S10V   9.948V
P10S10I   0.037A
M10S10V-10.512V
M10S10I   0.043A
P5S11V    0.539V
P5S11I    0.000A
```

```
---TEST------
T0          0680
T1          0780
T2          0680
T3          0280
T4          E57F
T5          FF7F
T6          EC7F
T7          0180
T8          0A80
T9          F97F
T10         0B80
T11         0380
T12         1B80
T13         0E80
T14         0A80
T15         28BE
```

```
--AP COUNTERS-
AP[000]          0
AP[001]          0
AP[002]          0
AP[003]          0
AP[004]          0
AP[005]          0
AP[006]          0
AP[007]          0
AP[008]      14635
AP[009]      14621
AP[00A]      14622
AP[00B]          0
AP[00C]          0
AP[00D]          0
AP[00E]          0
AP[00F]          0
```

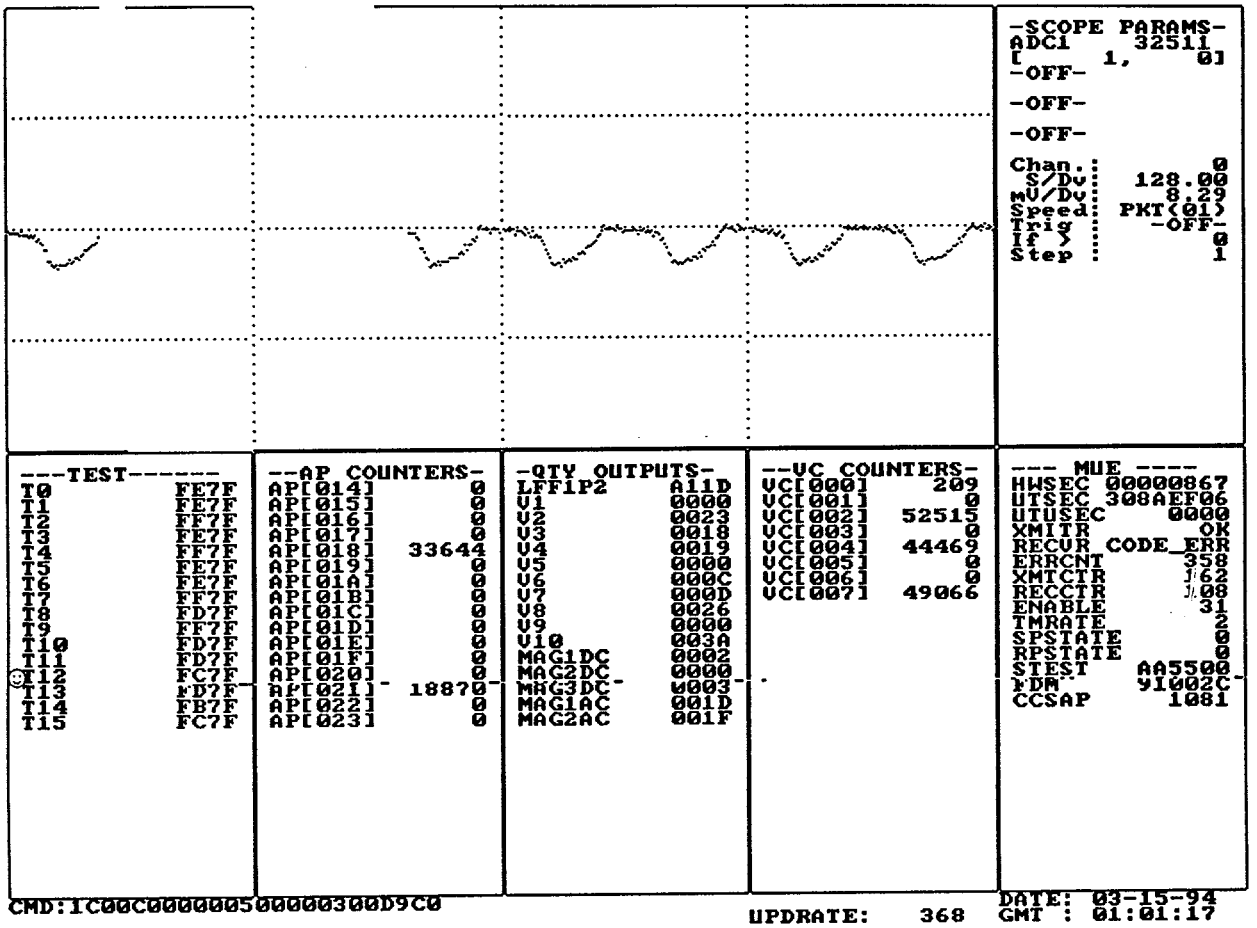
```
--MON 096 ---
P28S23V   0.000V
P28S23I   0.000A
P28S24V   7.316V
P28S24I   0.002A
P28S25V   0.000V
P28S25I   0.000A
P28S26V   0.000V
P28S26I   0.000A
FLXTMP  149.000C
SCLTMP  149.000C
SEUSVY           0
SEU12            0
SEU34            0
SEU56            0
SEU78            0
SEUHF            0
```

```
--- MUE -----
HWSEC 0000084C
UTSEC 308AEF06
UTUSEC       0000
XMITR          OK
RECVR CODE_ERR
ERRCNT         358
XMTCTR         434
RECCTR         108
ENABLE          31
TMRATE           0
SPSTATE          0
RPSTATE          0
STEST     AA5500
FDM        91002C
CCSAP        1085
```

```
CMD:1C00C000001D00000000A8CD
UPDRATE:    144
DATE:  03-15-94
GMT :  01:00:49
```

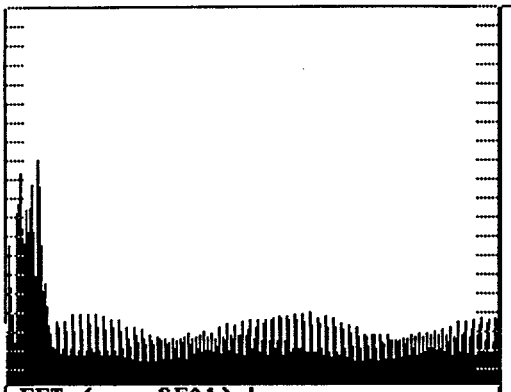
500 Hz

FIGURE 20



50 Hz

FIGURE 21



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	4.205V
P10S3I	0.000A
M10S3V	-4.256V
M10S3I	0.000A
P5S4V	0.000V
P5S4I	0.000A
P12S4V	5.360V
P12S4I	0.000A
M12S4V	-5.360V
M12S4I	0.004A
P28S5V	4.831V
P28S5I	0.017A
P28S6V	0.000V
P28S6I	0.002A
P5S7V	5.165V
P5S7I	0.041A

--MON 030 ---

P5S7V	5.165V
P5S7I	0.041A
M5S7V	-5.190V
M5S7I	0.052A
P12S7V	12.781V
P12S7I	0.010A
M12S7V	-12.899V
M12S7I	0.006A
P5S8V	5.018V
P5S8I	0.127A
M5S8V	-5.214V
M5S8I	0.098A
P10S8V	10.256V
P10S8I	0.026A
M10S8V	-10.204V
M10S8I	0.033A

--MON 046 ---

P5S9V	5.141V
P5S9I	0.045A
P10S9V	10.051V
P10S9I	0.030A
M10S9V	-10.153V
M10S9I	0.026A
P5S10V	5.115V
P5S10I	0.035A
M5S10V	-5.165V
M5S10I	0.017A
P10S10V	10.204V
P10S10I	0.032A
M10S10V	-10.359V
M10S10I	0.032A
P5S11V	0.539V
P5S11I	0.010A

---TEST------

T0	8429
T1	6C71
T2	992F
T3	9E93
T4	7321
T5	7D6C
T6	855C
T7	807D
T8	8340
T9	6D6F
T10	9A2C
T11	9C93
T12	7124
T13	8A6E
T14	8F95
T15	8379

--AP COUNTERS-

API[020]	0
API[021]	19747
API[022]	0
API[023]	0
API[024]	0
API[025]	0
API[026]	0
API[027]	0
API[028]	0
API[029]	0
API[02A]	0
API[02B]	0
API[02C]	0
API[02D]	0
API[02E]	0
API[02F]	0

--- MUE ----

HWSEC	00000910
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	30
RECCTR	104
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
SIEST	AA5500
FDM	91002C
CCSAP	1080

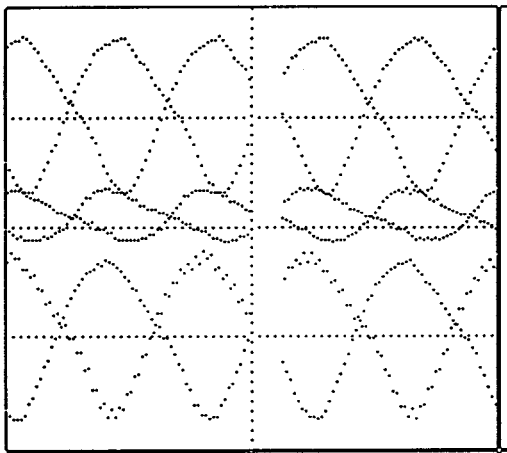
CMD:1C00C0000000900000C00D8C0

UPDRATE: 144

DATE: 03-15-94
GMT : 01:04:05

1 kHz

FIGURE 22



```
-SCOPE PARAMS-
V14              20
[     1,        58]
V58               9
[     1,         0]
V910             12
[     1,       -58]
-OFF-

Chan.:            2
 S/Dv:       128.00
mV/Dv:         8.29
Speed:    PKT<01>
Trig :        -OFF-
If >  :           0
Step  :           1
```

```
--MON 030 ---
P5S7V      4.994V
P5S7I      0.033A
M5S7V     -5.165V
M5S7I      0.052A
P12S7V    12.663V
P12S7I     0.009A
M12S7V   -12.840V
M12S7I     0.006A
P5S8V      5.214V
P5S8I      0.120A
M5S8V     -5.165V
M5S8I      0.125A
P10S8V    10.102V
P10S8I     0.032A
M10S8V   -10.204V
M10S8I     0.019A
```

```
--MON 046 ---
P5S9V      5.092V
P5S9I      0.044A
P10S9V    10.307V
P10S9I     0.028A
M10S9V   -10.153V
M10S9I     0.022A
P5S10V     5.165V
P5S10I     0.041A
M5S10V    -5.239V
M5S10I     0.014A
P10S10V   10.102V
P10S10I    0.037A
M10S10V  -10.410V
M10S10I    0.036A
P5S11V     0.539V
P5S11I     0.000A
```

```
---TEST------
T0          E97F
T1          FF7F
T2          DB7F
T3          0280
T4          2580
T5          1380
T6          2780
T7          0180
T8          E57F
T9          FE7F
T10         D87F
T11         0280
T12         2780
T13         1480
T14         2C80
T15         C6BD
```

```
--AP COUNTERS-
AP[000]           0
AP[001]           0
AP[002]           0
AP[003]           0
AP[004]           0
AP[005]           0
AP[006]           0
AP[007]           0
AP[008]       15221
AP[009]       15207
AP[00A]       15209
AP[00B]           0
AP[00C]           0
AP[00D]           0
AP[00E]           0
AP[00F]           0
```

```
--MON 096 ---
P28S23V    0.000V
P28S23I    0.001A
P28S24V    7.316V
P28S24I    0.001A
P28S25V    0.000V
P28S25I    0.000A
P28S26V    0.000V
P28S26I    0.000A
FLXTMP   149.000C
SCLTMP   149.000C
SEUSUY           0
SEU12            0
SEU34            0
SEU56            0
SEU78            0
SEUHF            0
```

```
--- MUE ----
HWSEC 00000970
UISEC 308AEF06
UIUSEC      0000
XMITR         OK
RECVR CODE_ERR
ERRCNT        358
XMTCTR        434
RECCTR        108
ENABLE         31
TMRATE          0
SPSTATE         0
RPSTATE         0
STEST      AA5500
FDM        91002C
CCSAP        1080
```

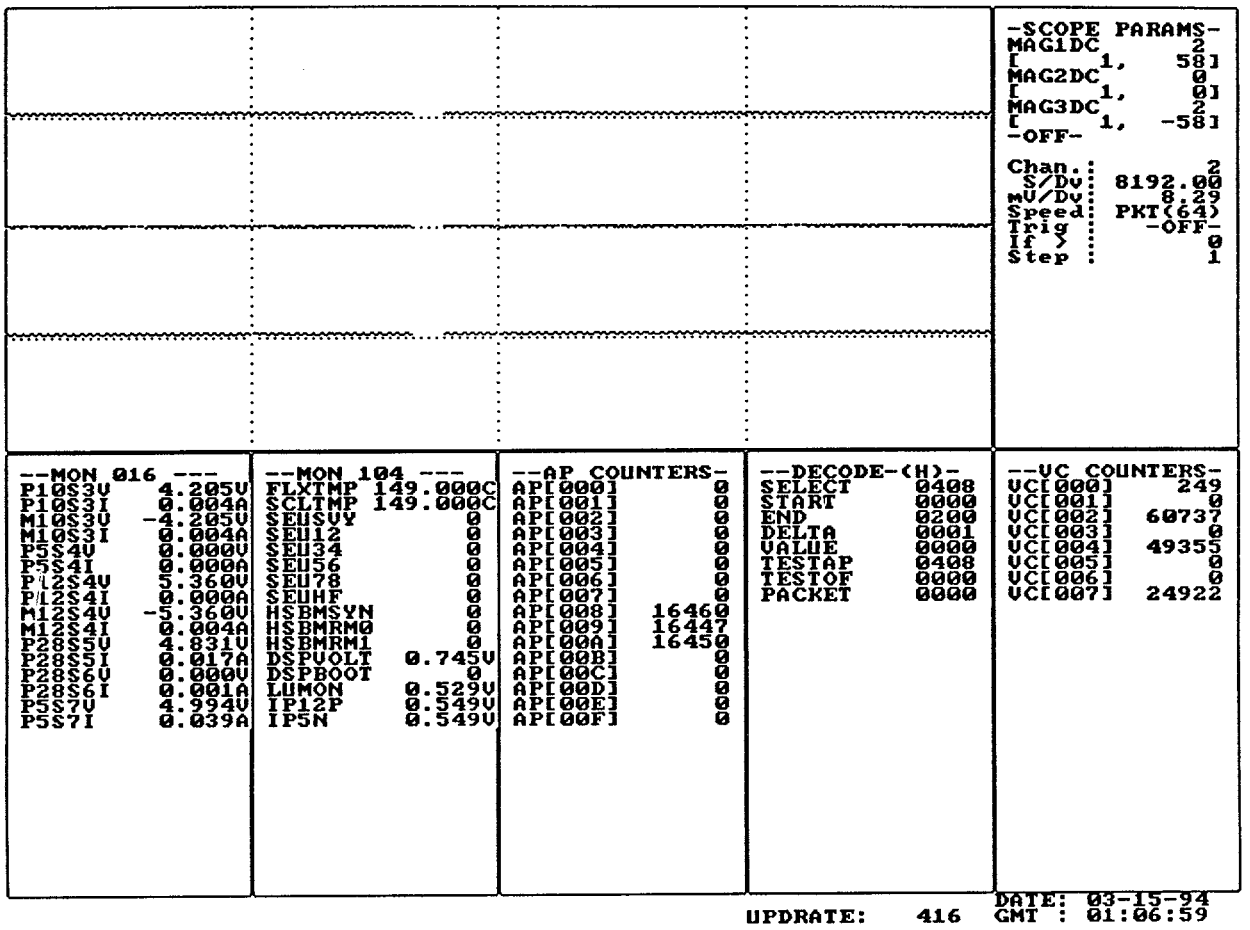
CMD:1C00C000001D00000000A8CD

UPDRATE: 160

DATE: 03-15-94
GMT : 01:05:41

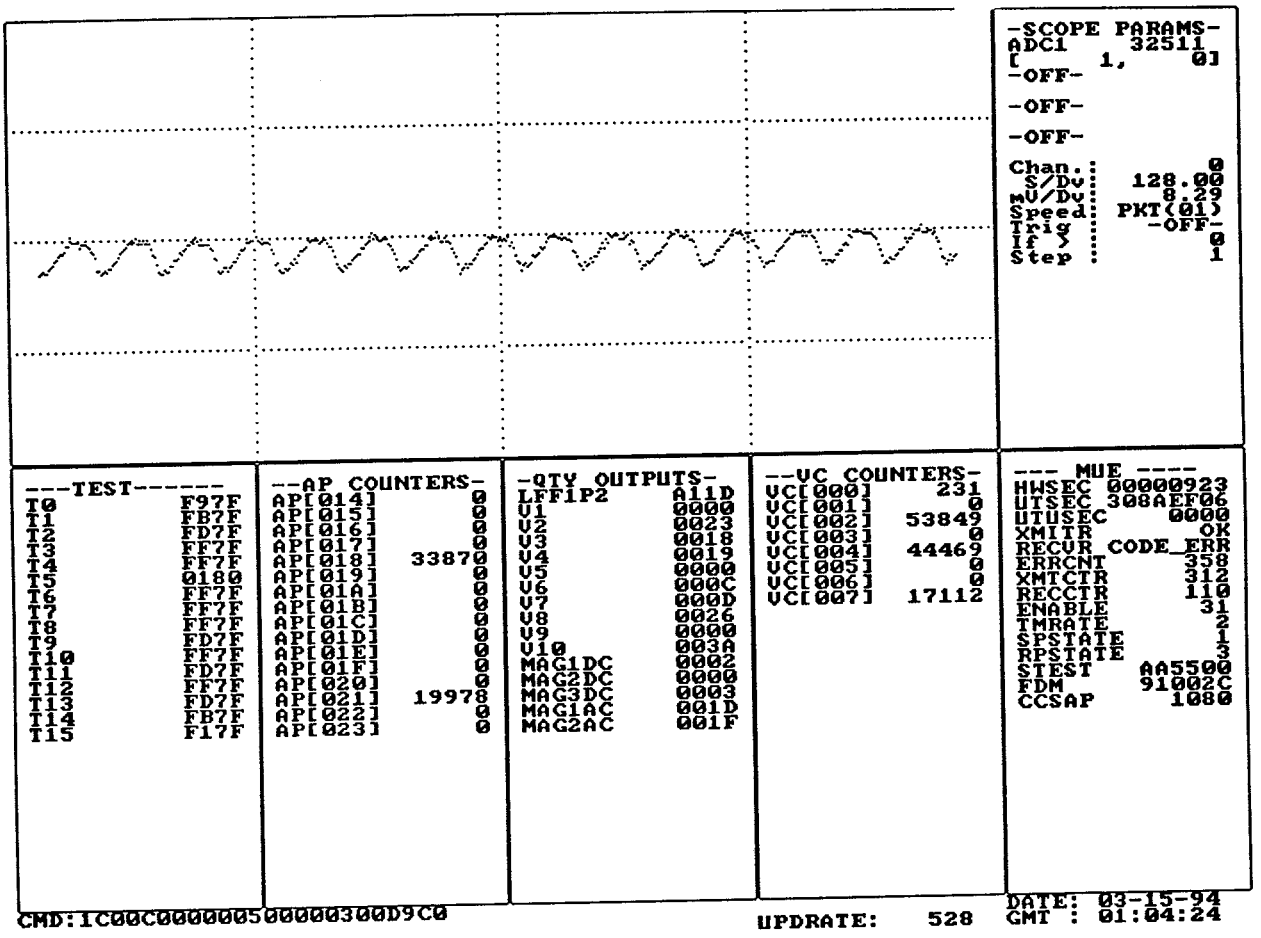
1 KHz

FIGURE 23



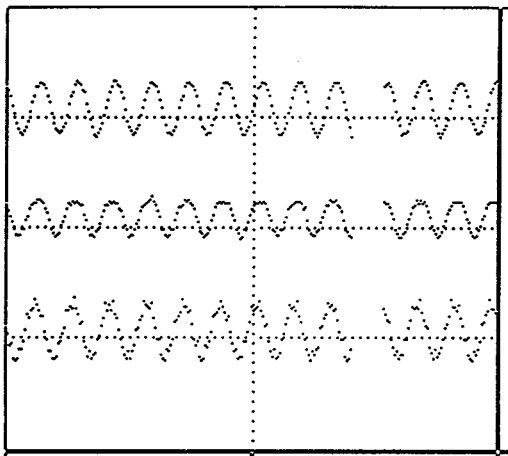
1 KHz

FIGURE 24



1 kHz

FIGURE 25



-SCOPE PARAMS-

V14	-10
[1,	58]
V58	-5
[1,	0]
V910	-6
[1,	-58]
-OFF-	
Chan.	2
S/Dv	128.00
mV/Dv	8.29
Speed	PKT(01)
Trig	-OFF-
If >	0
Step	1

--MON 030 ---

P5S7V	5.092V
P5S7I	0.036A
M5S7V	-4.945V
M5S7I	0.050A
P12S7V	12.663V
P12S7I	0.011A
M12S7V	-12.781V
M12S7I	0.006A
P5S8V	5.141V
P5S8I	0.125A
M5S8V	-5.190V
M5S8I	0.114A
P10S8V	10.204V
P10S8I	0.034A
M10S8V	-10.410V
M10S8I	0.026A

--MON 046 ---

P5S9V	5.141V
P5S9I	0.046A
P10S9V	10.205V
P10S9I	0.025A
M10S9V	-10.410V
M10S9I	0.026A
P5S10V	5.116V
P5S10I	0.037A
M5S10V	-5.165V
M5S10I	0.016A
P10S10V	10.204V
P10S10I	0.036A
M10S10V	-10.410V
M10S10I	0.037A
P5S11V	0.539V
P5S11I	0.002A

---TEST-------

T0	0980
T1	0C80
T2	0E80
T3	0280
T4	0D80
T5	0E80
T6	1180
T7	0080
T8	1080
T9	0D80
T10	0E80
T11	0280
T12	1380
T13	0E80
T14	1380
T15	81BD

--AP COUNTERS-

AP[000]	0
AP[001]	0
AP[002]	0
AP[003]	0
AP[004]	0
AP[005]	0
AP[006]	0
AP[007]	0
AP[008]	19018
AP[009]	19004
AP[00A]	19008
AP[00B]	0
AP[00C]	0
AP[00D]	0
AP[00E]	0
AP[00F]	0

--MON 096 ---

P28S23V	0.000V
P28S23I	0.000A
P28S24V	7.316V
P28S24I	0.002A
P28S25V	0.000V
P28S25I	0.003A
P28S26V	0.000V
P28S26I	0.000A
FLXTMP	149.000C
SCLTMP	149.000C
SEUSUY	0
SEU12	0
SEU34	0
SEU56	0
SEU78	0
SEUHF	0

--- MUE ----

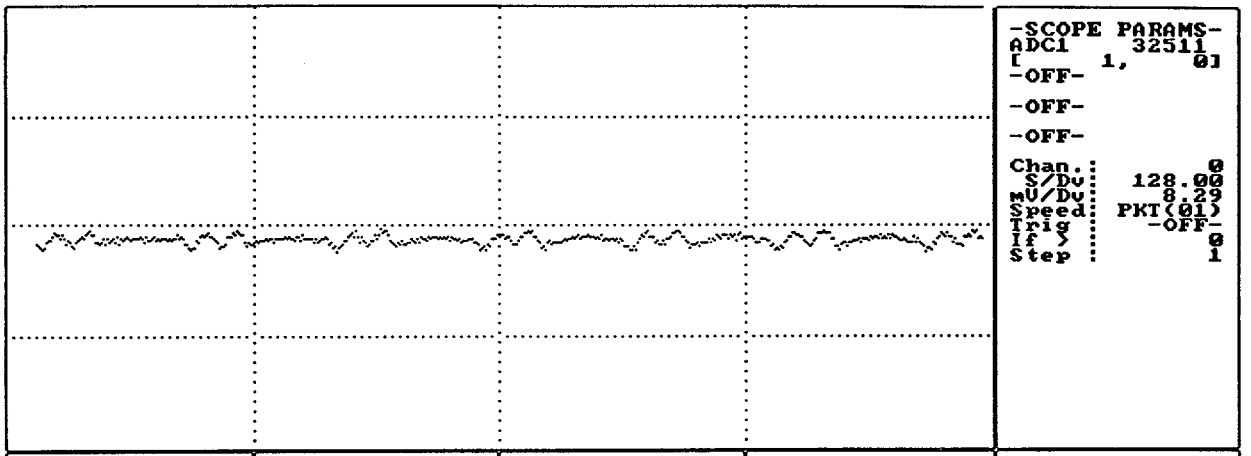
HWSEC	00000A5E
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	298
RECCTR	108
ENABLE	31
TMRATE	0
SPSTATE	0
RPSIATE	0
STEST	AA5500
FDM	91002C
CCSAP	1080

UPDRATE: 144

DATE: 03-15-94
GMT : 01:09:39

2 WRLTS

FIGURE 26



-SCOPE PARAMS-
ADC1 32511
[1, 0]
-OFF-
-OFF-
-OFF-

Chan.	0
S/Dv	128.00
mV/Dv	8.29
Speed	PKT(01)
Trig	-OFF-
If >	0
Step	1

---TEST-------

T0	F77F
T1	F97F
T2	F77F
T3	F97F
T4	F87F
T5	F97F
T6	F87F
T7	F77F
T8	F97F
T9	F87F
T10	FA7F
T11	FA7F
T12	FB7F
T13	F97F
T14	FA7F
T15	F77F

--AP COUNTERS-

AP[014]	0
AP[015]	0
AP[016]	0
AP[017]	0
AP[018]	53399
AP[019]	0
AP[01A]	0
AP[01B]	0
AP[01C]	0
AP[01D]	0
AP[01E]	0
AP[01F]	0
AP[020]	0
AP[021]	19978
AP[022]	0
AP[023]	0

-QTY OUTPUTS-

LFF1P2	9F08
V1	0000
V2	0010
V3	000F
V4	0006
V5	0000
V6	000D
V7	0010
V8	FFFF
V9	0000
V10	0011
MAG1DC	0002
MAG2DC	0001
MAG3DC	0002
MAG1AC	0003
MAG2AC	0009

--VC COUNTERS-

VC[000]	277
VC[001]	0
VC[002]	7842
VC[003]	0
VC[004]	59624
VC[005]	0
VC[006]	0
VC[007]	27107

--- MUE -----

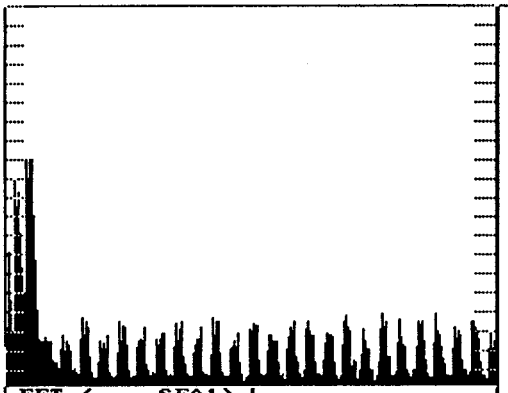
HWSEC	00000AAB
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	0

UPDRATE: 544

DATE: 03-15-94
GMT : 01:10:56

2 kHz

Figure 27



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	4.154V
P10S3I	0.003A
M10S3V	-4.205V
M10S3I	0.000A
P5S4V	0.000V
P5S4I	0.000A
P12S4V	5.242V
P12S4I	0.001A
M12S4V	-5.301V
M12S4I	0.004A
P28S5V	4.831V
P28S5I	0.017A
P28S6V	0.000V
P28S6I	0.001A
P5S7V	5.092V
P5S7I	0.035A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.035A
M5S7V	-4.945V
M5S7I	0.050A
P12S7V	12.605V
P12S7I	0.010A
M12S7V	-12.722V
M12S7I	0.007A
P5S8V	5.116V
P5S8I	0.125A
M5S8V	-5.165V
M5S8I	0.102A
P10S8V	10.256V
P10S8I	0.039A
M10S8V	-10.358V
M10S8I	0.027A

--MON 046 ---

P5S9V	5.165V
P5S9I	0.046A
P10S9V	10.256V
P10S9I	0.028A
M10S9V	-10.359V
M10S9I	0.026A
P5S10V	5.141V
P5S10I	0.039A
M5S10V	-5.165V
M5S10I	0.016A
P10S10V	10.256V
P10S10I	0.038A
M10S10V	-10.359V
M10S10I	0.036A
P5S11V	0.539V
P5S11I	0.000A

---TEST-------

T0	550A
T1	6B57
T2	7B07
T3	7670
T4	4E17
T5	4A49
T6	615A
T7	735C
T8	7640
T9	887E
T10	842B
T11	9983
T12	818E
T13	786B
T14	8283
T15	8573

--AP COUNTERS-

API[020]	0
API[021]	20308
API[022]	0
API[023]	0
API[024]	0
API[025]	0
API[026]	0
API[027]	0
API[028]	0
API[029]	0
API[02A]	0
API[02B]	0
API[02C]	0
API[02D]	0
API[02E]	0
API[02F]	0

--- MUE ----

HWSEC	00000AF5
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	30
RECCTR	104
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1080

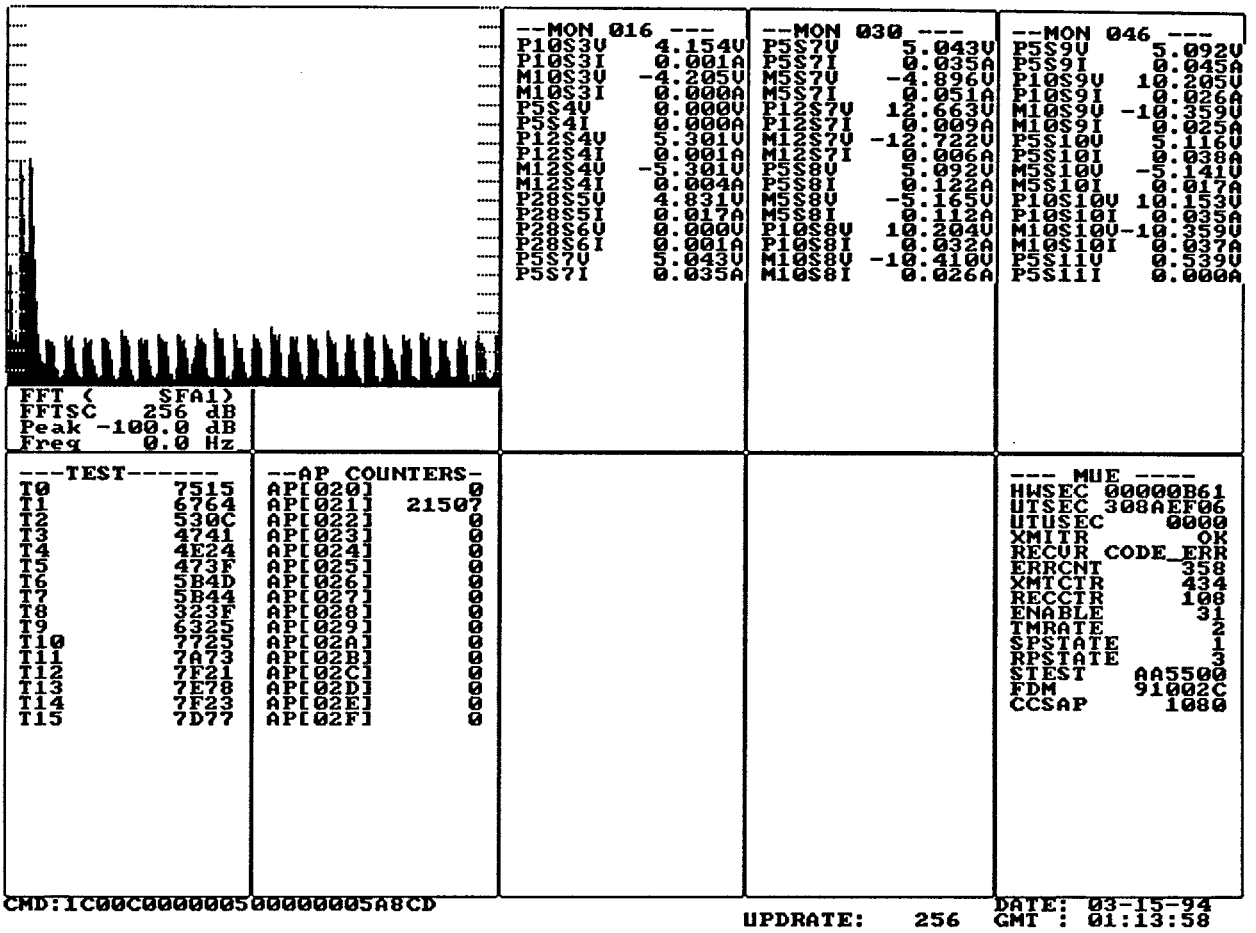
CMD:1C00C0000000500000000A8CD

UPDRATE: 272

DATE: 03-15-94
GMT : 01:12:10

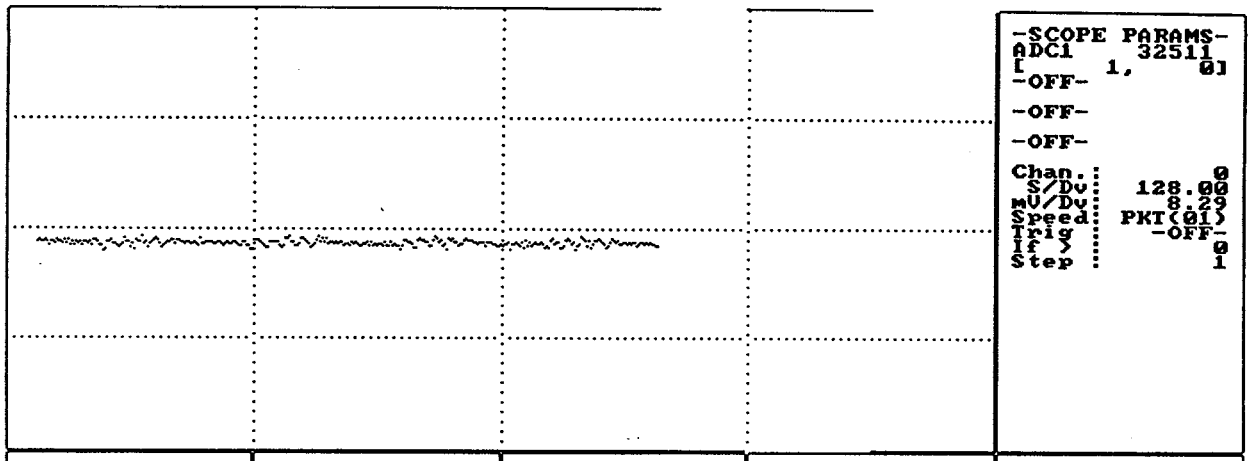
2 kHz

FIGURE 28



4 kHz

FIGURE 29



---TEST------		--AP COUNTERS-		-QTY OUTPUTS-		--VC COUNTERS-		--- MUE ----	
T0	F97F	AP[014]	0	LFF1P2	9F08	VC[000]	299	HWSEC	00000B7B
T1	FA7F	AP[015]	0	V1	0000	VC[001]	0	UTSEC	308AEF06
T2	F97F	AP[016]	0	V2	0010	VC[002]	9883	UTUSEC	0000
T3	F87F	AP[017]	0	V3	000F	VC[003]	0	XMITR	OK
T4	F77F	AP[018]	53706	V4	0006	VC[004]	59624	RECVR	CODE_ERR
T5	F57F	AP[019]	0	V5	0000	VC[005]	0	ERRCNT	358
T6	F87F	AP[01A]	0	V6	000D	VC[006]	0	XMITCTR	434
T7	F87F	AP[01B]	0	V7	0010	VC[007]	9327	RECCTR	108
T8	FB7F	AP[01C]	0	V8	FFFF			ENABLE	31
T9	FA7F	AP[01D]	0	V9	0000			TMRATE	2
T10	FA7F	AP[01E]	0	V10	0011			SPSTATE	1
T11	F97F	AP[01F]	0	MAG1DC	0002			RPSTATE	3
T12	F77F	AP[020]	0	MAG2DC	0001			STEST	AA5500
T13	F77F	AP[021]	21712	MAG3DC	0002			FDM	91002C
T14	F77F	AP[022]	0	MAG1AC	0003			CCSAP	1083
T15	F97F	AP[023]	0	MAG2AC	0009				

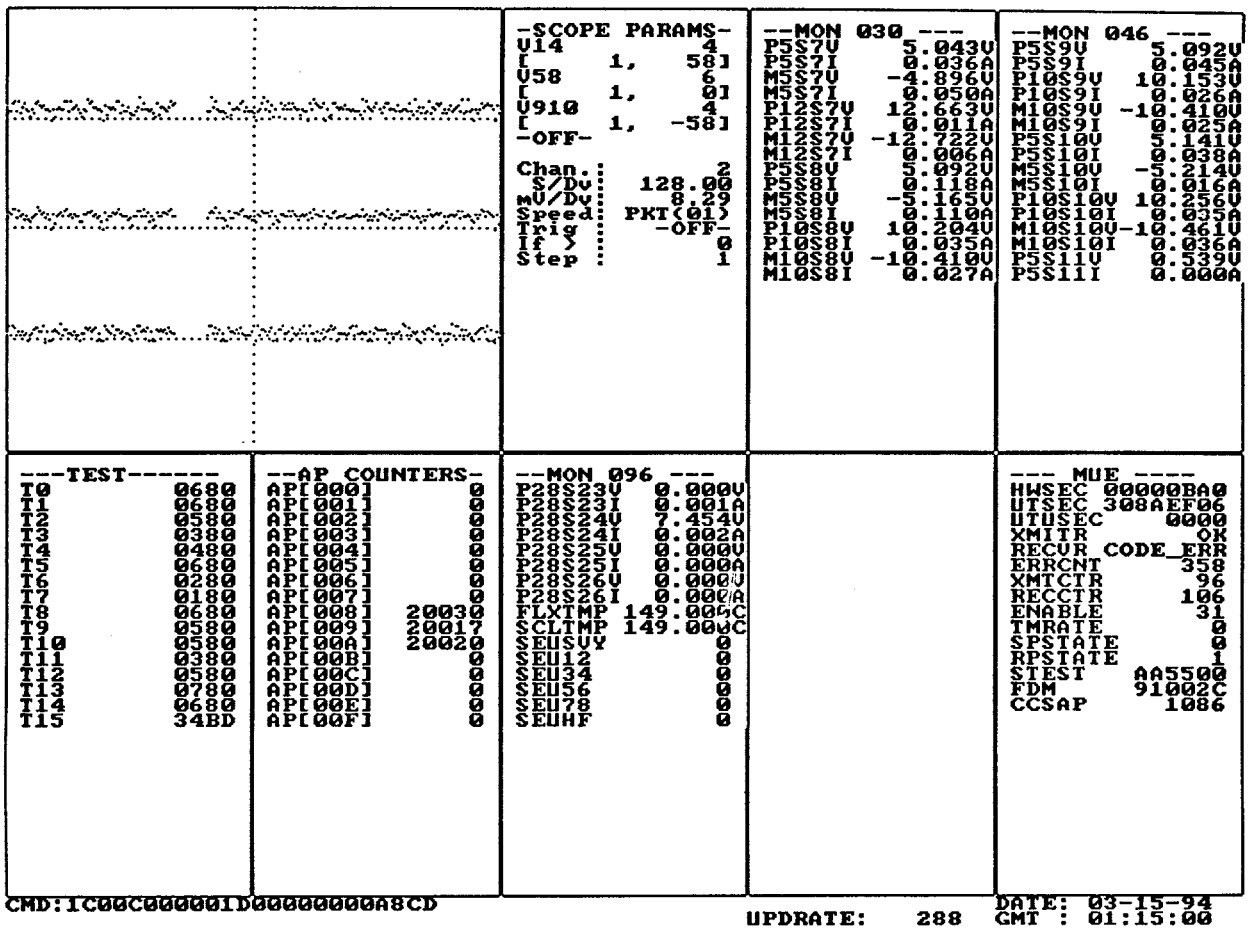
CMD:1C00C0000005000003300D9C0

UPDRATE: 368

DATE: 03-15-94
GMT : 01:14:24

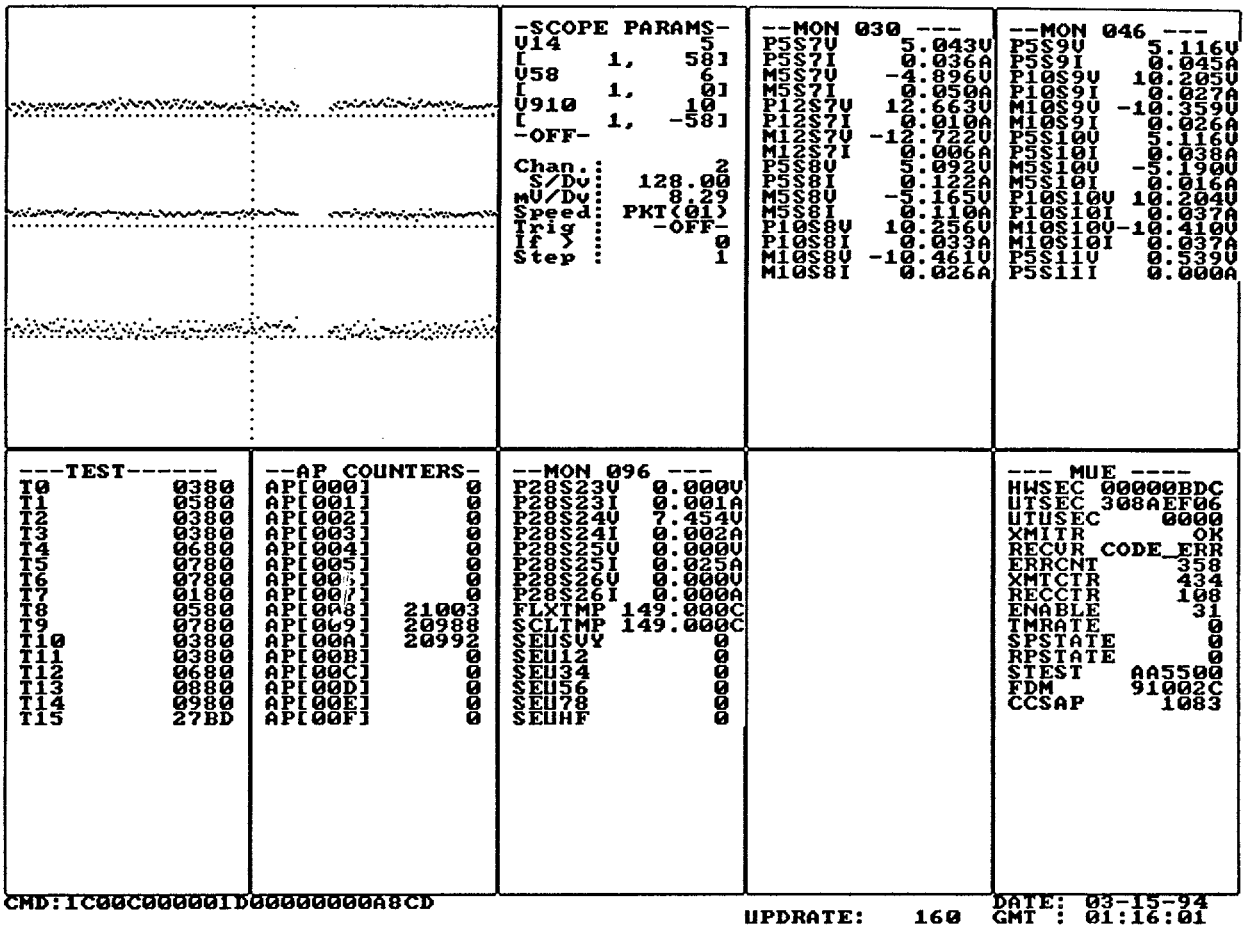
4 kHz

FIGURE 30



4 h 43

FIGURE 31



-SCOPE PARAMS-
V14 5
[1, 58]
V58 6
[1, 0]
V910 10
[1, -58]
-OFF-

Chan.: 2
S/Dv: 128.00
mV/Dv: 8.29
Speed: PKT(01)
Trig: -OFF-
If >: 0
Step: 1

--MON 030 ---
P5S7V 5.043V
P5S7I 0.036A
M5S7V -4.896V
M5S7I 0.050A
P12S7V 12.663V
P12S7I 0.010A
M12S7V -12.722V
M12S7I 0.006A
P5S8V 5.092V
P5S8I 0.122A
M5S8V -5.165V
M5S8I 0.110A
P10S8V 10.256V
P10S8I 0.033A
M10S8V -10.461V
M10S8I 0.026A

--MON 046 ---
P5S9V 5.116V
P5S9I 0.045A
P10S9V 10.205V
P10S9I 0.027A
M10S9V -10.359V
M10S9I 0.026A
P5S10V 5.116V
P5S10I 0.038A
M5S10V -5.190V
M5S10I 0.016A
P10S10V 10.204V
P10S10I 0.037A
M10S10V -10.410V
M10S10I 0.037A
P5S11V 0.539V
P5S11I 0.000A

---TEST------
T0 0380
T1 0580
T2 0380
T3 0380
T4 0680
T5 0780
T6 0780
T7 0180
T8 0580
T9 0780
T10 0380
T11 0380
T12 0680
T13 0880
T14 0980
T15 27BD

--AP COUNTERS-
AP[000] 0
AP[001] 0
AP[002] 0
AP[003] 0
AP[004] 0
AP[005] 0
AP[006] 0
AP[007] 0
AP[008] 21003
AP[009] 20988
AP[00A] 20992
AP[00B] 0
AP[00C] 0
AP[00D] 0
AP[00E] 0
AP[00F] 0

--MON 096 ---
P28S23V 0.000V
P28S23I 0.001A
P28S24V 7.454V
P28S24I 0.002A
P28S25V 0.000V
P28S25I 0.025A
P28S26V 0.000V
P28S26I 0.000A
FLXTMP 149.000C
SCLTMP 149.000C
SEUSVY 0
SEU12 0
SEU34 0
SEU56 0
SEU78 0
SEUHF 0

--- MUE ----
HWSEC 00000BDC
UTSEC 308AEF06
UTUSEC 0000
XMITR OK
RECVR CODE_ERR
ERRCNT 358
XMTCTR 434
RECCTR 108
ENABLE 31
TMRATE 0
SPSTATE 0
RPSTATE 0
STEST AA5500
FDM 91002C
CCSAP 1083

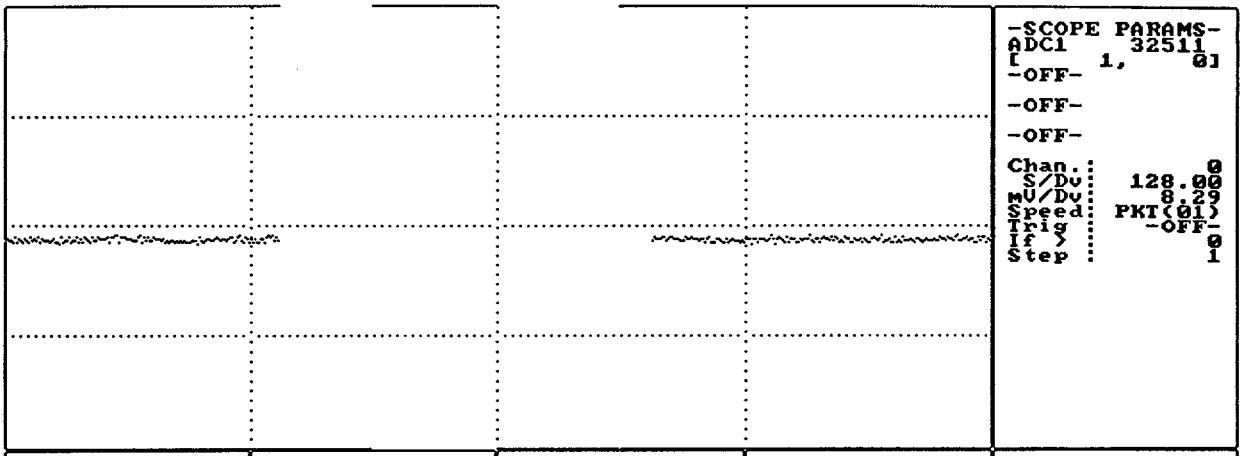
CMD:1C00C000001D00000000A8CD

UPDRATE: 160

DATE: 03-15-94
GMT : 01:16:01

8 kHz

FIGURE 32



-SCOPE PARAMS-
ADC1 32511
[1, 0]
-OFF-
-OFF-
-OFF-

Chan.	0
S/Dv	128.00
MV/Dv	8.29
Speed	PKT(01)
Trig	-OFF-
If >	0
Step	1

---TEST------

T0	F97F
T1	F97F
T2	F77F
T3	F77F
T4	F97F
T5	FA7F
T6	F97F
T7	F87F
T8	FB7F
T9	FA7F
T10	F87F
T11	F97F
T12	F97F
T13	F87F
T14	F77F
T15	F97F

--AP COUNTERS-

AP[014]	0
AP[015]	0
AP[016]	0
AP[017]	0
AP[018]	59552
AP[019]	0
AP[01A]	0
AP[01B]	0
AP[01C]	0
AP[01D]	0
AP[01E]	0
AP[01F]	0
AP[020]	0
AP[021]	21712
AP[022]	0
AP[023]	0

-QTY OUTPUTS-

LFF1P2	A30D
V1	0000
V2	0007
V3	0004
V4	FFFE
V5	0000
V6	0004
V7	0009
V8	FFFF
V9	0000
V10	FFFF
MAG1DC	0003
MAG2DC	0001
MAG3DC	0003
MAG1AC	FFFF
MAG2AC	0003

--VC COUNTERS-

VC[000]	310
VC[001]	0
VC[002]	15729
VC[003]	0
VC[004]	63474
VC[005]	0
VC[006]	0
VC[007]	13807

--- MUE ----

HWSEC	00000BF3
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	1
RPSTATE	3
STEST	AA5500
FDM	91002C
CCSAP	1084

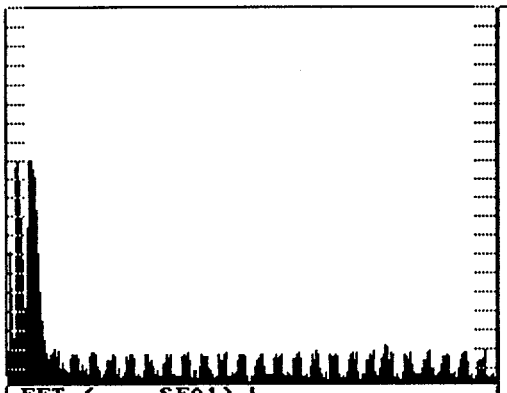
CMD:1C00C0000000500000300D9C0

UPDRATE: 352

DATE: 03-15-94
GMT : 01:16:24

4 of 4

FIGURE 33



FFT (SFA1)
FFTSC 256 dB
Peak -101.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	4.154V
P10S3I	0.001A
M10S3V	-4.256V
M10S3I	0.001A
P5S4V	0.000V
P5S4I	0.000A
P12S4V	5.301V
P12S4I	0.000A
M12S4V	-5.301V
M12S4I	0.004A
P28S5V	4.831V
P28S5I	0.017A
P28S6V	0.000V
P28S6I	0.001A
P5S7V	5.092V
P5S7I	0.036A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.036A
M5S7V	-4.896V
M5S7I	0.050A
P12S7V	12.663V
P12S7I	0.009A
M12S7V	-12.722V
M12S7I	0.007A
P5S8V	5.092V
P5S8I	0.122A
M5S8V	-5.141V
M5S8I	0.112A
P10S8V	10.256V
P10S8I	0.034A
M10S8V	-10.461V
M10S8I	0.026A

--MON 046 ---

P5S9V	5.116V
P5S9I	0.045A
P10S9V	10.205V
P10S9I	0.026A
M10S9V	-10.410V
M10S9I	0.026A
P5S10V	5.116V
P5S10I	0.038A
M5S10V	-5.165V
M5S10I	0.017A
P10S10V	10.204V
P10S10I	0.037A
M10S10V	-10.359V
M10S10I	0.037A
P5S11V	0.539V
P5S11I	0.002A

---TEST------

T0	3A19
T1	4236
T2	4D15
T3	4E42
T4	341B
T5	3223
T6	605B
T7	4246
T8	3E3F
T9	832D
T10	5326
T11	5B38
T12	8D96
T13	4772
T14	8F9A
T15	7677

--AP COUNTERS-

AP[020]	0
AP[021]	22118
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE -----

HWSEC	00000C36
UTSEC	308AEF06
UTUSEC	0000
XMITR	OK
RECVR	CODE_ERR
ERRCNT	358
XMTCTR	298
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	1
STEST	AA5500
FDM	91002C
CCSAP	1080

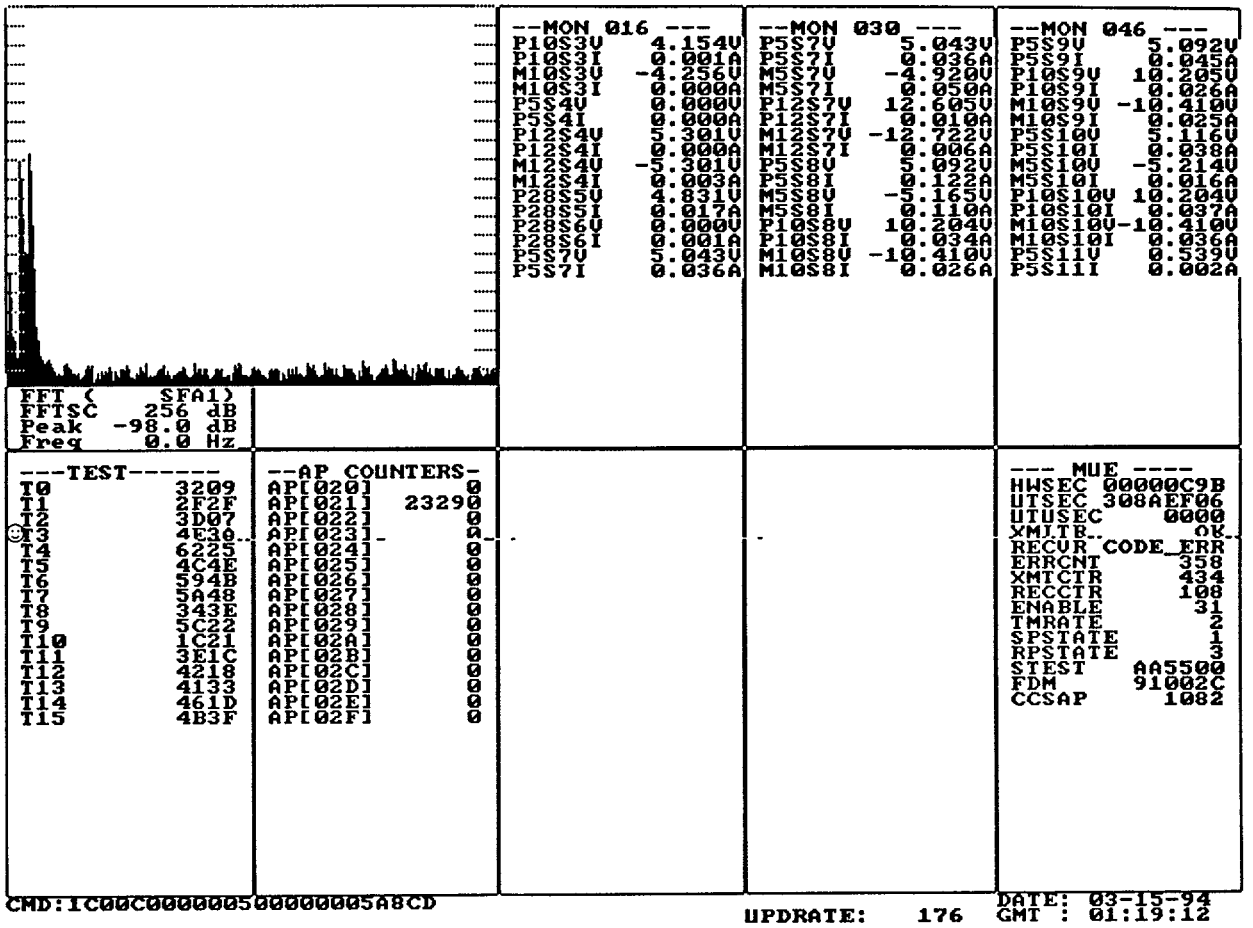
CMD:1C00C0000000900000C00D8C0

UPDRATE: 256

DATE: 03-15-94
GMT : 01:17:30

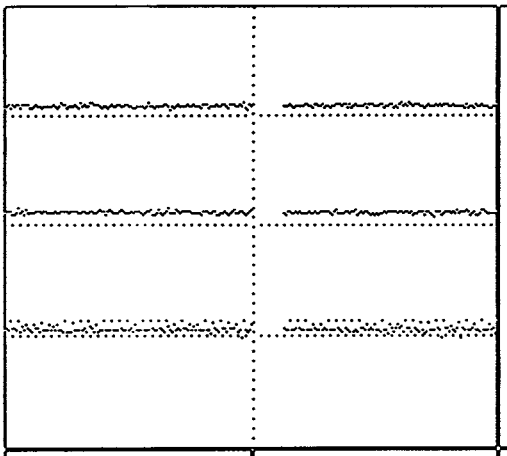
16 bits

Figure 34



50 kHz

FIGURE 35



```
-SCOPE PARAMS-
V14          5
[    1,     58]
V58          8
[    1,      0]
V910         6
[    1,    -58]
-OFF-

Chan.:       2
 S/Dv:  128.00
mV/Dv:    8.29
Speed:  PKT(01)
Trig :    -OFF-
If >         0
Step :       1
```

```
--MON 030 ---
P5S7V     5.092V
P5S7I     0.035A
M5S7V    -4.872V
M5S7I     0.052A
P12S7V   12.663V
P12S7I    0.009A
M12S7V  -12.663V
M12S7I    0.007A
P5S8V     5.092V
P5S8I     0.120A
M5S8V    -5.165V
M5S8I     0.110A
P10S8V   10.204V
P10S8I    0.032A
M10S8V  -10.410V
M10S8I    0.028A
```

```
--MON 046 ---
P5S9V     5.116V
P5S9I     0.045A
P10S9V   10.256V
P10S9I    0.026A
M10S9V  -10.410V
M10S9I    0.025A
P5S10V    5.116V
P5S10I    0.038A
M5S10V   -5.165V
M5S10I    0.017A
P10S10V  10.204V
P10S10I   0.036A
M10S10V -10.410V
M10S10I   0.036A
P5S11V    0.539V
P5S11I    0.000A
```

```
---TEST------
T0          0480
T1          0680
T2          0380
T3          0380
T4          0580
T5          0780
T6          0480
T7          0180
T8          0680
T9          0780
T10         0380
T11         0380
T12         0480
T13         0780
T14         0880
T15         F2BC
```

```
--AP COUNTERS-
AP[000]          0
AP[001]          0
AP[002]          0
AP[003]          0
AP[004]          0
AP[005]          0
AP[006]          0
AP[007]          0
AP[008]      21336
AP[009]      21324
AP[00A]      21326
AP[00B]          0
AP[00C]          0
AP[00D]          0
AP[00E]          0
AP[00F]          0
```

```
--MON 096 ---
P28S23V   0.000V
P28S23I   0.001A
P28S24V   7.454V
P28S24I   0.002A
P28S25V   0.000V
P28S25I   0.000A
P28S26V   0.000V
P28S26I   0.000A
FLXTMP  149.000C
SCLTMP  149.000C
SEUSUY          0
SEU12           0
SEU34           0
SEU56           0
SEU78           0
SEUHF           0
```

```
--- MUE ----
HWSEC 00000CCE
UTSEC 308AEF06
UTUSEC      0000
XMITR         OK
RECVR CODE_ERR
ERRCNT        358
XMTCTR        434
RECCTR        108
ENABLE         31
TMRATE          0
SPSTATE         0
RPSTATE         0
STEST      AA5500
FDM        91002C
CCSAP        1080
```

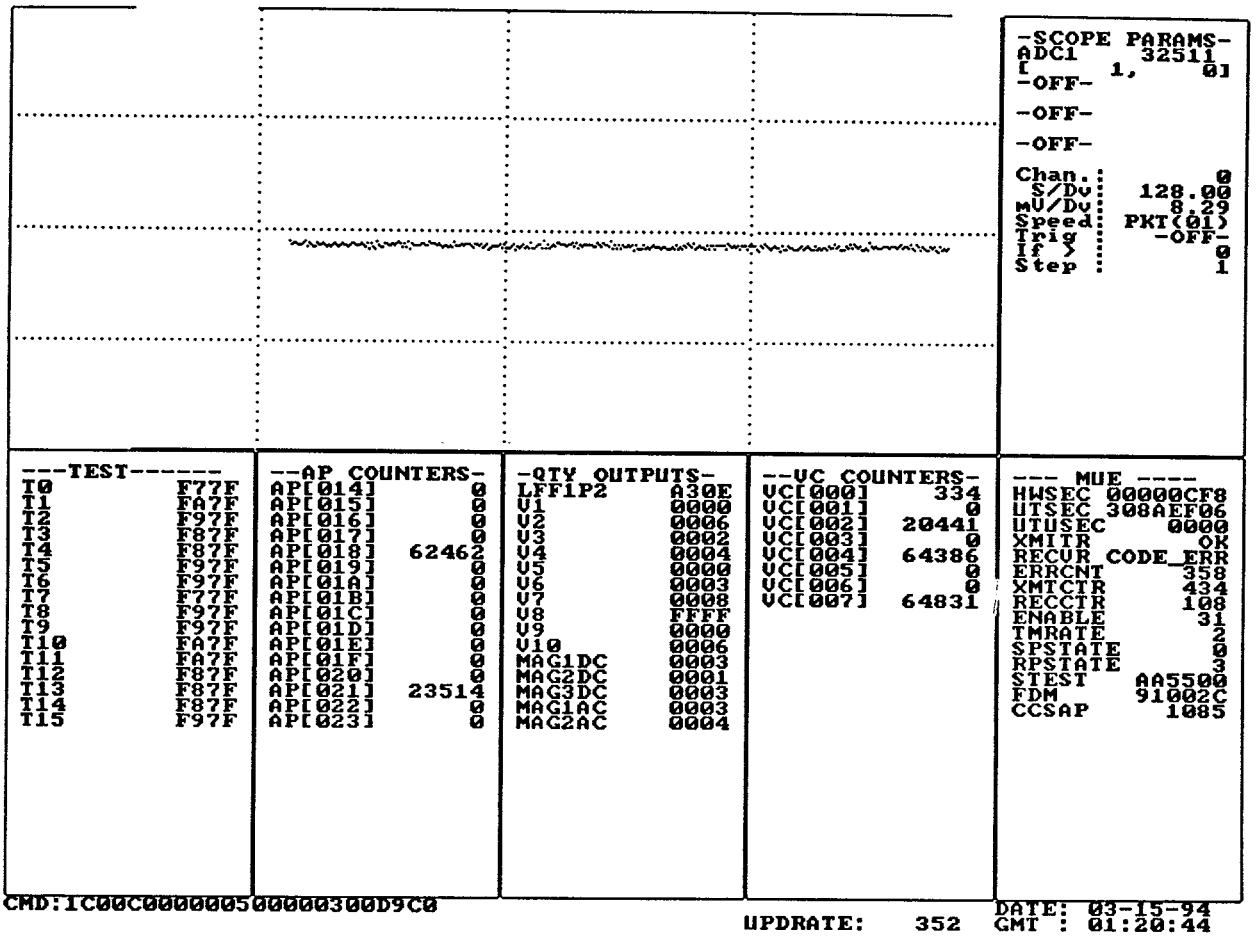
CMD:1C00C000001D00000000A8CD

UPDRATE: 160

DATE: 03-15-94
GMT : 01:20:03

50 kHz

FIGURE 36



SUBH

FIGURE 37

FFT ($FA1)
FFT$C 256 dB
Peak -101.0 dB
Freq 0.0 Hz

--MON 016 ---
P10$3V 4.154V
P10$3I 0.001A
M10$3V -4.205V
M10$3I 0.001A
P5$4V 0.000V
P5$4I 0.000A
P12$4V 5.242V
P12$4I 0.001A
M12$4V -5.242V
M12$4I 0.003A
P28$5V 4.831V
P28$5I 0.016A
P28$6V 0.000V
P28$6I 0.001A
P5$7V 5.092V
P5$7I 0.035A

--MON 030 ---
P5$7V 5.092V
P5$7I 0.035A
M5$7V -4.920V
M5$7I 0.050A
P12$7V 12.605V
P12$7I 0.010A
M12$7V -12.722V
M12$7I 0.007A
P5$8V 5.141V
P5$8I 0.120A
M5$8V -5.141V
M5$8I 0.110A
P10$8V 10.204V
P10$8I 0.035A
M10$8V -10.410V
M10$8I 0.027A

--MON 046 ---
P5$9V 5.141V
P5$9I 0.044A
P10$9V 10.256V
P10$9I 0.025A
M10$9V -10.410V
M10$9I 0.025A
P5$10V 5.165V
P5$10I 0.038A
M5$10V -5.214V
M5$10I 0.017A
P10$10V 10.204V
P10$10I 0.036A
M10$10V -10.461V
M10$10I 0.036A
P5$11V 0.539V
P5$11I 0.000A

---TEST------
T0 4D0A
T1 4640
T2 2B0B
T3 251C
T4 5818
T5 5051
T6 5D5A
T7 5A4A
T8 3040
T9 831B
T10 3A23
T11 6540
T12 8D96
T13 5377
T14 8F9A
T15 6978

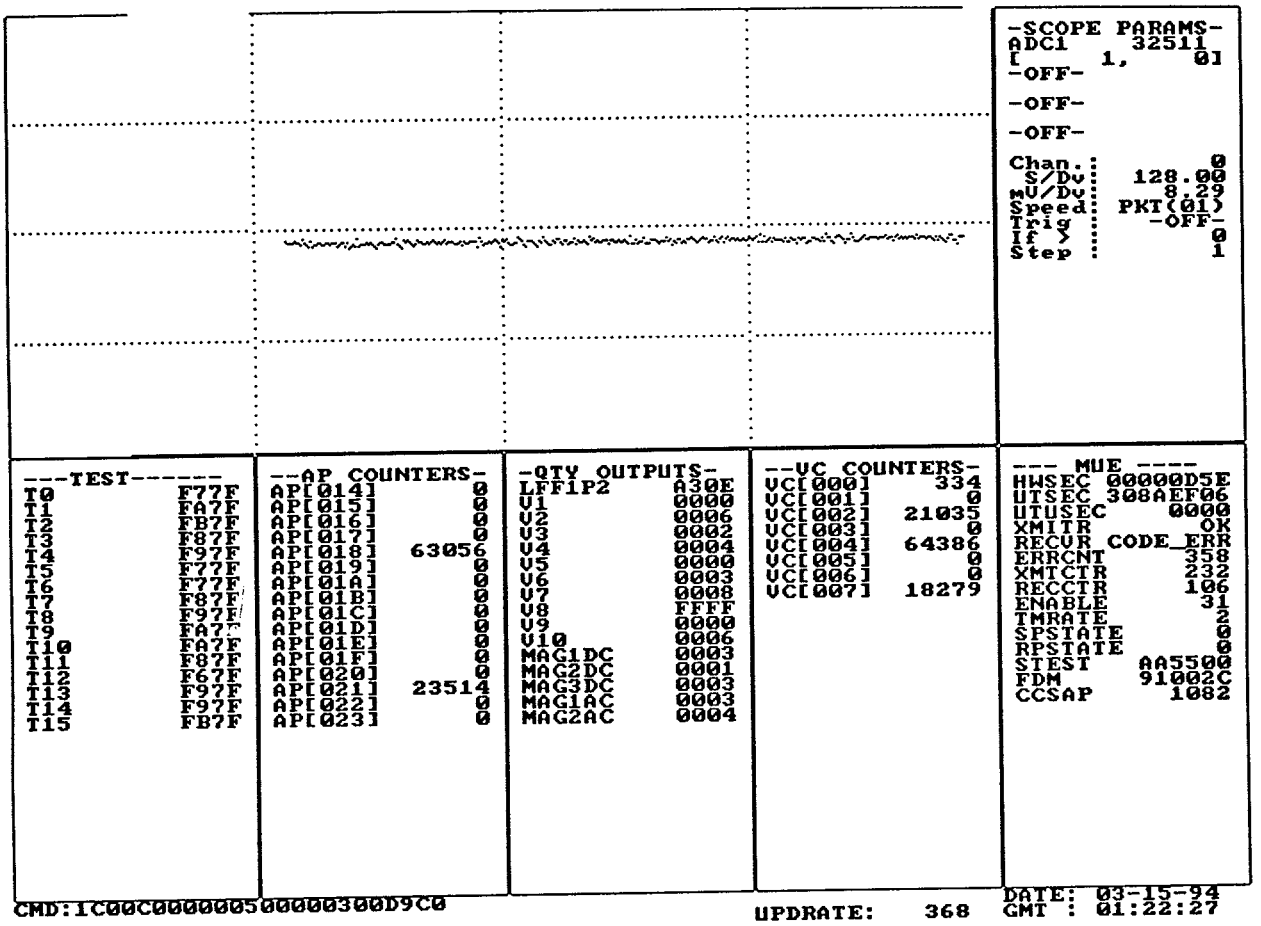
--AP COUNTERS-
AP[020] 0
AP[021] 23856
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--- MUE ----
HWSEC 00000DD0
UTSEC 308AEF06
UTUSEC 0000
XMITR OK
RECVR CODE_ERR
ERRCNT 358
XMTCTR 434
RECCTR 108
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 0
SIEST AA5500
FDM 91002C
CCSAP 1083

UPDRATE: 176
DATE: 03-15-94
GMT : 01:24:21

100 kHz

FIGURE 38



100 kHz

FIGURE 39

CS02 TEST PROCEDURE AND RESULTS

Figure 40 shows the set-up used to perform the CS02 test for the frequency range from 500 kHz to 400 mHz. For the frequency range from 50 to 500 kHz, the HP 3313A wave form generator was used in place of the RF signal generator and power amplifier.

The test procedure consisted in running the GSE scripts TVSFA, TVADC1, TVSVY0, and SHOMON2 to look for interference in the E-Field and processor systems, while sweeping thru the 50 kHz to 400 mHz frequency range. The test requirement is that the signal amplitude be maintained at 1 volt rms across the input power line of the test sample, limited by what the signal generator can deliver across the test load, subject to the requirement that the generator be capable of putting 7.07 volts rms across a 50 ohm load. Due to a mis-reading of the requirement, the test was run at a level of 7 volts rms instead of 1 volt rms. The results of this testing are shown in Figures 41 thru 70.

The CS02 testing gave little if any interference in the ADC, SVY, or the monitor functions, but it did have an effect in the SFA channels (which are the most sensitive in the instrument). For this reason, only the SFA data are included in the figures. Significant interference occurred at some 12 rather sharp peaks in frequency starting at 6.38 mHz and going up to 180.93 mHz. The the strongest of these were odd multiples of the 10.7 mHz IF frequency used in the SFA. In between these peaks the interference was less than at the peak on either side. Two points were run at the correct value of 1 volt rms instead of 7.07 volts rms. The result of this was to reduce the level of the interference in the SFA by the same amount, i.e. 17 dB, or about 4 divisions on the SFA plots given.

Given this reduction from the plots given, and the narrow width in frequency where the interference occurred, we conclude that the disturbance is of a relatively low level and if it were to occur in flight would have a tolerable impact on the science data.

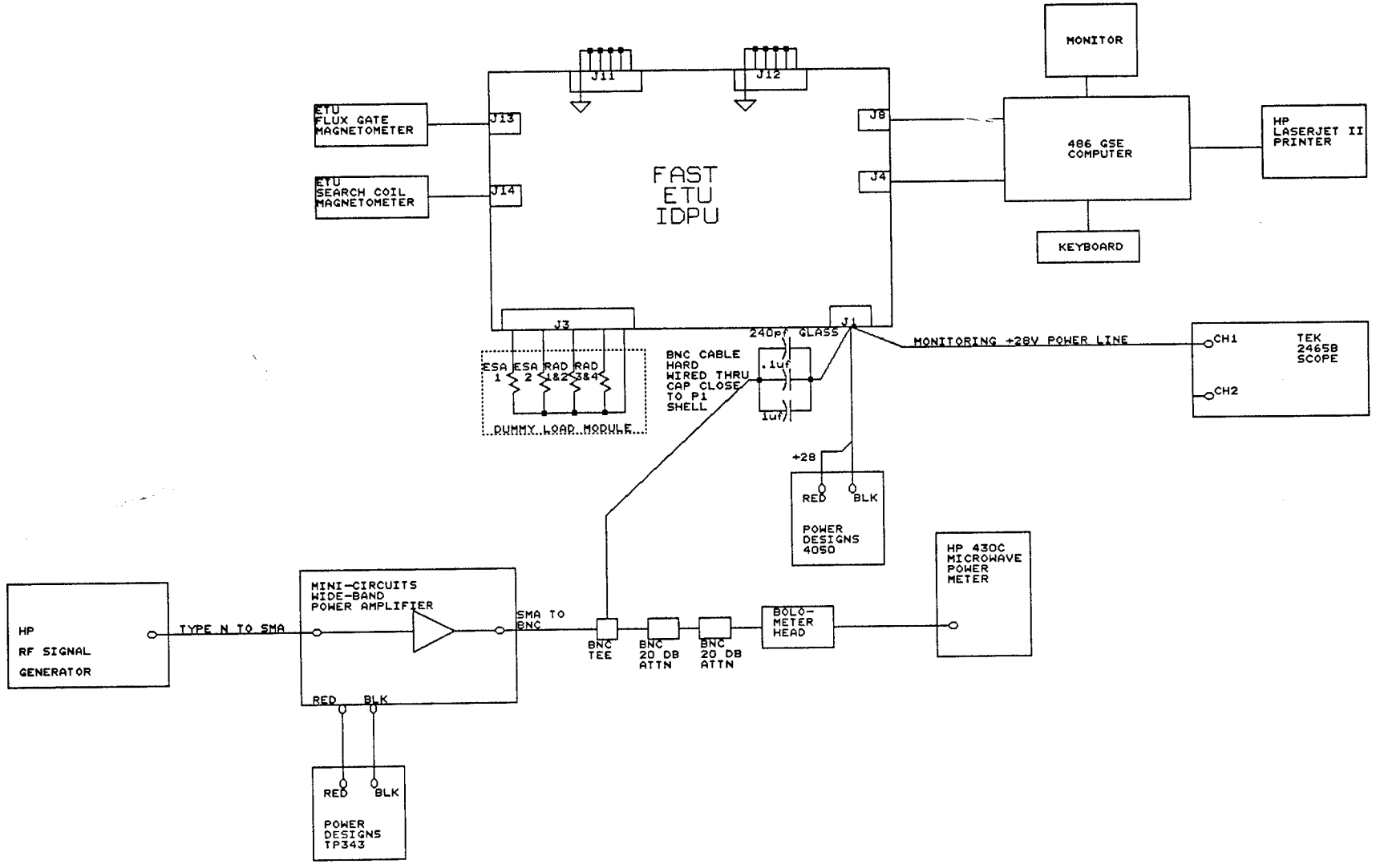
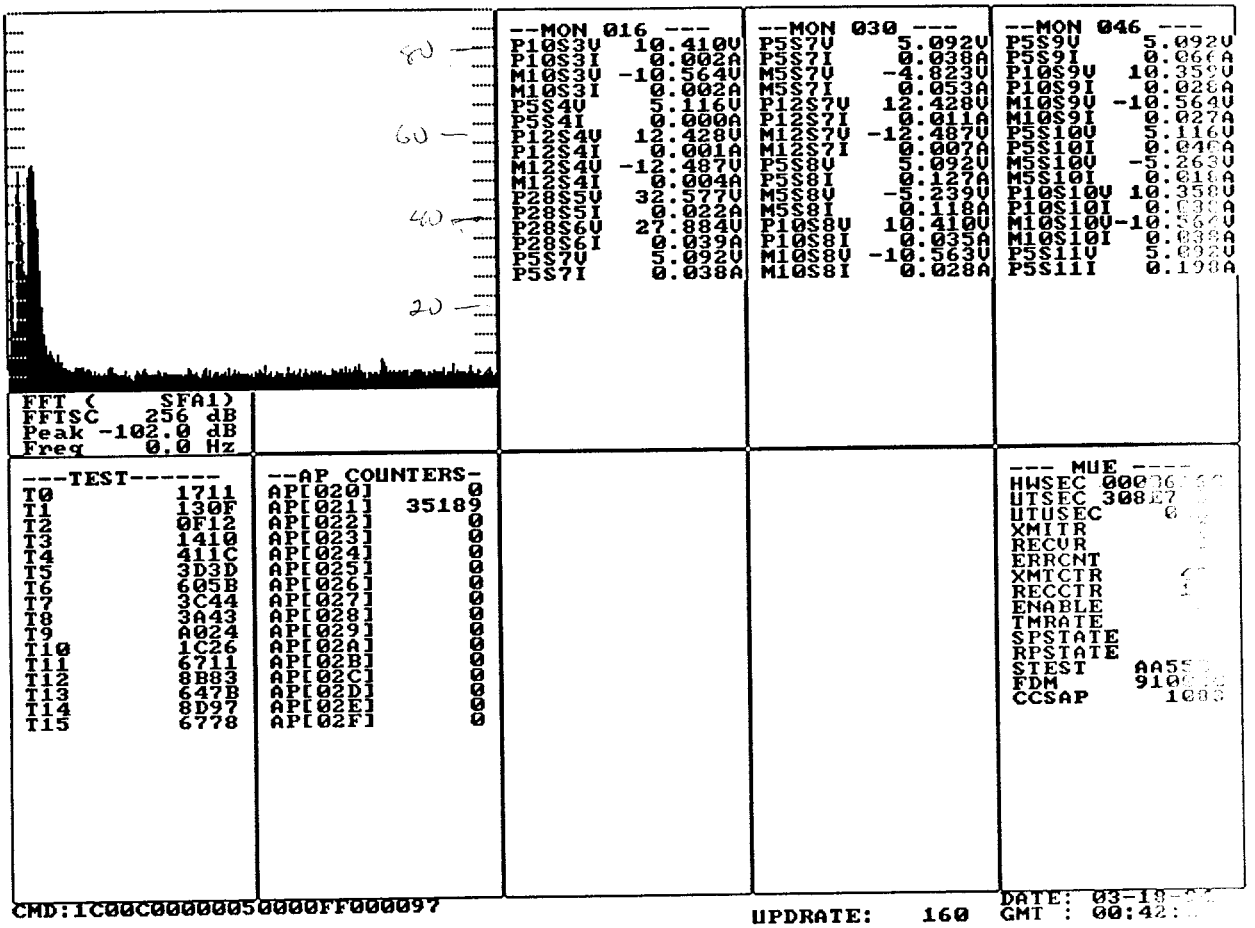


FIGURE 40

CS02 TEST SET-UP		
Size B	Document Number	REV
Date: March 25, 1994	Sheet	of

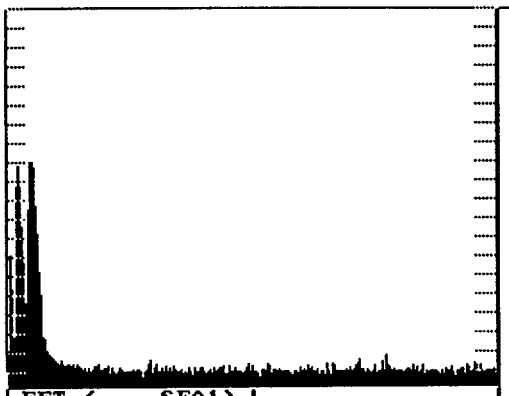


CS02

50 KHz

MAR 18 1994

FIGURE 41



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.410V
P10S3I 0.002A
M10S3V -10.564V
M10S3I 0.002A
P5S4V 5.116V
P5S4I 0.000A
P12S4V 12.428V
P12S4I 0.001A
M12S4V -12.487V
M12S4I 0.005A
P28S5V 32.577V
P28S5I 0.022A
P28S6V 27.884V
P28S6I 0.039A
P5S7V 5.116V
P5S7I 0.038A

--MON 030 ---
P5S7V 5.116V
P5S7I 0.038A
M5S7V -4.798V
M5S7I 0.053A
P12S7V 12.369V
P12S7I 0.010A
M12S7V -12.487V
M12S7I 0.007A
P5S8V 5.092V
P5S8I 0.127A
M5S8V -5.263V
M5S8I 0.118A
P10S8V 10.358V
P10S8I 0.035A
M10S8V -10.563V
M10S8I 0.028A

--MON 046 ---
P5S9V 5.092V
P5S9I 0.066A
P10S9V 10.359V
P10S9I 0.028A
M10S9V -10.564V
M10S9I 0.027A
P5S10V 5.116V
P5S10I 0.040A
M5S10V -5.263V
M5S10I 0.018A
P10S10V 10.358V
P10S10I 0.033A
M10S10V-10.564V
M10S10I 0.038A
P5S11V 5.092V
P5S11I 0.198A

---TEST------
T0 120F
T1 0D05
T2 110F
T3 1A0D
T4 3D1A
T5 3B3B
T6 5F5A
T7 3F47
T8 3843
T9 A024
T10 1B29
T11 6B0E
T12 8B84
T13 707B
T14 8D97
T15 6676

--AP COUNTERS-
AP[020] 0
AP[021] 34677
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--- MUE ---
HWSEC 0000
UTSEC 308E
UTUSEC
XMITR
RECVR
ERRCNT
XMTCTR 2
RECCTR 1
ENABLE
TMRATE
SPSTATE
RPSTATE
STEST AA55
FDM 91002C
CCSAP 1081

CMD:1C00C0000005000FF000097

UPDRATE: 272

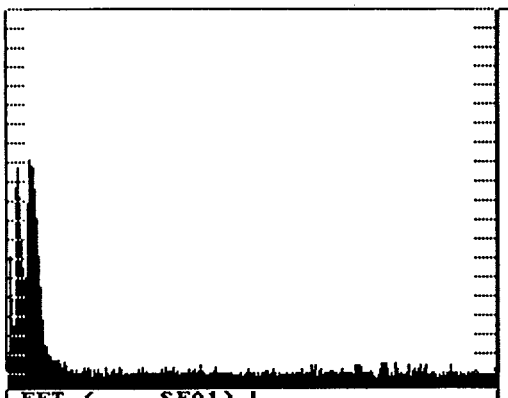
DATE: 03-18-
GMT : 00:41:

C502

100 KHz

MAR 18 1994

FIGURE 42



```
FFT (     SFA1)
FFTSC    256 dB
Peak  -101.0 dB
Freq     0.0 Hz
```

```
--MON 016 ---
P10S3V   10.410V
P10S3I    0.002A
M10S3V  -10.564V
M10S3I    0.002A
P5S4V     5.116V
P5S4I     0.001A
P12S4V   12.428V
P12S4I    0.001A
M12S4V  -12.487V
M12S4I    0.004A
P28S5V   32.577V
P28S5I    0.022A
P28S6V   27.884V
P28S6I    0.039A
P5S7V     5.092V
P5S7I     0.038A
```

```
--MON 030 ---
P5S7V     5.092V
P5S7I     0.038A
M5S7V    -4.798V
M5S7I     0.053A
P12S7V   12.428V
P12S7I    0.010A
M12S7V  -12.487V
M12S7I    0.007A
P5S8V     5.092V
P5S8I     0.127A
M5S8V    -5.239V
M5S8I     0.118A
P10S8V   10.358V
P10S8I    0.035A
M10S8V  -10.563V
M10S8I    0.028A
```

```
--MON 046 ---
P5S9V     5.092V
P5S9I     0.066A
P10S9V   10.359V
P10S9I    0.028A
M10S9V  -10.564V
M10S9I    0.027A
P5S10V    5.116V
P5S10I    0.040A
M5S10V   -5.263V
M5S10I    0.018A
P10S10V  10.358V
P10S10I   0.038A
M10S10V-10.564V
M10S10I   0.038A
P5S11V    5.092V
P5S11I    0.198A
```

```
---TEST------
T0          180E
T1          1108
T2          0F0F
T3          110E
T4          3C19
T5          3E3B
T6          605B
T7          3946
T8          3643
T9          A127
T10         1D27
T11         750C
T12         8E8A
T13         6E7C
T14         8D97
T15         6F75
```

```
--AP COUNTERS-
AP[020]          0
AP[021]      33909
AP[022]          0
AP[023]          0
AP[024]          0
AP[025]          0
AP[026]          0
AP[027]          0
AP[028]          0
AP[029]          0
AP[02A]          0
AP[02B]          0
AP[02C]          0
AP[02D]          0
AP[02E]          0
AP[02F]          0
```

```
--- MUE ----
HWSEC  00006253
UTSEC  308E7[illegible]
UTUSEC       0[illegible]
XMITR        [illegible]
RECVR        [illegible]
ERRCNT       [illegible]
XMTCTR      4[illegible]
RECCTR      1[illegible]
ENABLE       [illegible]
TMRATE       [illegible]
SPSTATE      [illegible]
RPSTATE      [illegible]
SIEST   AA5500[illegible]
FDM     91002C[illegible]
CCSAP       1080
```

CMD:1C00C0000005000FF000097

UPDRATE: 256

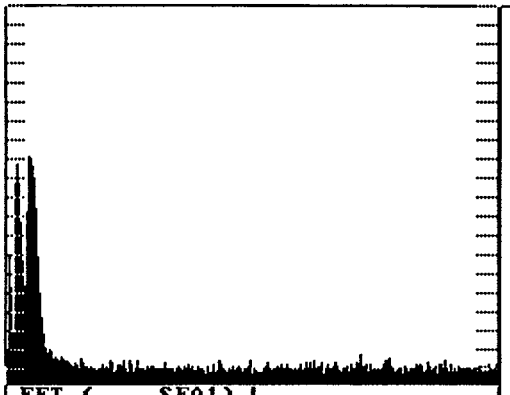
DATE: 03-18-[illegible]
GMT : 00:40:[illegible]

C502

300 KHz

MAR 10 1994

FIGURE 43



FFT (SFA1)
FFTSC 256 dB
Peak -101.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.410V
P10S3I	0.002A
M10S3V	-10.564V
M10S3I	0.002A
P5S4V	5.116V
P5S4I	0.000A
P12S4V	12.428V
P12S4I	0.001A
M12S4V	-12.487V
M12S4I	0.005A
P28S5V	32.577V
P28S5I	0.022A
P28S6V	27.884V
P28S6I	0.039A
P5S7V	5.092V
P5S7I	0.038A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.038A
M5S7V	-4.798V
M5S7I	0.053A
P12S7V	12.428V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.092V
P5S8I	0.127A
M5S8V	-5.239V
M5S8I	0.118A
P10S8V	10.358V
P10S8I	0.035A
M10S8V	-10.563V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.092V
P5S9I	0.066A
P10S9V	10.359V
P10S9I	0.028A
M10S9V	-10.564V
M10S9I	0.027A
P5S10V	5.116V
P5S10I	0.040A
M5S10V	-5.263V
M5S10I	0.018A
P10S10V	10.358V
P10S10I	0.038A
M10S10V	-10.564V
M10S10I	0.038A
P5S11V	5.092V
P5S11I	0.198A

---TEST-------

T0	130D
T1	1212
T2	140C
T3	1E0D
T4	461C
T5	423E
T6	5F5B
T7	3C47
T8	3A42
T9	A129
T10	1B2C
T11	7212
T12	8B82
T13	6E7B
T14	8D97
T15	6B78

--AP COUNTERS-

AP[0220]	0
AP[0221]	33325
AP[0222]	0
AP[0223]	0
AP[0224]	0
AP[0225]	0
AP[0226]	0
AP[0227]	0
AP[0228]	0
AP[0229]	0
AP[022A]	0
AP[022B]	0
AP[022C]	0
AP[022D]	0
AP[022E]	0
AP[022F]	0

--- MUE ----

HWSEC	000069PC
UTSEC	308E7DC3
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	434
RECCTR	103
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1083

CMD:1C00C0000000500000FF000097

UPDRATE: 160

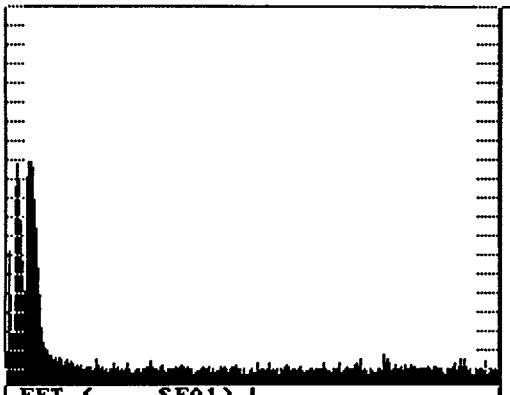
DATE: 03-18-94
GMT : 00:39:05

C502

500 KHz

MAR 18 1994

Figure 44



FFT (SFA1)
FFTSC 256 dB
Peak -103.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.410V
P10S3I	0.002A
M10S3V	-10.564V
M10S3I	0.002A
P5S4V	5.116V
P5S4I	0.000A
P12S4V	12.428V
P12S4I	0.001A
M12S4V	-12.487V
M12S4I	0.004A
P28S5V	32.577V
P28S5I	0.022A
P28S6V	28.022V
P28S6I	0.039A
P5S7V	5.092V
P5S7I	0.039A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.039A
M5S7V	-4.823V
M5S7I	0.053A
P12S7V	12.428V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.092V
P5S8I	0.127A
M5S8V	-5.239V
M5S8I	0.118A
P10S8V	10.358V
P10S8I	0.035A
M10S8V	-10.563V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.092V
P5S9I	0.066A
P10S9V	10.359V
P10S9I	0.028A
M10S9V	-10.564V
M10S9I	0.027A
P5S10V	5.116V
P5S10I	0.040A
M5S10V	-5.263V
M5S10I	0.018A
P10S10V	10.358V
P10S10I	0.038A
M10S10V	-10.564V
M10S10I	0.038A
P5S11V	5.092V
P5S11I	0.198A

---TEST-------

T0	110A
T1	0F0C
T2	0F0B
T3	1514
T4	411B
T5	3F3B
T6	5E5A
T7	3F47
T8	3542
T9	A021
T10	1F2C
T11	610D
T12	8D87
T13	6D7C
T14	8C97
T15	6F74

--AP COUNTERS-

AP[020]	0
AP[021]	30869
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	000068D2
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	TIMEOUT
ERRCNT	52
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1084

CMD:1C00C0000005000FF000097

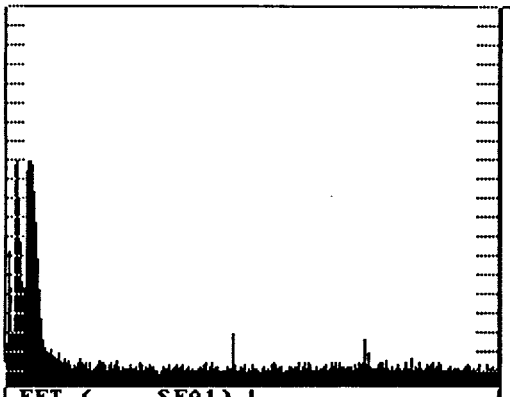
UPDRATE: 256

DATE: 03-18-94
GMT : 00:35:11

1 mHz
CSO2

MAR 18 1994

FIGURE 45



FFT (SFA1)
FFTSC 256 dB
Peak -103.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.410V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.001A
P5S4V	5.141V
P5S4I	0.000A
P12S4V	12.487V
P12S4I	0.000A
M12S4V	-12.487V
M12S4I	0.003A
P28S5V	32.715V
P28S5I	0.017A
P28S6V	28.160V
P28S6I	0.038A
P5S7V	5.141V
P5S7I	0.038A

--MON 030 ---

P5S7V	5.141V
P5S7I	0.038A
M5S7V	-4.847V
M5S7I	0.053A
P12S7V	12.487V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.141V
P5S8I	0.125A
M5S8V	-5.239V
M5S8I	0.116A
P10S8V	10.358V
P10S8I	0.035A
M10S8V	-10.563V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.141V
P5S9I	0.058A
P10S9V	10.359V
P10S9I	0.027A
M10S9V	-10.564V
M10S9I	0.027A
P5S10V	5.141V
P5S10I	0.040A
M5S10V	-5.263V
M5S10I	0.017A
P10S10V	10.358V
P10S10I	0.038A
M10S10V	-10.564V
M10S10I	0.038A
P5S11V	5.116V
P5S11I	0.202A

---TEST------

T0	1711
T1	1415
T2	130F
T3	2B15
T4	421F
T5	413C
T6	5E5A
T7	8A45
T8	3743
T9	6C23
T10	2128
T11	521B
T12	9096
T13	417C
T14	8D98
T15	4F75

--AP COUNTERS-

AP[020]	0
AP[021]	47905
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE -----

HWSEC	00004BF9
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	232
RECCTR	106
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	3
STEST	AA5500
FDM	91002C
CCSAP	1081

UPDRATE: 272

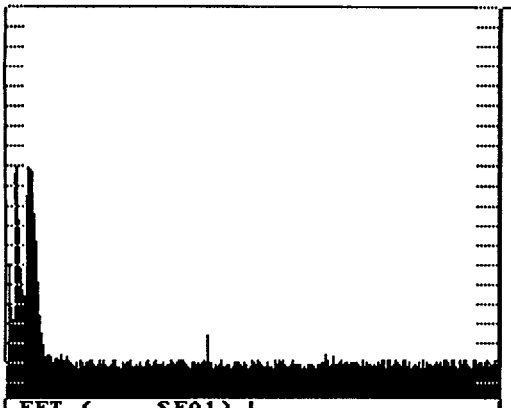
DATE: 03-17-94
GMT : 22:32:07

MAR 18 1994

5 MHz

CSO2

Figure 46



FFT (SFA1)
FFTSC 256 dB
Peak -103.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.410V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.001A
P5S4V	5.141V
P5S4I	0.000A
P12S4V	12.487V
P12S4I	0.000A
M12S4V	-12.487V
M12S4I	0.002A
P28S5V	32.715V
P28S5I	0.017A
P28S6V	28.160V
P28S6I	0.038A
P5S7V	5.141V
P5S7I	0.038A

--MON 030 ---

P5S7V	5.141V
P5S7I	0.038A
M5S7V	-4.847V
M5S7I	0.052A
P12S7V	12.428V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.141V
P5S8I	0.125A
M5S8V	-5.239V
M5S8I	0.116A
P10S8V	10.410V
P10S8I	0.035A
M10S8V	-10.563V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.141V
P5S9I	0.058A
P10S9V	10.359V
P10S9I	0.027A
M10S9V	-10.564V
M10S9I	0.027A
P5S10V	5.141V
P5S10I	0.040A
M5S10V	-5.263V
M5S10I	0.017A
P10S10V	10.358V
P10S10I	0.038A
M10S10V	-10.564V
M10S10I	0.038A
P5S11V	5.116V
P5S11I	0.200A

---TEST------

T0	281C
T1	5B22
T2	291A
T3	5B19
T4	3618
T5	5B2B
T6	5C5D
T7	8A47
T8	3842
T9	6824
T10	2F2F
T11	5B27
T12	9094
T13	5C7D
T14	8E98
T15	5C76

--AP COUNTERS-

AP[020]	0
AP[021]	44833
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE -----

HWSEC	00004AE8
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	30
RECCTR	104
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1080

UPDRATE: 256

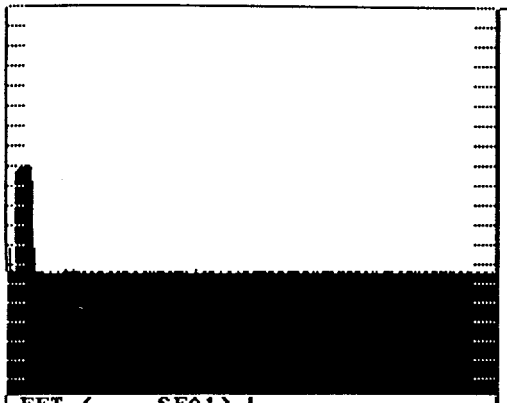
DATE: 03-17-94
GMT : 22:27:35

MAR 0 1994

6.356 MHz

C502

Figure 47



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.410V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.000A
P5S4V	5.141V
P5S4I	0.000A
P12S4V	12.487V
P12S4I	0.000A
M12S4V	-12.487V
M12S4I	0.002A
P28S5V	32.715V
P28S5I	0.017A
P28S6V	28.160V
P28S6I	0.038A
P5S7V	5.141V
P5S7I	0.038A

--MON 030 ---

P5S7V	5.141V
P5S7I	0.038A
M5S7V	-4.847V
M5S7I	0.052A
P12S7V	12.428V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.141V
P5S8I	0.125A
M5S8V	-5.239V
M5S8I	0.116A
P10S8V	10.410V
P10S8I	0.035A
M10S8V	-10.563V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.141V
P5S9I	0.058A
P10S9V	10.359V
P10S9I	0.027A
M10S9V	-10.564V
M10S9I	0.027A
P5S10V	5.141V
P5S10I	0.040A
M5S10V	-5.263V
M5S10I	0.018A
P10S10V	10.358V
P10S10I	0.038A
M10S10V	-10.564V
M10S10I	0.038A
P5S11V	5.116V
P5S11I	0.200A

---TEST------

T0	3A54
T1	5A36
T2	3B55
T3	5A36
T4	3955
T5	5A37
T6	6065
T7	9147
T8	3955
T9	8536
T10	3D55
T11	673C
T12	9395
T13	597B
T14	9398
T15	5979

--AP COUNTERS-

AP[020]	0
AP[021]	41113
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	000049A5
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	3
STEST	AA5500
FDM	91002C
CCSAP	1082

UPDRATE: 272

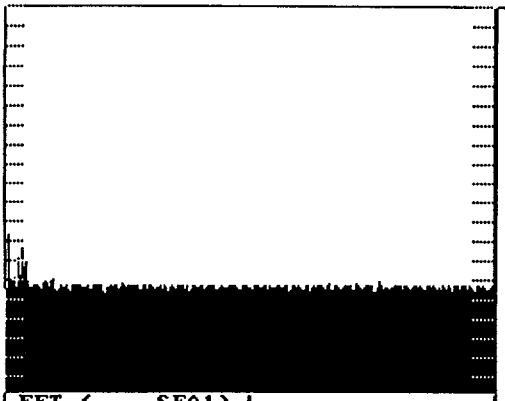
DATE: 03-17-94
GMT : 22:22:12

MAR 18 1994

CSO2

8.01 MHz

FIGURE 48



FFT (SFA1)
FFTSC 256 dB
Peak -149.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.410V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.000A
P5S4V	5.141V
P5S4I	0.000A
P12S4V	12.487V
P12S4I	0.000A
M12S4V	-12.487V
M12S4I	0.002A
P28S5V	32.715V
P28S5I	0.017A
P28S6V	28.160V
P28S6I	0.038A
P5S7V	5.141V
P5S7I	0.038A

--MON 030 ---

P5S7V	5.141V
P5S7I	0.038A
M5S7V	-4.847V
M5S7I	0.052A
P12S7V	12.428V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.141V
P5S8I	0.125A
M5S8V	-5.239V
M5S8I	0.116A
P10S8V	10.410V
P10S8I	0.035A
M10S8V	-10.563V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.141V
P5S9I	0.058A
P10S9V	10.410V
P10S9I	0.028A
M10S9V	-10.564V
M10S9I	0.027A
P5S10V	5.141V
P5S10I	0.040A
M5S10V	-5.263V
M5S10I	0.018A
P10S10V	10.358V
P10S10I	0.038A
M10S10V	-10.564V
M10S10I	0.038A
P5S11V	5.116V
P5S11I	0.202A

---TEST-------

T0	2D48
T1	3F20
T2	2B48
T3	4123
T4	3548
T5	432A
T6	656B
T7	6E4A
T8	3D4D
T9	722E
T10	474D
T11	4B33
T12	3B4D
T13	4422
T14	3248
T15	482D

--AP COUNTERS-

AP[020]	0
AP[021]	38049
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	000048A4
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	1
RPSTATE	3
STEST	AA5500
FDM	91002C
CCSAP	1080

UPDRATE: 48

DATE: 03-17-94
GMT : 22:17:54

MAR 18 1994

10.7 mHz
CSO2

FIGURE 49

```
FFT (      $FA1)
FFTSC    256 dB
Peak   -99.0 dB
Freq     0.0 Hz
```

```
--MON 016 ---
P10S3V   10.410V
P10S3I    0.001A
M10S3V  -10.666V
M10S3I    0.000A
P5S4V      5.141V
P5S4I      0.000A
P12S4V    12.487V
P12S4I     0.000A
M12S4V   -12.487V
M12S4I     0.002A
P28S5V    32.715V
P28S5I     0.017A
P28S6V    28.160V
P28S6I     0.038A
P5S7V      5.141V
P5S7I      0.038A
```

```
--MON 030 ---
P5S7V      5.141V
P5S7I      0.038A
M5S7V     -4.847V
M5S7I      0.051A
P12S7V    12.487V
P12S7I     0.010A
M12S7V   -12.487V
M12S7I     0.007A
P5S8V      5.141V
P5S8I      0.127A
M5S8V     -5.239V
M5S8I      0.118A
P10S8V    10.410V
P10S8I     0.035A
M10S8V   -10.563V
M10S8I     0.028A
```

```
--MON 046 ---
P5S9V      5.141V
P5S9I      0.059A
P10S9V    10.359V
P10S9I     0.028A
M10S9V   -10.564V
M10S9I     0.026A
P5S10V     5.165V
P5S10I     0.040A
M5S10V    -5.263V
M5S10I     0.018A
P10S10V   10.410V
P10S10I    0.038A
M10S10V  -10.564V
M10S10I    0.039A
P5S11V     5.116V
P5S11I     0.202A
```

```
---TEST-------
T0          1822
T1          1B11
T2          1823
T3          2B16
T4          3F27
T5          3536
T6          7F82
T7          9F64
T8          5160
T9          A63A
T10         6051
T11         A460
T12         919C
T13         A481
T14         929D
T15         A584
```

```
--AP COUNTERS-
AP[020]        0
AP[021]    32945
AP[022]        0
AP[023]        0
AP[024]        0
AP[025]        0
AP[026]        0
AP[027]        0
AP[028]        0
AP[029]        0
AP[02A]        0
AP[02B]        0
AP[02C]        0
AP[02D]        0
AP[02E]        0
AP[02F]        0
```

```
--- MUE ----
HWSEC 0000468F
UTSEC 308E7D03
UTUSEC      0000
XMITR         OK
RECVR         OK
ERRCNT         0
XMTCTR        96
RECCTR       106
ENABLE        31
TMRATE         2
SPSTATE        0
RPSTATE        0
STEST     AA5500
FDM       91002C
CCSAP       1085
```

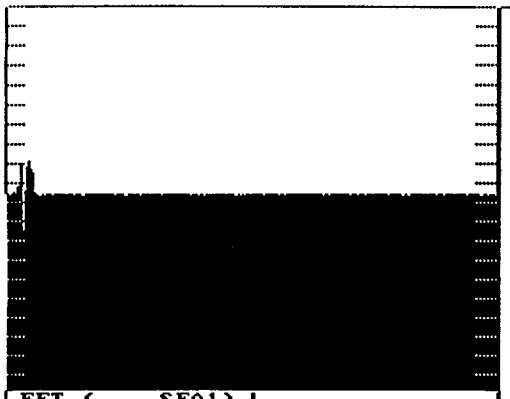
```
UPDRATE:     48
DATE: 03-17-94
GMT : 22:09:02
```

CSO2

2 1, 39 MHz

MAR 18 1994

FIGURE 50



```
FFT (     SFA1)
FFTSC    256 dB
Peak -101.0 dB
Freq     0.0 Hz
```

```
--MON 016 ---
P10S3V   10.461V
P10S3I    0.005A
M10S3V  -10.666V
M10S3I    0.000A
P5S4V     5.165V
P5S4I     0.000A
P12S4V   12.487V
P12S4I    0.000A
M12S4V  -12.546V
M12S4I    0.003A
P28S5V   32.715V
P28S5I    0.017A
P28S6V   28.160V
P28S6I    0.039A
P5S7V     5.141V
P5S7I     0.033A
```

```
--MON 030 ---
P5S7V     5.141V
P5S7I     0.033A
M5S7V    -4.872V
M5S7I     0.050A
P12S7V   12.487V
P12S7I    0.010A
M12S7V  -12.546V
M12S7I    0.007A
P5S8V     5.141V
P5S8I     0.125A
M5S8V    -5.288V
M5S8I     0.125A
P10S8V   10.461V
P10S8I    0.035A
M10S8V  -10.666V
M10S8I    0.028A
```

```
--MON 046 ---
P5S9V     5.141V
P5S9I     0.064A
P10S9V   10.461V
P10S9I    0.034A
M10S9V  -10.666V
M10S9I    0.027A
P5S10V    5.165V
P5S10I    0.038A
M5S10V   -5.312V
M5S10I    0.019A
P10S10V  10.461V
P10S10I   0.038A
M10S10V-10.666V
M10S10I   0.039A
P5S11V    5.116V
P5S11I    0.200A
```

```
---TEST-------
T0        6E86
T1        8567
T2        6E86
T3        8567
T4        6E86
T5        8567
T6        6E85
T7        9268
T8        7087
T9        8569
T10       6F85
T11       8566
T12       6F86
T13       8569
T14       7885
T15       8570
```

```
--AP COUNTERS-
AP[020]      0
AP[021]  31502
AP[022]      0
AP[023]      0
AP[024]      0
AP[025]      0
AP[026]      0
AP[027]      0
AP[028]      0
AP[029]      0
AP[02A]      0
AP[02B]      0
AP[02C]      0
AP[02D]      0
AP[02E]      0
AP[02F]      0
```

```
--- MUE ----
HWSEC 00004601
UTSEC 308E7D03
UTUSEC    0000
XMITR       OK
RECVR       OK
ERRCNT       0
XMTCTR     232
RECCTR     106
ENABLE      31
TMRATE       2
SPSTATE      0
RPSTATE      3
STEST   AA5500
FDM     91002C
CCSAP     1081
```

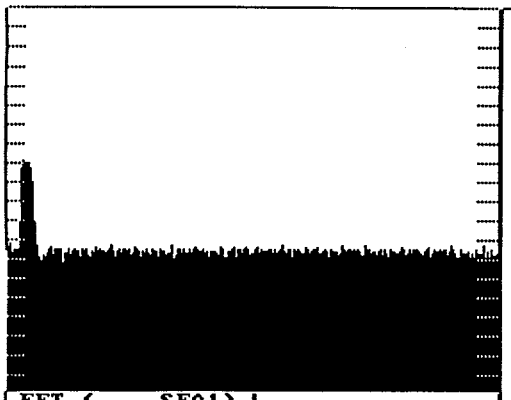
```
UPDRATE:   176   DATE: 03-17-94
                 GMT : 22:06:40
```

MAR 18 1994

31,854 MHz

C502

FIGURE 51



FFT (SFA1)
FFTSC 256 dB
Peak -101.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.461V
P10S3I 0.005A
M10S3V -10.666V
M10S3I 0.000A
P5S4V 5.165V
P5S4I 0.000A
P12S4V 12.546V
P12S4I 0.000A
M12S4V -12.546V
M12S4I 0.003A
P28S5V 32.715V
P28S5I 0.019A
P28S6V 28.160V
P28S6I 0.039A
P5S7V 5.141V
P5S7I 0.033A

--MON 030 ---
P5S7V 5.141V
P5S7I 0.033A
M5S7V -4.847V
M5S7I 0.050A
P12S7V 12.487V
P12S7I 0.010A
M12S7V -12.546V
M12S7I 0.007A
P5S8V 5.141V
P5S8I 0.125A
M5S8V -5.288V
M5S8I 0.125A
P10S8V 10.461V
P10S8I 0.035A
M10S8V -10.666V
M10S8I 0.028A

--MON 046 ---
P5S9V 5.141V
P5S9I 0.064A
P10S9V 10.461V
P10S9I 0.034A
M10S9V -10.666V
M10S9I 0.027A
P5S10V 5.141V
P5S10I 0.039A
M5S10V -5.312V
M5S10I 0.019A
P10S10V 10.461V
P10S10I 0.038A
M10S10V-10.666V
M10S10I 0.039A
P5S11V 5.116V
P5S11I 0.200A

---TEST------
T0 655F
T1 705B
T2 655F
T3 705B
T4 6360
T5 7058
T6 6360
T7 8B5A
T8 635D
T9 6D5A
T10 605D
T11 705A
T12 655F
T13 6E5A
T14 635E
T15 715C

--AP COUNTERS-
AP[020] 0
AP[021] 30371
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--- MUE ----
HWSEC 0000457F
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 96
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 0
STEST AA5500
FDM 91002C
CCSAP 1085

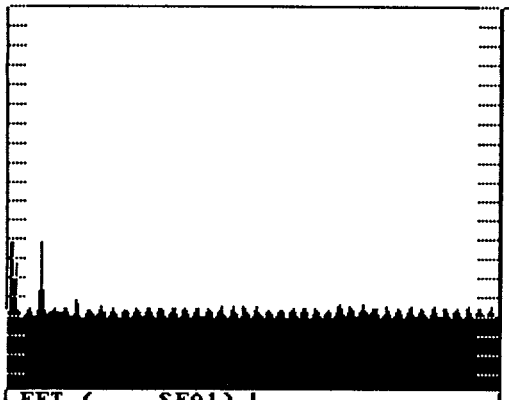
UPDRATE: 32
DATE: 03-17-94
GMT : 22:04:30

MAR 18 1994

31.946 MHz

CSOZ

FIGURE 52



```
FFT (    $FA1)
FFTSC    256 dB
Peak -155.0 dB
Freq     0.0 Hz
```

```
--MON 016 ---
P10S3V   10.461V
P10S3I    0.002A
M10S3V  -10.666V
M10S3I    0.000A
P5S4V     5.141V
P5S4I     0.000A
P12S4V   12.487V
P12S4I    0.000A
M12S4V  -12.546V
M12S4I    0.003A
P28S5V   32.715V
P28S5I    0.019A
P28S6V   28.160V
P28S6I    0.039A
P5S7V     5.141V
P5S7I     0.038A
```

```
--MON 030 ---
P5S7V     5.141V
P5S7I     0.038A
M5S7V    -4.847V
M5S7I     0.052A
P12S7V   12.487V
P12S7I    0.010A
M12S7V  -12.487V
M12S7I    0.007A
P5S8V     5.116V
P5S8I     0.127A
M5S8V    -5.288V
M5S8I     0.120A
P10S8V   10.461V
P10S8I    0.036A
M10S8V  -10.666V
M10S8I    0.028A
```

```
--MON 046 ---
P5S9V     5.116V
P5S9I     0.068A
P10S9V   10.461V
P10S9I    0.020A
M10S9V  -10.666V
M10S9I    0.025A
P5S10V    5.141V
P5S10I    0.040A
M5S10V   -5.288V
M5S10I    0.018A
P10S10V  10.461V
P10S10I   0.039A
M10S10V-10.666V
M10S10I   0.039A
P5S11V    5.116V
P5S11I    0.200A
```

```
---TEST------
T0          2B45
T1          3D2D
T2          2F45
T3          3E2D
T4          3645
T5          362C
T6          6364
T7          694C
T8          3647
T9          3D27
T10         414A
T11         3D30
T12         2D44
T13         3C2B
T14         2E44
T15         3C2B
```

```
--AP COUNTERS-
AP[020]        0
AP[021]    28721
AP[022]        0
AP[023]        0
AP[024]        0
AP[025]        0
AP[026]        0
AP[027]        0
AP[028]        0
AP[029]        0
AP[02A]        0
AP[02B]        0
AP[02C]        0
AP[02D]        0
AP[02E]        0
AP[02F]        0
```

```
--- MUE -----
HWSEC 000044F9
UTSEC 308E7D03
UTUSEC      0000
XMITR         OK
RECVR         OK
ERRCNT         0
XMTCTR       232
RECCTR       106
ENABLE        31
TMRATE         2
SPSTATE        1
RPSTATE        3
STEST     AA5500
FDM       91002C
CCSAP       1081
```

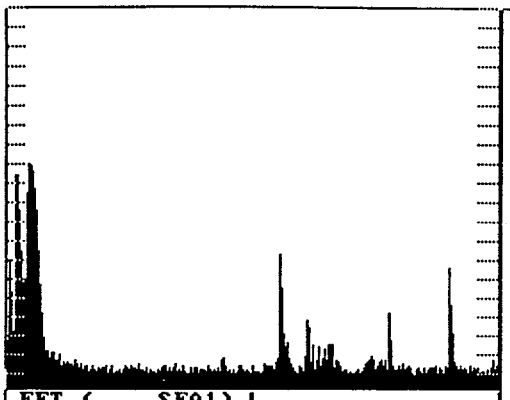
```
UPDRATE:    272
DATE: 03-17-94
GMT : 22:02:16
```

C502

MAR 1994

42.704 M

FIGURE 53



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.461V
P10S3I	0.001A
M10S3V	-10.666V
M10S3I	0.000A
P5S4V	5.165V
P5S4I	0.000A
P12S4V	12.487V
P12S4I	0.002A
M12S4V	-12.546V
M12S4I	0.003A
P28S5V	32.715V
P28S5I	0.022A
P28S6V	28.160V
P28S6I	0.041A
P5S7V	5.141V
P5S7I	0.035A

--MON 030 ---

P5S7V	5.141V
P5S7I	0.035A
M5S7V	-4.847V
M5S7I	0.050A
P12S7V	12.487V
P12S7I	0.011A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.141V
P5S8I	0.127A
M5S8V	-5.288V
M5S8I	0.116A
P10S8V	10.461V
P10S8I	0.036A
M10S8V	-10.666V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.116V
P5S9I	0.067A
P10S9V	10.461V
P10S9I	0.028A
M10S9V	-10.666V
M10S9I	0.025A
P5S10V	5.141V
P5S10I	0.040A
M5S10V	-5.288V
M5S10I	0.017A
P10S10V	10.461V
P10S10I	0.039A
M10S10V	-10.666V
M10S10I	0.039A
P5S11V	5.116V
P5S11I	0.200A

---TEST-------

T0	160E
T1	170D
T2	130E
T3	2C17
T4	3F21
T5	3B39
T6	5C59
T7	7244
T8	3B44
T9	8C25
T10	1F28
T11	5114
T12	8D91
T13	6C76
T14	8B90
T15	8275

--AP COUNTERS-

API[020]	0
API[021]	27089
API[022]	0
API[023]	0
API[024]	0
API[025]	0
API[026]	0
API[027]	0
API[028]	0
API[029]	0
API[02A]	0
API[02B]	0
API[02C]	0
API[02D]	0
API[02E]	0
API[02F]	0

--- MUE -----

HWSEC	00004467
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	96
RECCTR	106
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1083

CMD:1C00C0000005000FF000097

UPDRATE: 160

DATE: 03-17-94
GMT : 21:59:50

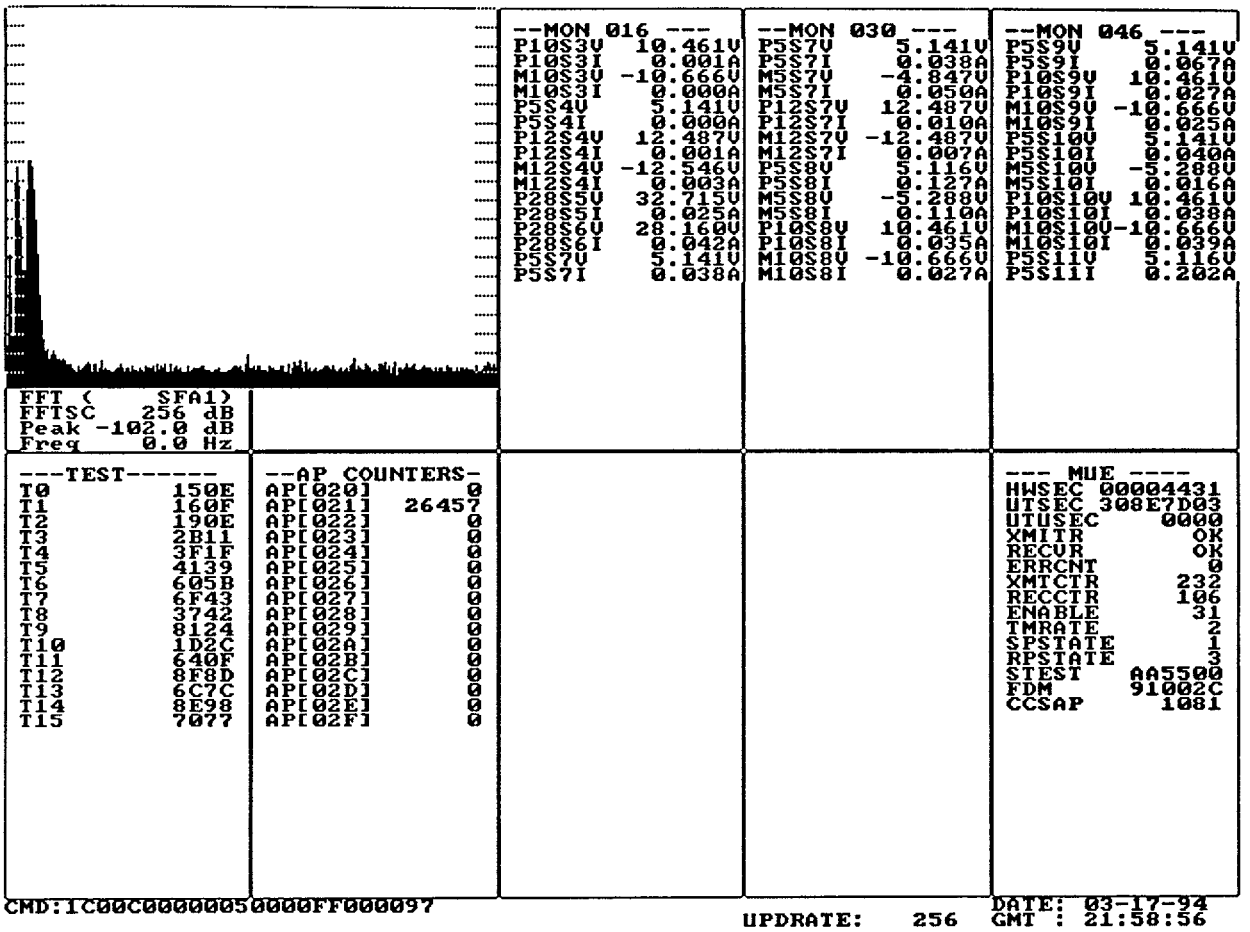
MAR 18 1994

45.4984

44.27

C902

FIGURE 5-4



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.461V
P10S3I 0.001A
M10S3V -10.666V
M10S3I 0.000A
P5S4V 5.141V
P5S4I 0.000A
P12S4V 12.487V
P12S4I 0.001A
M12S4V -12.546V
M12S4I 0.003A
P28S5V 32.715V
P28S5I 0.025A
P28S6V 28.160V
P28S6I 0.042A
P5S7V 5.141V
P5S7I 0.038A

--MON 030 ---
P5S7V 5.141V
P5S7I 0.038A
M5S7V -4.847V
M5S7I 0.050A
P12S7V 12.487V
P12S7I 0.010A
M12S7V -12.487V
M12S7I 0.007A
P5S8V 5.116V
P5S8I 0.127A
M5S8V -5.288V
M5S8I 0.110A
P10S8V 10.461V
P10S8I 0.035A
M10S8V -10.666V
M10S8I 0.027A

--MON 046 ---
P5S9V 5.141V
P5S9I 0.067A
P10S9V 10.461V
P10S9I 0.027A
M10S9V -10.666V
M10S9I 0.025A
P5S10V 5.141V
P5S10I 0.040A
M5S10V -5.288V
M5S10I 0.016A
P10S10V 10.461V
P10S10I 0.038A
M10S10V-10.666V
M10S10I 0.039A
P5S11V 5.116V
P5S11I 0.202A

---TEST------
T0 150E
T1 160F
T2 190E
T3 2B11
T4 3F1F
T5 4139
T6 605B
T7 6F43
T8 3742
T9 8124
T10 1D2C
T11 640F
T12 8F8D
T13 6C7C
T14 8E98
T15 7077

--AP COUNTERS-
AP[020] 0
AP[021] 26457
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

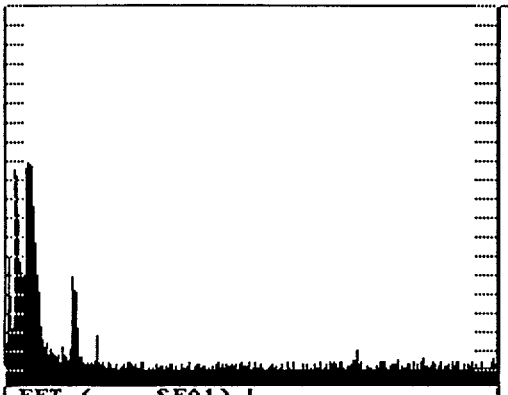
--- MUE ----
HWSEC 00004431
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 232
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 1
RPSTATE 3
STEST AA5500
FDM 91002C
CCSAP 1081

CMD:1C00C0000005000FF000097
UPDRATE: 256
DATE: 03-17-94
GMT : 21:58:56

MAR 18 1994

50 mhz
C502

FIGURE 55



FFT (SFA1)
FFTSC 256 dB
Peak -103.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.512V
P10S3I 0.002A
M10S3V -10.718V
M10S3I 0.001A
P5S4V 5.190V
P5S4I 0.000A
P12S4V 12.546V
P12S4I 0.001A
M12S4V -12.605V
M12S4I 0.004A
P28S5V 32.854V
P28S5I 0.020A
P28S6V 28.298V
P28S6I 0.040A
P5S7V 5.165V
P5S7I 0.039A

--MON 030 ---
P5S7V 5.165V
P5S7I 0.039A
M5S7V -4.872V
M5S7I 0.045A
P12S7V 12.546V
P12S7I 0.011A
M12S7V -12.605V
M12S7I 0.007A
P5S8V 5.165V
P5S8I 0.129A
M5S8V -5.312V
M5S8I 0.118A
P10S8V 10.512V
P10S8I 0.036A
M10S8V -10.717V
M10S8I 0.028A

--MON 046 ---
P5S9V 5.165V
P5S9I 0.068A
P10S9V 10.512V
P10S9I 0.028A
M10S9V -10.718V
M10S9I 0.026A
P5S10V 5.165V
P5S10I 0.041A
M5S10V -5.337V
M5S10I 0.018A
P10S10V 10.512V
P10S10I 0.039A
M10S10V-10.718V
M10S10I 0.039A
P5S11V 5.141V
P5S11I 0.204A

---TEST------
T0 1911
T1 170D
T2 190F
T3 2B19
T4 3F1F
T5 403A
T6 5B5B
T7 7446
T8 3943
T9 8224
T10 2325
T11 5D19
T12 8E95
T13 5B78
T14 8E95
T15 6A76

--AP COUNTERS-
AP[020] 0
AP[021] 23505
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--- MUE ----
HWSEC 00004329
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 232
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 1
RPSTATE 3
STEST AA5500
FDM 91002C
CCSAP 1081

CMD:1C00C0000005000FF000097

UPDRATE: 272

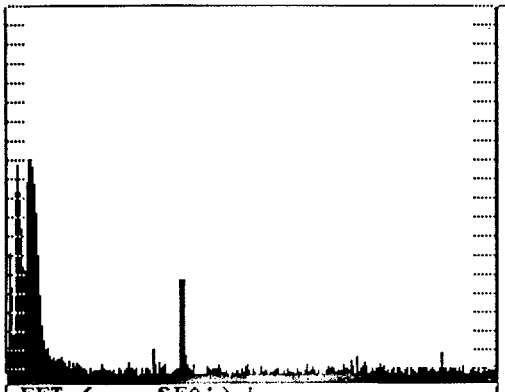
DATE: 03-17-94
GMT : 21:54:32

MAR 18 1994

64.815 mhz

CS02

FIGURE 56



FFT (SFA1)
FFTSC 256 dB
Peak -102.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.461V
P10S3I 0.001A
M10S3V -10.666V
M10S3I 0.001A
P5S4V 5.165V
P5S4I 0.000A
P12S4V 12.487V
P12S4I 0.000A
M12S4V -12.487V
M12S4I 0.003A
P28S5V 32.577V
P28S5I 0.017A
P28S6V 28.160V
P28S6I 0.038A
P5S7V 5.141V
P5S7I 0.038A

--MON 030 ---
P5S7V 5.141V
P5S7I 0.038A
M5S7V -4.847V
M5S7I 0.053A
P12S7V 12.487V
P12S7I 0.010A
M12S7V -12.546V
M12S7I 0.007A
P5S8V 5.141V
P5S8I 0.127A
M5S8V -5.288V
M5S8I 0.116A
P10S8V 10.461V
P10S8I 0.035A
M10S8V -10.666V
M10S8I 0.028A

--MON 046 ---
P5S9V 5.116V
P5S9I 0.066A
P10S9V 10.461V
P10S9I 0.028A
M10S9V -10.666V
M10S9I 0.027A
P5S10V 5.141V
P5S10I 0.040A
M5S10V -5.288V
M5S10I 0.017A
P10S10V 10.461V
P10S10I 0.038A
M10S10V-10.666V
M10S10I 0.038A
P5S11V 5.092V
P5S11I 0.200A

---TEST------
T0 1109
T1 170E
T2 100C
T3 2C16
T4 3F1B
T5 3F38
T6 5E59
T7 7448
T8 3343
T9 7F28
T10 1B2B
T11 5C11
T12 8B84
T13 707B
T14 8C97
T15 6675

--AP COUNTERS-
APP[020] 0
APP[021] 57825
APP[022] 0
APP[023] 0
APP[024] 0
APP[025] 0
APP[026] 0
APP[027] 0
APP[028] 0
APP[029] 0
APP[02A] 0
APP[02B] 0
APP[02C] 0
APP[02D] 0
APP[02E] 0
APP[02F] 0

--- MUE ----
HWSEC 00001FCA
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 298
RECCTR 108
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 0
STEST AA5500
FDM 91002C
CCSAP 1086

CMD:1C00C0000[illegible] [illegible]F000097

UPDRATE: 160

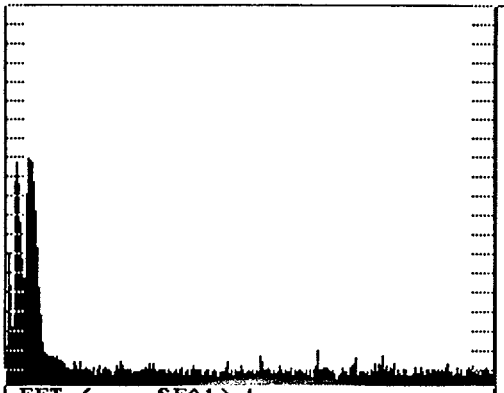
DATE: 03-17-94
GMT : 19:23:40

98,866

MAR 18 1994

CS02

FIGURE 57



FFT (SFA1)
FFTSC 256 dB
Peak -103.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.461V
P10S3I	0.001A
M10S3V	-10.666V
M10S3I	0.001A
P5S4V	5.141V
P5S4I	0.000A
P12S4V	12.487V
P12S4I	0.000A
M12S4V	-12.546V
M12S4I	0.003A
P28S5V	32.577V
P28S5I	0.019A
P28S6V	28.160V
P28S6I	0.039A
P5S7V	5.141V
P5S7I	0.038A

--MON 030 ---

P5S7V	5.141V
P5S7I	0.038A
M5S7V	-4.847V
M5S7I	0.053A
P12S7V	12.487V
P12S7I	0.010A
M12S7V	-12.546V
M12S7I	0.007A
P5S8V	5.116V
P5S8I	0.127A
M5S8V	-5.288V
M5S8I	0.116A
P10S8V	10.461V
P10S8I	0.035A
M10S8V	-10.666V
M10S8I	0.028A

--MON 046 ---

P5S9V	5.116V
P5S9I	0.066A
P10S9V	10.461V
P10S9I	0.027A
M10S9V	-10.666V
M10S9I	0.027A
P5S10V	5.141V
P5S10I	0.040A
M5S10V	-5.288V
M5S10I	0.018A
P10S10V	10.461V
P10S10I	0.038A
M10S10V	-10.666V
M10S10I	0.038A
P5S11V	5.116V
P5S11I	0.200A

---TEST------

T0	150B
T1	0E11
T2	110E
T3	2F17
T4	401E
T5	4139
T6	5C5B
T7	7747
T8	3345
T9	8325
T10	202B
T11	5E0B
T12	8C86
T13	6C7C
T14	8C97
T15	7678

--AP COUNTERS-

AP[020]	0
AP[021]	55937
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	00001F23
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	96
RECCTR	106
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	0
STEST	AA5500
FDM	91002C
CCSAP	1080

CMD:1C00C0000[illegible]FF000097

UPDRATE: 176

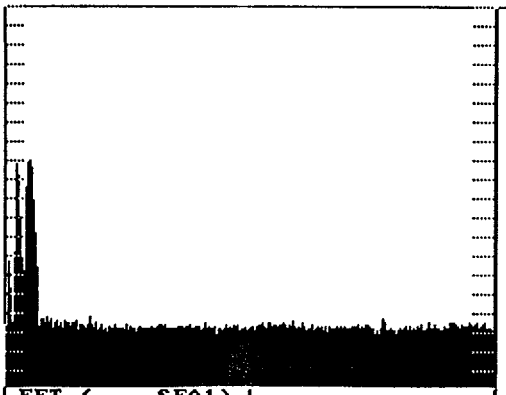
DATE: 03-17-94
GMT : 19:20:52

MAR 18 1994

100 m Hz

CSDZ

FIGURE 58



```
FFT (     SFA1)
FFTSC    256 dB
Peak -102.0 dB
Freq      0.0 Hz
```

```
--MON 016 ---
P10S3V   10.461V
P10S3I    0.001A
M10S3V  -10.666V
M10S3I    0.001A
P5S4V     5.141V
P5S4I     0.000A
P12S4V   12.487V
P12S4I    0.000A
M12S4V  -12.546V
M12S4I    0.002A
P28S5V   32.577V
P28S5I    0.019A
P28S6V   28.160V
P28S6I    0.041A
P5S7V     5.116V
P5S7I     0.038A
```

```
--MON 030 ---
P5S7V     5.116V
P5S7I     0.038A
M5S7V    -4.847V
M5S7I     0.052A
P12S7V   12.487V
P12S7I    0.010A
M12S7V  -12.487V
M12S7I    0.007A
P5S8V     5.116V
P5S8I     0.127A
M5S8V    -5.263V
M5S8I     0.118A
P10S8V   10.461V
P10S8I    0.035A
M10S8V  -10.666V
M10S8I    0.028A
```

```
--MON 046 ---
P5S9V     5.116V
P5S9I     0.067A
P10S9V   10.461V
P10S9I    0.028A
M10S9V  -10.666V
M10S9I    0.027A
P5S10V    5.141V
P5S10I    0.039A
M5S10V   -5.288V
M5S10I    0.018A
P10S10V  10.461V
P10S10I   0.038A
M10S10V-10.666V
M10S10I   0.038A
P5S11V    5.092V
P5S11I    0.200A
```

```
---TEST------
T0        2128
T1        282D
T2        1F29
T3        322F
T4        3B2C
T5        3F27
T6        575D
T7        7F45
T8        3941
T9        8A26
T10       2027
T11       6834
T12       6C5C
T13       6468
T14       8D97
T15       627A
```

```
--AP COUNTERS-
AP[020]      0
AP[021]  55085
AP[022]      0
AP[023]      0
AP[024]      0
AP[025]      0
AP[026]      0
AP[027]      0
AP[028]      0
AP[029]      0
AP[02A]      0
AP[02B]      0
AP[02C]      0
AP[02D]      0
AP[02E]      0
AP[02F]      0
```

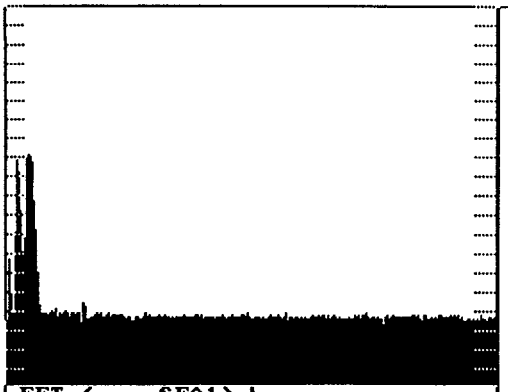
```
--- MUE ----
HWSEC  00001ED2
UTSEC  308E7D03
UTUSEC     0000
XMITR        OK
RECVR        OK
ERRCNT        0
XMTCTR      434
RECCTR      108
ENABLE       31
TMRATE        2
SPSTATE       0
RPSTATE       0
STEST    AA5500
FDM      91002C
CCSAP       1086
```

```
CMD:1C00C0000005 0000FF000097
UPDRATE:    272
DATE: 03-17-94
GMT : 19:19:31
```


106.403

C502

FIGURE 59



FFT (SFA1)
FFTSC 256 dB
Peak -101.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.461V
P10S3I 0.001A
M10S3V -10.666V
M10S3I 0.001A
P5S4V 5.141V
P5S4I 0.000A
P12S4V 12.487V
P12S4I 0.000A
M12S4V -12.487V
M12S4I 0.003A
P28S5V 32.577V
P28S5I 0.017A
P28S6V 28.160V
P28S6I 0.038A
P5S7V 5.116V
P5S7I 0.038A

--MON 030 ---
P5S7V 5.116V
P5S7I 0.038A
M5S7V -4.847V
M5S7I 0.051A
P12S7V 12.428V
P12S7I 0.010A
M12S7V -12.487V
M12S7I 0.007A
P5S8V 5.116V
P5S8I 0.127A
M5S8V -5.263V
M5S8I 0.116A
P10S8V 10.461V
P10S8I 0.035A
M10S8V -10.666V
M10S8I 0.028A

--MON 046 ---
P5S9V 5.116V
P5S9I 0.068A
P10S9V 10.410V
P10S9I 0.030A
M10S9V -10.666V
M10S9I 0.027A
P5S10V 5.141V
P5S10I 0.040A
M5S10V -5.288V
M5S10I 0.017A
P10S10V 10.461V
P10S10I 0.038A
M10S10V-10.666V
M10S10I 0.038A
P5S11V 5.092V
P5S11I 0.204A

---TEST------
T0 1F30
T1 1A42
T2 1E2F
T3 2942
T4 342E
T5 3B41
T6 5958
T7 7847
T8 3343
T9 8543
T10 2536
T11 5D42
T12 695D
T13 706B
T14 8D9A
T15 6579

--AP COUNTERS-
AP[020] 0
AP[021] 52857
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--- MUE ----
HWSEC 00001E03
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 96
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 3
STEST AA5500
FDM 91002C
CCSAP 1080

CMD:1C00C0000005000FF000097

UPDRATE: 144

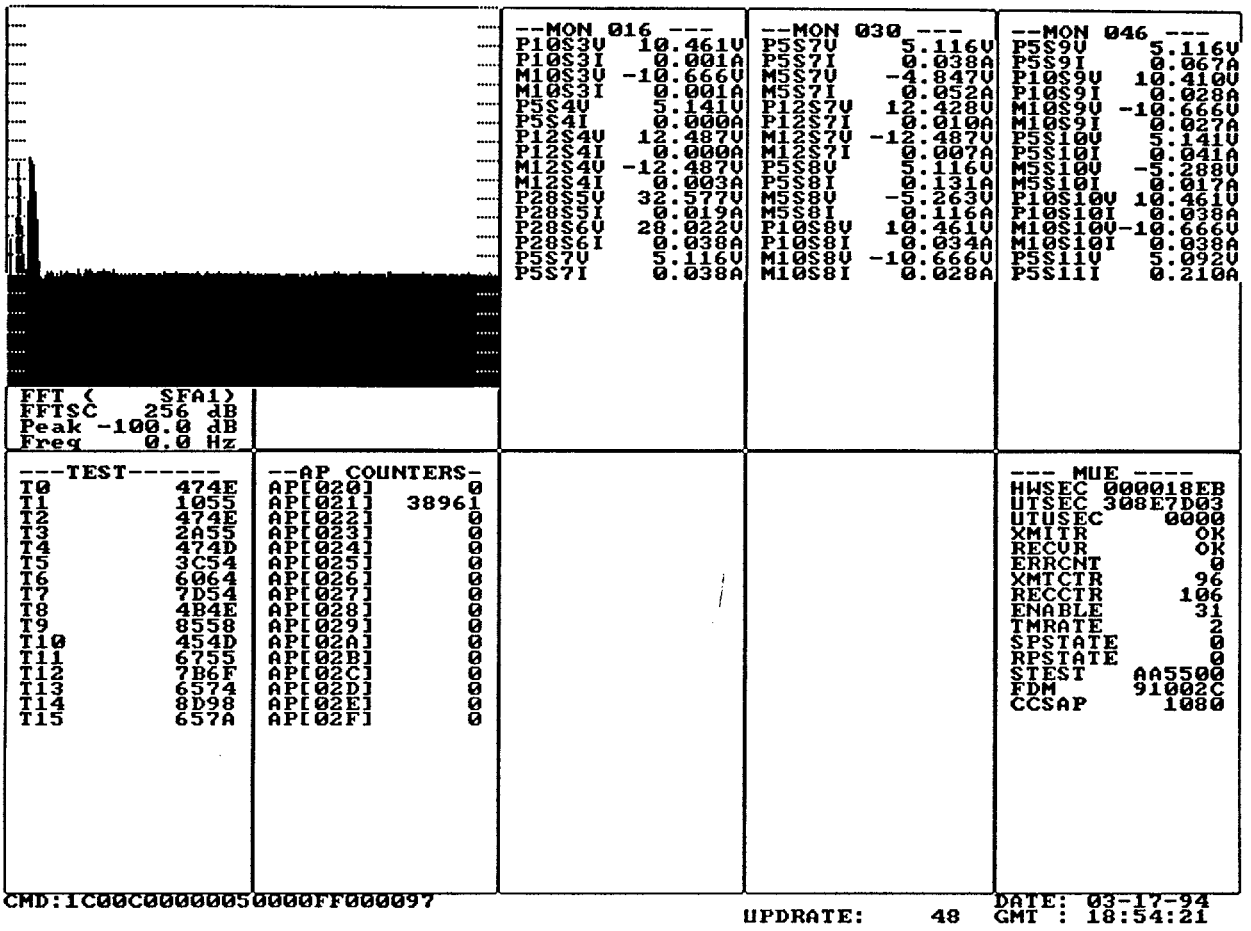
DATE: 03-17-94
GMT : 19:16:04

MAR 18 1994

127.868

C502

FIGURE 60

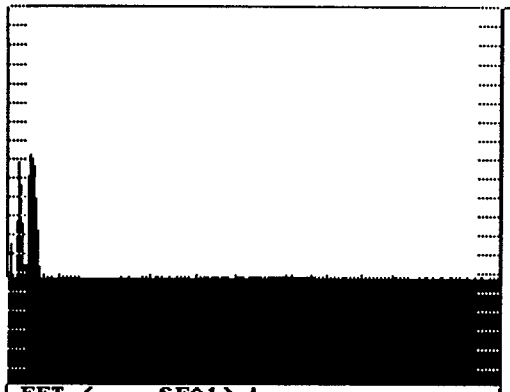


```
                                --MON 016 ---   --MON 030 ---   --MON 046 ---
                                P10S3V  10.461V P5S7V    5.116V P5S9V    5.116V
                                P10S3I   0.001A P5S7I    0.038A P5S9I    0.067A
                                M10S3V -10.666V M5S7V   -4.847V P10S9V  10.410V
                                M10S3I   0.001A M5S7I    0.052A P10S9I    0.028A
                                P5S4V    5.141V P12S7V  12.428V M10S9V -10.666V
                                P5S4I    0.000A P12S7I    0.010A M10S9I    0.027A
                                P12S4V  12.487V M12S7V -12.487V P5S10V   5.141V
                                P12S4I   0.000A M12S7I    0.007A P5S10I    0.041A
                                M12S4V -12.487V P5S8V    5.116V M5S10V   -5.288V
                                M12S4I   0.003A P5S8I    0.131A M5S10I    0.017A
                                P28S5V  32.577V M5S8V   -5.263V P10S10V 10.461V
                                P28S5I   0.019A M5S8I    0.116A P10S10I   0.038A
                                P28S6V  28.022V P10S8V  10.461V M10S10V-10.666V
                                P28S6I   0.038A P10S8I   0.034A M10S10I   0.038A
                                P5S7V    5.116V M10S8V -10.666V P5S11V   5.092V
                                P5S7I    0.038A M10S8I   0.028A P5S11I   0.210A
FFT (     SFA1)
FFTSC    256 dB
Peak -100.0 dB
Freq    0.0 Hz

---TEST------          --AP COUNTERS-          --- MUE ----
T0          474E       AP[020]          0      HWSEC 000018EB
T1          1055       AP[021]      38961      UTSEC 308E7D03
T2          474E       AP[022]          0      UIUSEC      0000
T3          2A55       AP[023]          0      XMITR         OK
T4          474D       AP[024]          0      RECVR         OK
T5          3C54       AP[025]          0      ERRCNT         0
T6          6064       AP[026]          0      XMTCTR        96
T7          7D54       AP[027]          0      RECCTR       106
T8          4B4E       AP[028]          0      ENABLE        31
T9          8558       AP[029]          0      TMRATE         2
T10         454D       AP[02A]          0      SPSTATE        0
T11         6755       AP[02B]          0      RPSTATE        0
T12         7B6F       AP[02C]          0      STEST     AA5500
T13         6574       AP[02D]          0      FDM       91002C
T14         8D98       AP[02E]          0      CCSAP       1080
T15         657A       AP[02F]          0

CMD:1C00C0000005000FF000097                UPDRATE:     48   DATE: 03-17-94
                                                             GMT : 18:54:21
```

MAR 18 1994

CSO2
159.646 MHz

FIGURE 61



```
FFT (     SFA1)
FFTSC    256 dB
Peak   -99.0 dB
Freq     0.0 Hz
```

```
--MON 016 ---
P10S3V   10.461V
P10S3I    0.001A
M10S3V  -10.666V
M10S3I    0.001A
P5S4V     5.141V
P5S4I     0.000A
P12S4V   12.428V
P12S4I    0.000A
M12S4V  -12.487V
M12S4I    0.002A
P28S5V   32.577V
P28S5I    0.017A
P28S6V   28.160V
P28S6I    0.038A
P5S7V     5.141V
P5S7I     0.038A
```

```
--MON 030 ---
P5S7V     5.141V
P5S7I     0.038A
M5S7V    -4.847V
M5S7I     0.052A
P12S7V   12.428V
P12S7I    0.010A
M12S7V  -12.487V
M12S7I    0.007A
P5S8V     5.116V
P5S8I     0.127A
M5S8V    -5.263V
M5S8I     0.116A
P10S8V   10.461V
P10S8I    0.034A
M10S8V  -10.666V
M10S8I    0.028A
```

```
--MON 046 ---
P5S9V     5.116V
P5S9I     0.066A
P10S9V   10.410V
P10S9I    0.029A
M10S9V  -10.666V
M10S9I    0.027A
P5S10V    5.141V
P5S10I    0.040A
M5S10V   -5.288V
M5S10I    0.017A
P10S10V  10.410V
P10S10I   0.038A
M10S10V-10.666V
M10S10I   0.038A
P5S11V    5.092V
P5S11I    0.202A
```

```
---TEST-------
T0          3A4B
T1          0B50
T2          3A4A
T3          2E51
T4          374B
T5          3C50
T6          5E63
T7          7755
T8          3C4F
T9          8951
T10         394A
T11         6551
T12         796E
T13         6673
T14         8E98
T15         677C
```

```
--AP COUNTERS-
AP[020]        0
AP[021]    36649
AP[022]        0
AP[023]        0
AP[024]        0
AP[025]        0
AP[026]        0
AP[027]        0
AP[028]        0
AP[029]        0
AP[02A]        0
AP[02B]        0
AP[02C]        0
AP[02D]        0
AP[02E]        0
AP[02F]        0
```

```
--- MUE ----
HWSEC  00001810
UTSEC  308E7D03
UTUSEC     0000
XMITR        OK
RECVR        OK
ERRCNT        0
XMTCTR      434
RECCTR      108
ENABLE       31
TMRATE        2
SPSTATE       1
RPSTATE       3
STEST    AA5500
FDM      91002C
CCSAP      1081
```

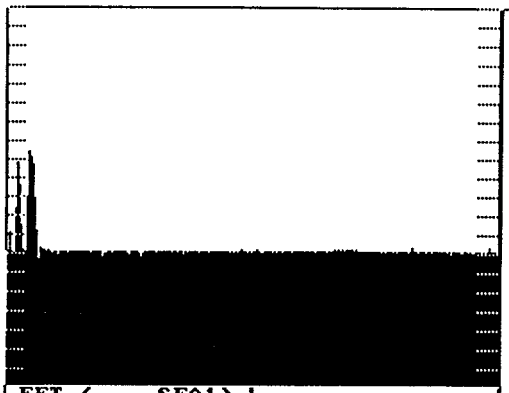
```
CMD:1C00C0000000500000FF000097
UPDRATE:    112   DATE: 03-17-94
                  GMT : 18:50:42
```

MAR 18 1994

C502

170.371 MHz

FIGURE 62



FFT (SFA1)
FFTSC 256 dB
Peak -97.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.359V
P10S3I 0.001A
M10S3V -10.564V
M10S3I 0.002A
P5S4V 5.116V
P5S4I 0.000A
P12S4V 12.369V
P12S4I 0.001A
M12S4V -12.487V
M12S4I 0.004A
P28S5V 32.439V
P28S5I 0.019A
P28S6V 27.884V
P28S6I 0.038A
P5S7V 5.092V
P5S7I 0.036A

--MON 030 ---
P5S7V 5.092V
P5S7I 0.036A
M5S7V -4.798V
M5S7I 0.050A
P12S7V 12.369V
P12S7I 0.010A
M12S7V -12.428V
M12S7I 0.007A
P5S8V 5.092V
P5S8I 0.125A
M5S8V -5.239V
M5S8I 0.112A
P10S8V 10.358V
P10S8I 0.033A
M10S8V -10.563V
M10S8I 0.027A

--MON 046 ---
P5S9V 5.092V
P5S9I 0.065A
P10S9V 10.359V
P10S9I 0.026A
M10S9V -10.564V
M10S9I 0.026A
P5S10V 5.116V
P5S10I 0.038A
M5S10V -5.263V
M5S10I 0.017A
P10S10V 10.358V
P10S10I 0.037A
M10S10V -10.564V
M10S10I 0.037A
P5S11V 5.092V
P5S11I 0.196A

---TEST-------
T0 4E5B
T1 1161
T2 4E5C
T3 1062
T4 505A
T5 395E
T6 5D64
T7 2863
T8 4C5C
T9 A062
T10 4E59
T11 6C63
T12 817B
T13 6B77
T14 8D98
T15 6A7A

--AP COUNTERS-
AP[020] 0
AP[021] 29696
AP[022] 0
AP[023] 0
AP[024] 0
AP[025] 0
AP[026] 0
AP[027] 0
AP[028] 0
AP[029] 0
AP[02A] 0
AP[02B] 0
AP[02C] 0
AP[02D] 0
AP[02E] 0
AP[02F] 0

--- MUE ----
HWSEC 0000131D
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 232
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 3
STEST AA5500
FDM 91002C
CCSAP 1080

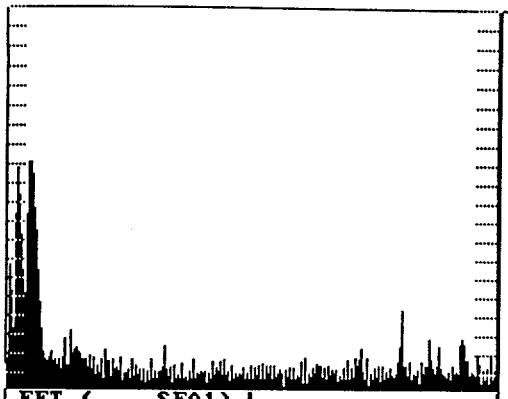
UPDRATE: 128
DATE: 03-17-94
GMT : 18:29:35

MAR 18 1994

CS02

180.934

FIGURE 63



FFT (SFA1)
FFTSC 256 dB
Peak -98.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.359V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.002A
P5S4V	5.092V
P5S4I	0.000A
P12S4V	12.369V
P12S4I	0.001A
M12S4V	-12.487V
M12S4I	0.004A
P28S5V	32.439V
P28S5I	0.019A
P28S6V	27.884V
P28S6I	0.038A
P5S7V	5.092V
P5S7I	0.036A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.036A
M5S7V	-4.798V
M5S7I	0.050A
P12S7V	12.369V
P12S7I	0.010A
M12S7V	-12.487V
M12S7I	0.007A
P5S8V	5.092V
P5S8I	0.125A
M5S8V	-5.239V
M5S8I	0.112A
P10S8V	10.358V
P10S8I	0.033A
M10S8V	-10.563V
M10S8I	0.026A

--MON 046 ---

P5S9V	5.092V
P5S9I	0.065A
P10S9V	10.359V
P10S9I	0.026A
M10S9V	-10.564V
M10S9I	0.026A
P5S10V	5.092V
P5S10I	0.038A
M5S10V	-5.263V
M5S10I	0.017A
P10S10V	10.358V
P10S10I	0.037A
M10S10V	-10.564V
M10S10I	0.037A
P5S11V	5.092V
P5S11I	0.196A

---TEST------

T0	0D0A
T1	0911
T2	1A16
T3	171A
T4	3C1B
T5	3934
T6	5D5B
T7	3E46
T8	3A46
T9	722E
T10	1F2B
T11	7021
T12	7F74
T13	7B75
T14	8D98
T15	837C

--AP COUNTERS-

AP[020]	0
AP[021]	25488
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	000010DE
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	1
RPSTATE	3
STEST	AA5500
FDM	91002C
CCSAP	1083

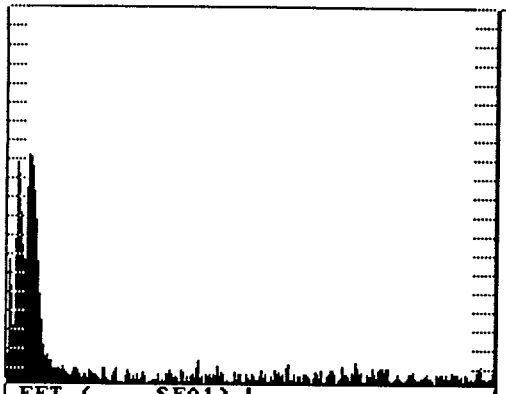
UPDRATE: 176 DATE: 03-17-94 GMT : 18:20:00

3-18-94

CS02

183.15 MHz

FIGURE 64



FFT (SFA1)
FFTSC 256 dB
Peak -99.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.359V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.001A
P5S4V	5.092V
P5S4I	0.000A
P12S4V	12.369V
P12S4I	0.001A
M12S4V	-12.487V
M12S4I	0.003A
P28S5V	32.301V
P28S5I	0.019A
P28S6V	27.884V
P28S6I	0.038A
P5S7V	5.092V
P5S7I	0.036A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.036A
M5S7V	-4.798V
M5S7I	0.050A
P12S7V	12.369V
P12S7I	0.010A
M12S7V	-12.428V
M12S7I	0.006A
P5S8V	5.092V
P5S8I	0.122A
M5S8V	-5.239V
M5S8I	0.110A
P10S8V	10.358V
P10S8I	0.033A
M10S8V	-10.563V
M10S8I	0.026A

--MON 046 ---

P5S9V	5.092V
P5S9I	0.065A
P10S9V	10.359V
P10S9I	0.026A
M10S9V	-10.512V
M10S9I	0.026A
P5S10V	5.092V
P5S10I	0.038A
M5S10V	-5.263V
M5S10I	0.017A
P10S10V	10.358V
P10S10I	0.036A
M10S10V	-10.512V
M10S10I	0.036A
P5S11V	5.092V
P5S11I	0.194A

---TEST------

T0	0608
T1	1406
T2	0F09
T3	0F0D
T4	3D16
T5	4137
T6	5C59
T7	4049
T8	3643
T9	A022
T10	1A29
T11	6D0C
T12	7668
T13	7770
T14	8D99
T15	737C

--AP COUNTERS-

AP[020]	0
AP[021]	17502
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	00000CBF
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	3
STEST	AA5500
FDM	91002C
CCSAP	1080

UPDRATE: 160

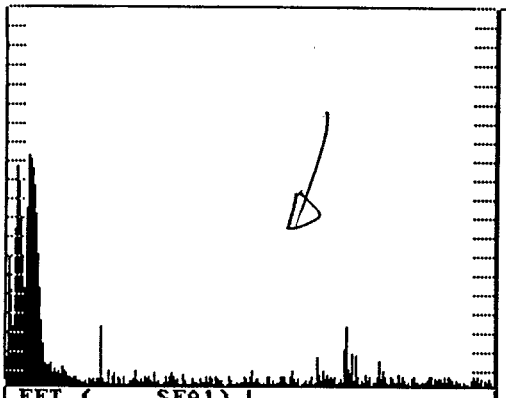
DATE: 03-17-94
GMT : 18:02:26

3-18-94

C902

200 MHz

FIGURE 65



FFT (SFA1)
FFTSC 256 dB
Peak -98.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.359V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.003A
P5S4V	5.092V
P5S4I	0.000A
P12S4V	12.369V
P12S4I	0.001A
M12S4V	-12.428V
M12S4I	0.004A
P28S5V	32.301V
P28S5I	0.019A
P28S6V	27.884V
P28S6I	0.036A
P5S7V	5.092V
P5S7I	0.036A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.036A
M5S7V	-4.774V
M5S7I	0.050A
P12S7V	12.369V
P12S7I	0.010A
M12S7V	-12.428V
M12S7I	0.007A
P5S8V	5.092V
P5S8I	0.122A
M5S8V	-5.239V
M5S8I	0.106A
P10S8V	10.358V
P10S8I	0.034A
M10S8V	-10.563V
M10S8I	0.026A

--MON 046 ---

P5S9V	5.092V
P5S9I	0.065A
P10S9V	10.359V
P10S9I	0.028A
M10S9V	-10.512V
M10S9I	0.028A
P5S10V	5.092V
P5S10I	0.038A
M5S10V	-5.239V
M5S10I	0.016A
P10S10V	10.358V
P10S10I	0.037A
M10S10V	-10.512V
M10S10I	0.037A
P5S11V	5.092V
P5S11I	0.192A

---TEST-------

T0	0809
T1	0A08
T2	0D02
T3	1208
T4	3E16
T5	3B35
T6	5D56
T7	3E46
T8	3643
T9	9B22
T10	1721
T11	670D
T12	8277
T13	6A76
T14	8D97
T15	697A

--AP COUNTERS-

AP[020]	0
AP[021]	14835
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE -----

HWSEC	00000B6B
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	96
RECCTR	106
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	1
STEST	AA5500
FDM	91002C
CCSAP	1080

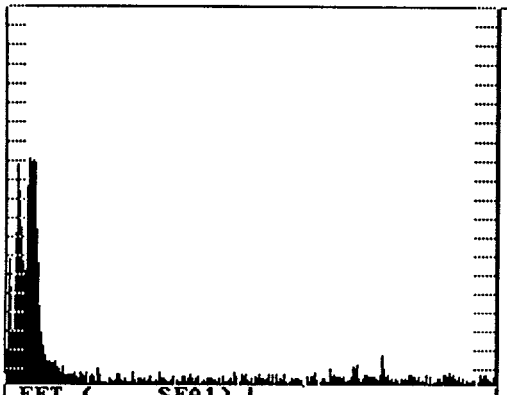
UPDRATE: 144
DATE: 03-17-94
GMT : 17:56:46

3-18-94

C502

249 mHz

FIGURE 66



FFT (SFA1)
FFTSC 256 dB
Peak -101.0 dB
Freq 0.0 Hz

--MON 016 ---

P10S3V	10.359V
P10S3I	0.001A
M10S3V	-10.564V
M10S3I	0.001A
P5S4V	5.092V
P5S4I	0.000A
P12S4V	12.369V
P12S4I	0.001A
M12S4V	-12.428V
M12S4I	0.003A
P28S5V	32.301V
P28S5I	0.019A
P28S6V	27.884V
P28S6I	0.038A
P5S7V	5.092V
P5S7I	0.035A

--MON 030 ---

P5S7V	5.092V
P5S7I	0.035A
M5S7V	-4.774V
M5S7I	0.050A
P12S7V	12.369V
P12S7I	0.010A
M12S7V	-12.428V
M12S7I	0.007A
P5S8V	5.092V
P5S8I	0.122A
M5S8V	-5.239V
M5S8I	0.110A
P10S8V	10.358V
P10S8I	0.033A
M10S8V	-10.563V
M10S8I	0.026A

--MON 046 ---

P5S9V	5.092V
P5S9I	0.065A
P10S9V	10.359V
P10S9I	0.026A
M10S9V	-10.512V
M10S9I	0.026A
P5S10V	5.092V
P5S10I	0.038A
M5S10V	-5.239V
M5S10I	0.017A
P10S10V	10.358V
P10S10I	0.036A
M10S10V	-10.512V
M10S10I	0.037A
P5S11V	5.092V
P5S11I	0.192A

---TEST-------

T0	0E04
T1	1C09
T2	0E06
T3	0C09
T4	4019
T5	3F3C
T6	5E59
T7	3B44
T8	3942
T9	9F22
T10	1D28
T11	630F
T12	7B6C
T13	7673
T14	8D98
T15	7C76

--AP COUNTERS-

AP[020]	0
AP[021]	13947
AP[022]	0
AP[023]	0
AP[024]	0
AP[025]	0
AP[026]	0
AP[027]	0
AP[028]	0
AP[029]	0
AP[02A]	0
AP[02B]	0
AP[02C]	0
AP[02D]	0
AP[02E]	0
AP[02F]	0

--- MUE ----

HWSEC	00000AF6
UTSEC	308E7D03
UTUSEC	0000
XMITR	OK
RECVR	OK
ERRCNT	0
XMTCTR	434
RECCTR	108
ENABLE	31
TMRATE	2
SPSTATE	0
RPSTATE	1
STEST	AA5500
FDM	91002C
CCSAP	1085

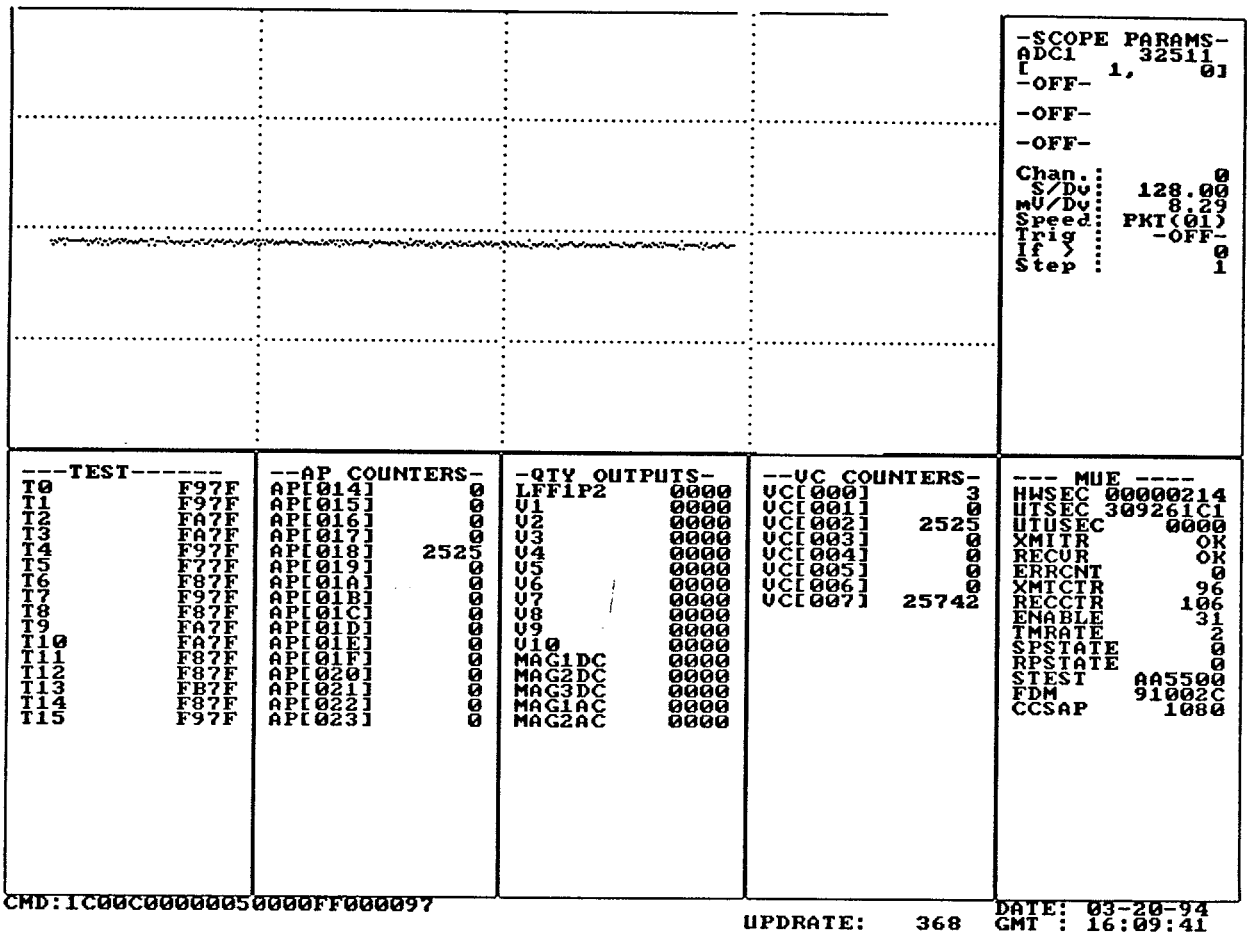
UPDRATE: 128

DATE: 03-17-94
GMT : 17:54:49

C502
300 mhz

3-18-94

FIGURE 67



21 Mar 94
C502
300 MHz

FIGURE 68

FFT ($FA1)
FFTSC 256 dB
Peak -104.0 dB
Freq 0.0 Hz

--MON 016 ---
P10S3V 10.359V
P10S3I 0.001A
M10S3V -10.564V
M10S3I 0.002A
P5S4V 5.092V
P5S4I 0.000A
P12S4V 12.369V
P12S4I 0.000A
M12S4V -12.428V
M12S4I 0.004A
P28S5V 32.301V
P28S5I 0.019A
P28S6V 27.884V
P28S6I 0.038A
P5S7V 5.092V
P5S7I 0.035A

--MON 030 ---
P5S7V 5.092V
P5S7I 0.035A
M5S7V -4.774V
M5S7I 0.050A
P12S7V 12.369V
P12S7I 0.010A
M12S7V -12.428V
M12S7I 0.006A
P5S8V 5.092V
P5S8I 0.122A
M5S8V -5.239V
M5S8I 0.110A
P10S8V 10.358V
P10S8I 0.033A
M10S8V -10.512V
M10S8I 0.026A

--MON 046 ---
P5S9V 5.092V
P5S9I 0.065A
P10S9V 10.359V
P10S9I 0.026A
M10S9V -10.564V
M10S9I 0.026A
P5S10V 5.092V
P5S10I 0.038A
M5S10V -5.239V
M5S10I 0.017A
P10S10V 10.358V
P10S10I 0.036A
M10S10V -10.512V
M10S10I 0.037A
P5S11V 5.043V
P5S11I 0.192A

---TEST------
T0 0E06
T1 0C03
T2 0905
T3 1307
T4 3914
T5 3F38
T6 5958
T7 3645
T8 3443
T9 9510
T10 2D33
T11 7615
T12 6E5A
T13 866E
T14 8C97
T15 7C7B

--AP COUNTERS-
API[020] 0
API[021] 10670
API[022] 0
API[023] 0
API[024] 0
API[025] 0
API[026] 0
API[027] 0
API[028] 0
API[029] 0
API[02A] 0
API[02B] 0
API[02C] 0
API[02D] 0
API[02E] 0
API[02F] 0

--- MUE ----
HWSEC 0000095D
UTSEC 308E7D03
UTUSEC 0000
XMITR OK
RECVR OK
ERRCNT 0
XMTCTR 232
RECCTR 106
ENABLE 31
TMRATE 2
SPSTATE 0
RPSTATE 0
STEST AA5500
FDM 91002C
CCSAP 1080

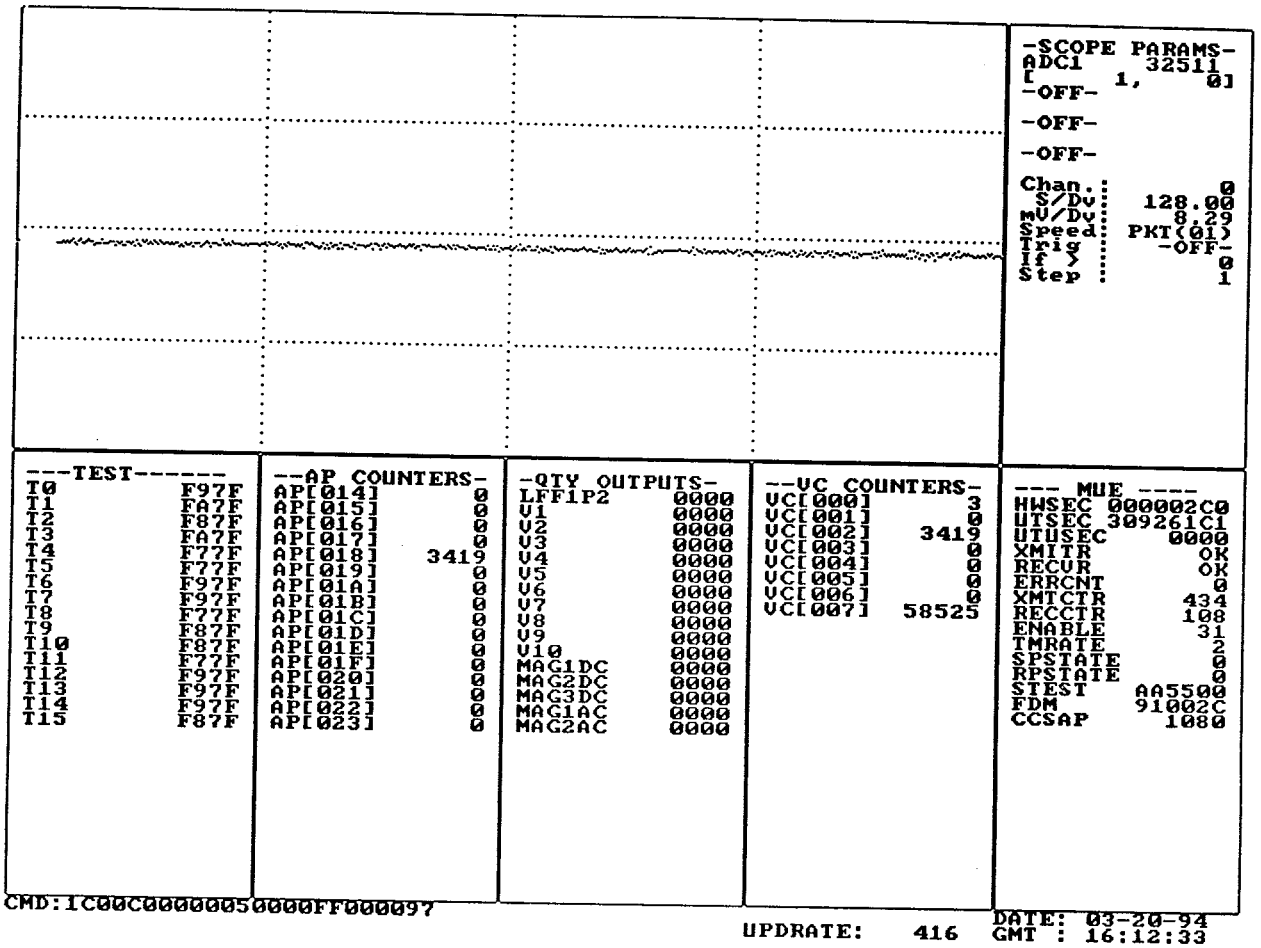
UPDRATE: 160
DATE: 03-17-94
GMT : 17:48:00

3-18-94

CSO2

400 mHz

FIGURE 69



C502

21 Mar 94

400 MHz

FIGURE 70

SUMMARY

This testing has shown the level of susceptability to EMC. In all three of the tests, particularly CS01, there was a measurable effect on the operation of the instrument. However spacecraft testing we have done indicates that the test levels greatly exceed input levels that exist on the power bus. Measurements of actual bus noise will be made during spacecraft EMC testing to provide further verification of this.

Susceptablity could be reduced by adding additional filtering to the IDPU power system. This would require substantial re-work which does not appear to be justified by the test results.