CM2125 CALIBRATION PROCEDURE

73P217	VGA/SVGA MONITOR		
73P22	FLUKE 5101 CALIBRATOR		
73P268	FLUKE	1722A	INST
73P410	FLUKE	8842A	DVM MULTIMET
73S216	O-SCOPE		60MHZ

1.0 Units must be warmed up for 20 minutes prior to calibration. (Check that the 300v LED flashes.) RECALL 1 ENTER MUST READ 18.4 KHZ - H IN UPPER LEFT DISPLAY. TURN UUT OFF THEN ON - MUST READ 18.4 KHZ - H AND COME ON IMMEDIATELY.

1.1 CHECK TO SEE THAT THE FAN IS WORKING.

1.2 Recall 9, enter.
Hook up monitor.

    1. Check that all video patterns are present and not distorted.
     Go to RASTER.

IEEE Buss Check

1.3   1. Plug in the RS232 cable.
       Follow the prompt on the screen.

Battery Check

1.4   1. Turn UTT off.
       2. Set the 5100 to +3VDC
         Set the DVM to DC Amps.
       3. Hook the negative lead of the 5100 to UUT ground.
       4. Hook the positive lead of the 5100 to ground on the DVM.
       5. Hook the positive lead of the DVM to the battery holder - positive clip.
       6. Place an insulator between the battery and its positive clip.
       7. Press OPR/standby on the 5100.
         The DVM should read less than 6nA.
       8. Remove the leads and insulator. Depress 1 key and turn UUT on.

DVM Calibration

2.0   1. Set the DIGITAL DISPLAY switch to EXT DCV.
       2. Inject -5 VDC into the EXT. DCV & VPP INPUT jacks.
2.1   3. Adjust R42 for a reading of -5.00 +/- .01 VDC.

GM1225 CALIBRATION PROCEDURE

TVGA SVGA MONITOR
HIDE SIDE CALIBRATOR

CHECK TO SEE THAT THE FAN IS WORKING

IEEE Bus Check

Battery Check

VM Calibration

4. Inject +5 VDC into the EXT. DCV & VPP INPUT jacks.

2.2
5. Adjust R39 for a reading of +5.00 +/- .01 VDC.
6. Repeat steps 2 - 5 until both readings are within the .01 volt tolerance.
7. Set the DIGITAL DISPLAY switch to EXT VPP.
8. Inject 10 VPP @ 1KHz sine wave into the EXT. DCV & VPP INPUT jacks. (Push 3.536V, enter, 1 k hz, enter)

2.3
9. Adjust C63 for a reading of 10.0 +/- .1 VPP. AT 1 KHZ
10. Inject 100 VPP @ 1KHz sine wave into the EXT. DCV & VPP INPUT jacks. (Push 35.36V, enter.)
11. Adjust C66 for a reading of 100 +/- 1 VPP
12. Inject 300 VPP @ 10 KHz sine wave into the EXT. DCV & VPP INPUT jacks. (Push 106.1V, enter.)

Set the 5100 to .7425V 1KHZ.

The 2125 display should read 2.1VPP +/- .2V.

Set the 5100 to 6.7185V 1 KHZ.

The 2125 display should read 19VP-P +/- .4V.

Set the 2125 to DCV.

Set the 5100 to 210VDC.

The 2125 display should read 210V +/- 3V.

Set the 5100 to 1KVDC.

The 2125 display should read 1000V +/- 7V.

Video Levels Calibration

Go back to DRIVE SIGNAL.
1. Connect a 75 ohm load to pins 1,2 & 3 of the SYNC AND VIDEO OUTPUT jack.
2. Recall storage location #7. (Recall 7, enter)

TURN UNIT OVER

3. Set the VIDEO PATTERN switch to RASTER.
4. Connect the SC61 to TP14 (pin 7 of IC68) on VIDEO BOARD. Gd to TP21.

4.0
5. Adjust R45 for reading of .714 +/- .025 (.689 to .739) (7 DIV) (high) V/D to .1 adj. for 7 DIV. on the CRT.
6. Connect the SC61 to TP13.

4.1
7. Adjust R46 for reading of .714 +/- .025 VPP.
8. Connect the SC61 to TP12.

4.2
9. Adjust R47 for reading of .714 +/- .025 VPP.
10. Set the VIDEO PATTERN switch to STAIRCASE.
11. Connect the SC61 TP14.

4.3
12. Adjust R72 for reading of .714 +/- .025 VPP.
13. Connect the SC61 Tp13.

4.4
14. Adjust R74 for reading of .714 +/- .025 VPP.
15. Set the VIDEO PATTERN switch to RASTER.

4. Inject 5 VDC into the EXT LOV & VPP INPUT jacks

5. Adjust R96 for a reading of VS = 04 +/- .01 VDC

6. Repeat step 4-5 until both readings are within the spec't tolerance

7. Set the 'DIGITAL PANEL' function to V4 VDC

8. Inject 10 VPP (pulse) and measure the EXT LOV & VPP INPUT jacks

9. Adjust C6? for a reading of such that ... VPP AT 1 KHZ

10. Inject 100 VPP @ 1 KHZ sine wave into the EXT LOV & VPP INPUT jacks

11. Adjust C6? for a reading of 100 +/- 1 VPP

12. Inject 300 V @ 1 KHZ sine wave into the EXT LOV & VPP INPUT jacks

Set the S100 to 3.35V 1KHZ.
The 3135 display should read 3.1V P-P +/- .2V
Set the S100 to 6.718 V 1 KHZ.
The 3135 display should read 19VP-P +/- .1V
Set the 312C to .5C.
Set the S100 to 10VDC
The 3135 display should read 210V +/- .1V
Set the S10? to 1KVDC
The 3135 display should read 1000V +/- .1V

Video Level Calibration

Go back to DIGITAL SIGNAL

1. Connect a 75 ohm load to pins 1,2,4,5 of the SYNC AND VIDEO OUTPUT jack

2. Recall storage location H. (Recall, 7, enter)

TURN UNIT OVER

1. Set the VIDEO/PATTERN switch to RASTER
2. Connect the SC61 to TP14 (pin 7 or pin 9) on VIDEO BOARD G&C TP21
3. Adjust AV for a reading of 2.0V +/- .02V (489 to 739)
(V D/V) (high) VB to 1 and/or 7D1 ... on the CRT.
4. Connect the SC61 to TP13
5. Adjust R46 for a reading of 714 +/- .2V VPP
6. Connect the SC61 to TP12
7. Adjust R17 for reading of 714 +/- .02 VPP
8. Set the VIDEO PA/TERN switch to STAIRCASE
9. Conduct the CO-L1DH
10. Adjust RV2 for reading of 714 +/- .075 VPP
11. Connect the SC61 TP12
12. Adjust R24 for a reading of 714 +/- .025 VPP
13. Set the VIDEO/PATTERN switch to RASTER.

4.5 16. Enable sync on all three guns by pressing the R, G & B SYNC ADDER buttons. (LED'S on)

  17. Connect the SC61 to TP13.

4.6 18. Adjust R77 for reading of -.286 V. +/- .025.

  19. Connect the SC61 to TP14.

4.7 20. Adjust R79 for reading of -.286 V. +/- .025.

  21. Connect the SC61 to TP12.

4.8 22. Adjust R76 for reading of -.286 V. +/- .025.

  23. Set the VIDEO PATTERN switch to STAIRCASE.

  24. Connect the SC61 to TP13.

4.9 25. Adjust R78 for reading of -.286 V. +/- .025.

Drive Signal Levels Calibration

  1. Set the DRIVE SIGNAL switch to H DRIVE.

  2. Connect SC61 to TP1. Set timebase to 5uS

4.10 3. Adjust R25 for a reading of 1.00 +/- .05 VPP. (5 DIV high at 0.2 V/D AC)

  4. Set the DRIVE SIGNAL switch to V DRIVE. Set the timebase to 2mS.

4.11 5. Adjust R19 so the bottom portion (square wave) of the signal is .500 +/- .025 VPP. (5 1/2 DIV high when set at .1 V/D.)

4.12 6. Adjust R26 so the top portion (ramp) of the signal is .500 +/- .025 VPP.

Drive Board Calibration

  1. Turn R55 fully CCW.

  2. Turn the DRIVE LEVEL control to the center detent.

  SC61 grd to TP1.

  3. Connect the SC61 to TP7 and measure the DC voltage.

  4. Connect the SC61 to TP8.

5.0 5. Adjust R56 for the voltage measured in step 3.

  6. Set the DRIVE SIGNAL switch to H DRIVE.

  7. Set the DRIVE RANGE switch to 3VPP.

  8. Put 100 ohm load on Drive Output and connect SC61 to load.

  9. Turn the DRIVE LEVEL control fully CCW.

5.1 10. Adjust R3 for a reading of 3.0 VPP on the Scope CRT. Check all other Drive signals to see if they are present. Set the DRIVE SIGNAL back to H drive.

  11. Set the DRIVE RANGE to 30. Turn the DRIVE LEVEL to + on the horizontal drive. Measure the Drive Signal on the Scope CRT. Adjust C64 on the DVM board so the CM2125 meter reads 1 count higher than the reading on the Scope CRT.

  12. Put on 10K load on DRIVE OUTPUT and connect the SC61 to the load.

  13. Set the DRIVE RANGE to 300 VPP. Set the Drive Signal to Video, Video Pattern to Raster, Drive Level to + side.

5.2 14. Adjust R55 for a reading of 330-340 Vpp on the Scope CRT.

5.3 14A. Set the Drive Signal to H. Drive. Press H. Freq.. 250, enter. The Drive signal
should read greater than 250 Vpp on the Scope CRT +/- side.
Recal R55 if necessary.
TURN DRIVE LEVEL TO CENTER POSITION.
Digital display should read between 0 VPP to 10 VPP.

5.5   15. Tip the unit up so you can see the back of the FRONT PANEL BOARD. To
the left of the VIDEO PATTERN SWITCH is a 3-pin connector, hook the
scope to the left pin and adjust for 160VPP +/- 1VPP.