

## The Specification sheet for HEIM-4135-MSLM1

## &lt;Overview&gt;

This equipment is a multi-output high voltage power supply for MSLM. It responds to a high speed pulse. And also, the Vd output is a high voltage power supply of high speed responding linear motion. The output voltage is controlled by an external controlling signal.

## &lt;Specification&gt;

Input voltage:AC100V±10%

output signal	The range of output voltage	Max output Current (Used Current)	Output controlling method	Remote On/Off	Note
V <sub>i</sub>	0~-4kV	100uA	Potention meter	ALL On/Off	Setting on the back panel
V <sub>G1</sub>	Voltage divided	-----	Volume		Setting on the back panel
V <sub>G2</sub>	Voltage divided	-----	Volume		Setting on the back panel
V <sub>M</sub> (MCP)	0~-1.2kV	500uA	External Input voltage 0~10V	ALL On/Off Vmcp On/Off	Pulse movement, Response time>1ms
V <sub>C</sub> (Mesh)	0~3kV	50uA	External Input voltage 0~10V	ALL On/Off	With IC monitor
V <sub>b</sub> (Crystal)	0~5kV	50uA	External Input voltage 0~10V		Power supply for a linear motion Response time>1ms Output linearity>1% (50%-100%output)

- ※ Output cable is 5-meter long
- ※ Ripple is 0.01% (except Vmcp and Vb)

## ※ Voltage/Current monitor

- V<sub>i</sub> measure the voltage of high voltage side →display PM
- It monitors V<sub>c</sub> output current ic. (Output 0-10uA, monitoring voltage 0-10V)
- If IC exceed more than 20uA, High voltage will all off.
- When the position of the rotary switch of output voltage is V<sub>m</sub> and also the switch of All on/off is on, it display the output voltage before output, despite Vmcp is on or off.
- V<sub>c</sub> and V<sub>b</sub> always monitor low voltage side.

SUPERSEDED SHEET

**ENGINEERING INSTRUCTION**

EI NO.  
 PAGE  
 DATE

EI NO.  
 PAGE 2  
 DATE 60.11.10

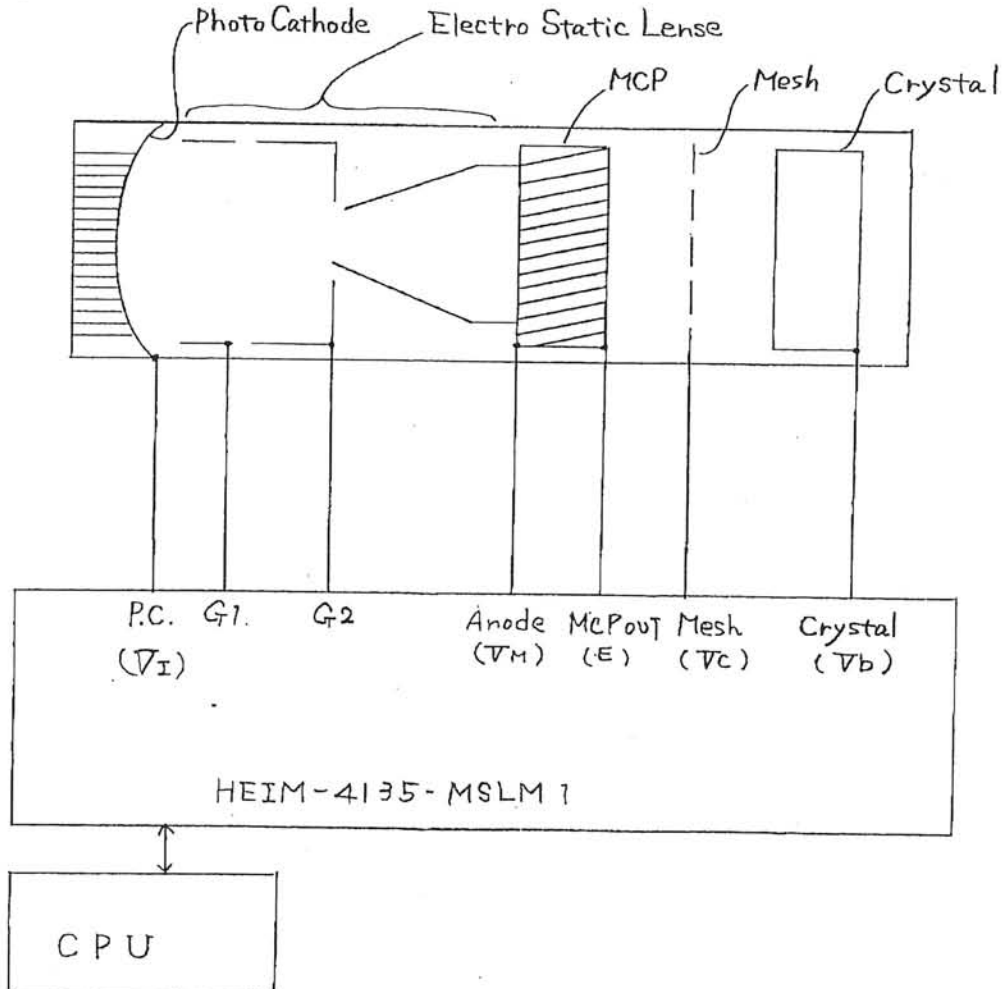
USED FOR			DISTRIBUTED FOR		
REVISION	DATE	DEPT. NAME	REVISION	DATE	DEPT. NAME
0 NEW	60.11.10	松田			

ADDRESS

MODEL

SUBJECT \_\_\_\_\_

<Block diagram>



SUPERSEDED SHEET

**ENGINEERING INSTRUCTION**

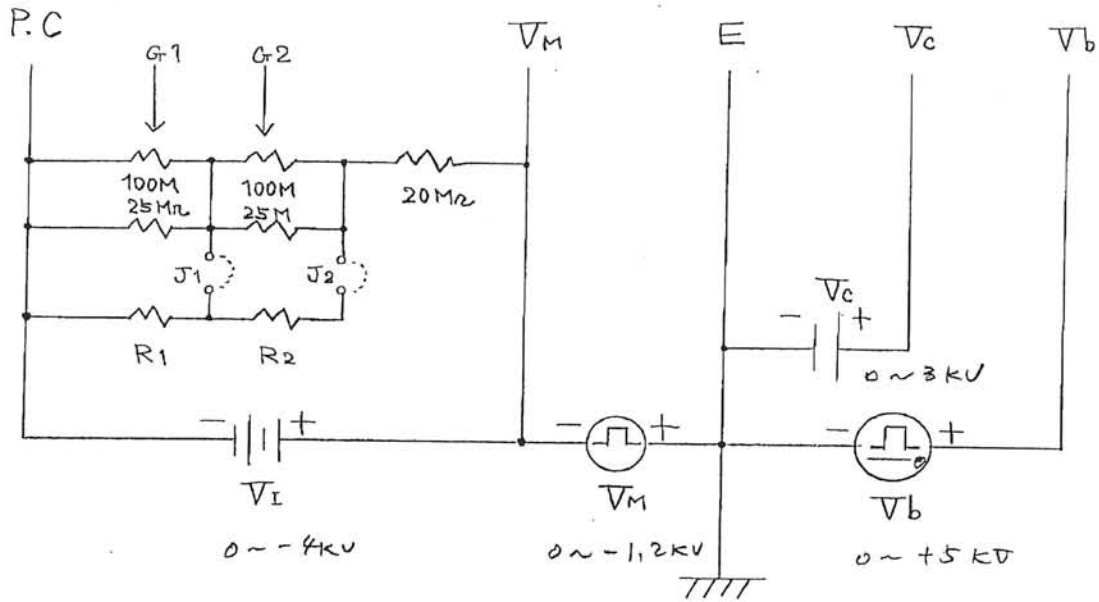
EI NO.  
 PAGE  
 DATE

EI NO.  
 PAGE 3  
 DATE 06.11.10.

D		REVISION	DATE	DEPT. NAME	DISTRIBUTED FOR		REVISION	DATE	DEPT. NAME
0	NEW		06.11.10	松田					
ADDRESS		MODEL							

SUBJECT \_\_\_\_\_

<Block diagram 2>



$$R_1 = 1.05 \text{ M}\Omega \pm 1\%$$

$$R_2 = 16.36 \text{ M}\Omega \pm 1\%$$

	P.C output voltage	G1 output voltage	G2 output voltage
J <sub>1</sub> , J <sub>2</sub> ON	3.0 kV	3.0 ~ 2.0 kV	2.0 ~ 1.0 kV
J <sub>1</sub> , J <sub>2</sub> OFF	3.0 kV	3.0 ~ 2.9 kV	2.9 ~ 2.0 kV

\*

The range of variable output voltage of G1 and G2 should have met above condition

SUPERSEDED SHEET

ENGINEERING INSTRUCTION

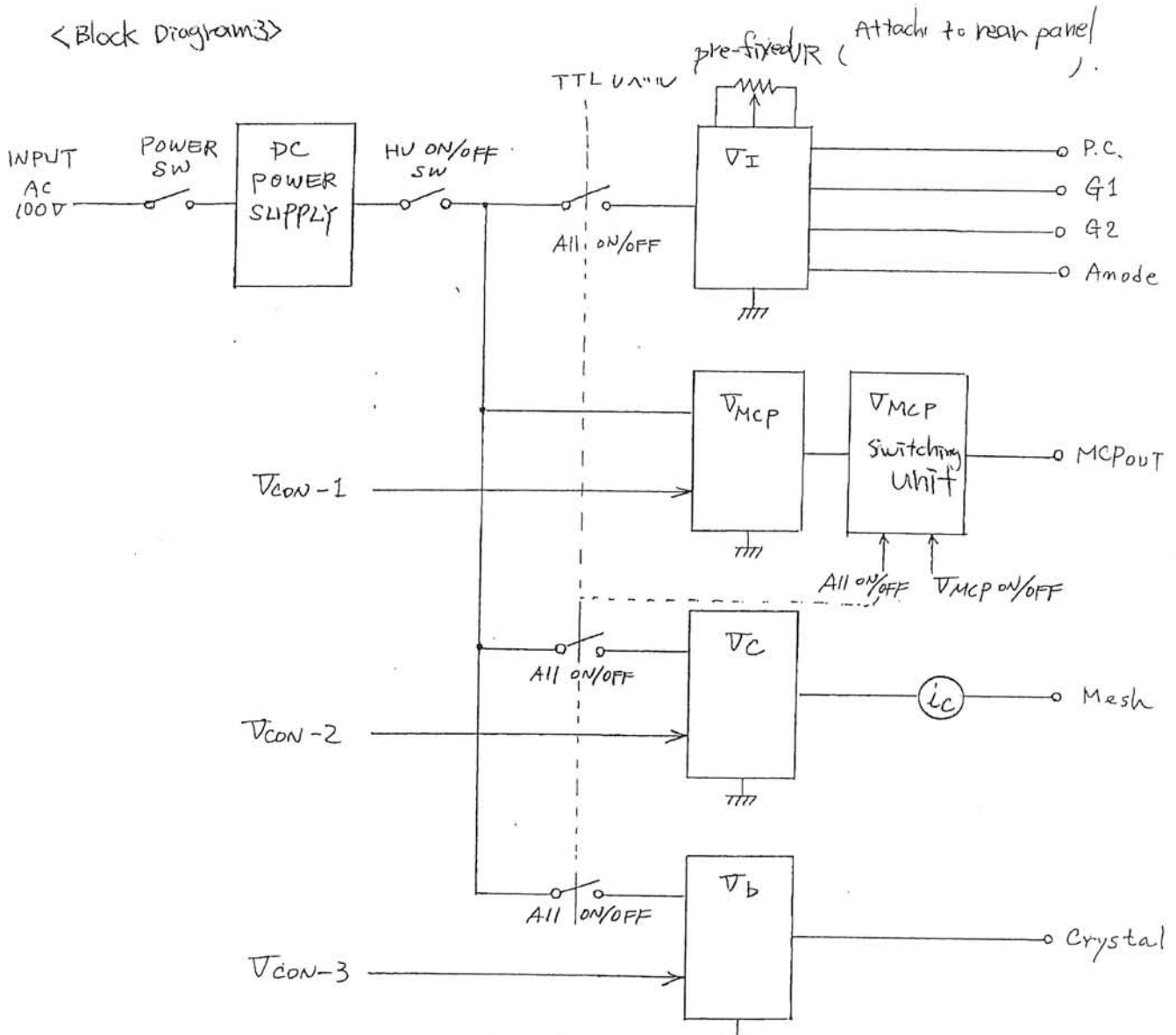
EI NO.  
PAGE  
DATE

EI NO.  
PAGE 4  
DATE 60.11.20

REVISION	DATE	DEPT. NAME	REVISION	DATE	DEPT. NAME
0	60.11.10	工務部			
0	NEW				

SUBJECT \_\_\_\_\_

<Block Diagram3>



- \* Variable resistance is located at back panel which is pre-fixed.
- \* Only when All on/off switch is all on, it is able to turn on HV on/off switch.
- \* Only when Both All on/off and Vmcp on/off are on, Vmcp switching unit output voltage, and the other time will be off.
- \* When HV on/off switch is off, without seeing the condition of All on/off, it will be All off.

If The protection circuit activates, HV on/off switch will turn off and shut down all the function.

Matsusada Precision Devices Inc.

SUPERSEDED SHEET

**Mc ENGINEERING INSTRUCTION**

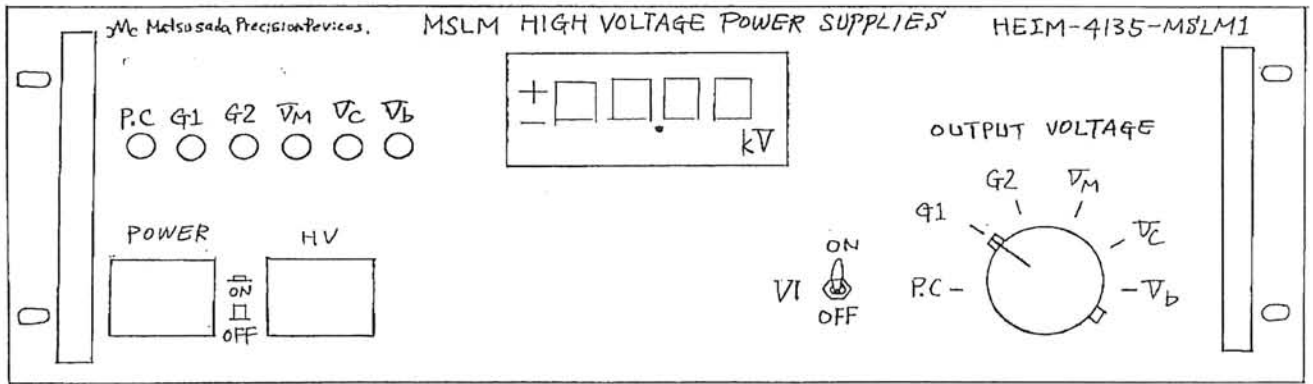
EI NO.  
 PAGE  
 DATE

EI NO.  
 PAGE 5  
 DATE 60.11.10.

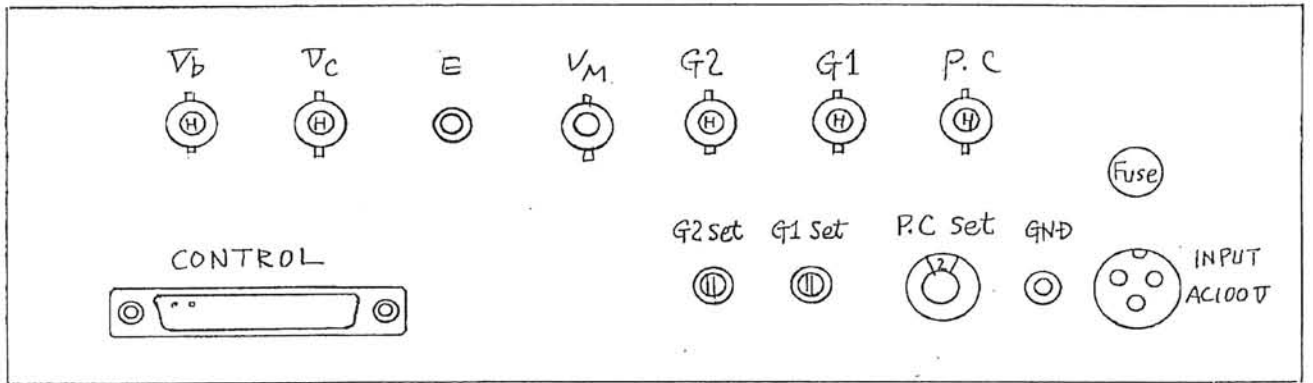
REVISION	DATE	DEPT. NAME	REVISION	DATE	DEPT. NAME
0 NEW	60.11.10	松岡			
1 EとVMの位置変更	61.6.4	松岡			
2 V1 ON/OFF スイッチ追加	62.10.21	松岡			

SUBJECT \_\_\_\_\_

< Front panel / rear panel >



150H x 430D x 482W



BNC - HV receptacle

SUPERSEDED SHEET

**ENGINEERING INSTRUCTION**

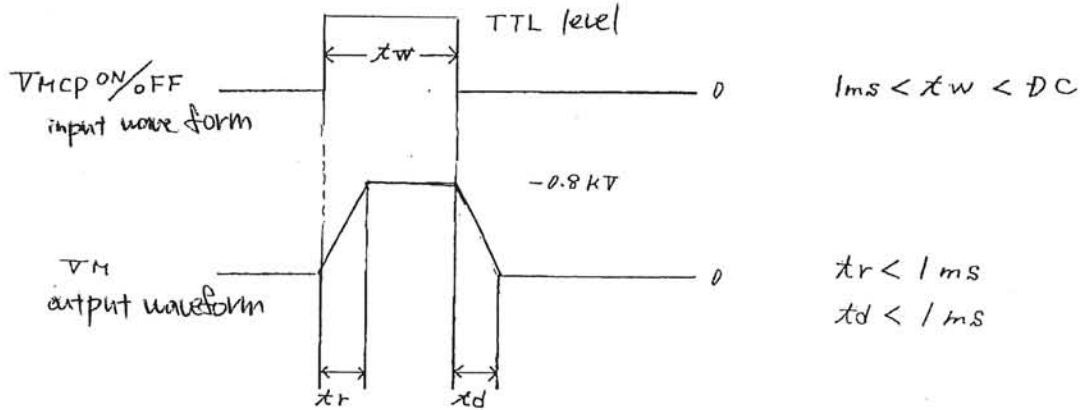
EI NO.  
 PAGE  
 DATE

EI NO.  
 PAGE 6  
 DATE 60.11.10.

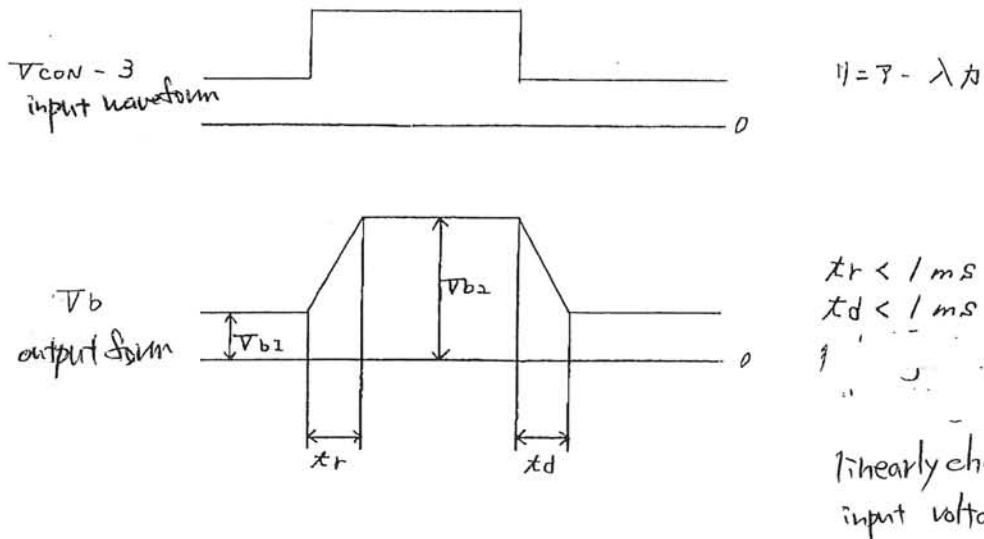
REVISION		DATE	DEPT. NAME	REVISION		DATE	DEPT. NAME
0	NEW	60.11.10	松定				
ADDRESS		MODEL					

SUBJECT \_\_\_\_\_

<  $V_M$  input/output wave form >



<  $V_b$  input/output wave form >



**ENGINEERING INSTRUCTION**

SUPERSEDED SHEET

EI NO.  
 PAGE  
 DATE

EI NO.  
 PAGE 7  
 DATE 60.11.10.

USED FOR

DISTRIBUTED FOR

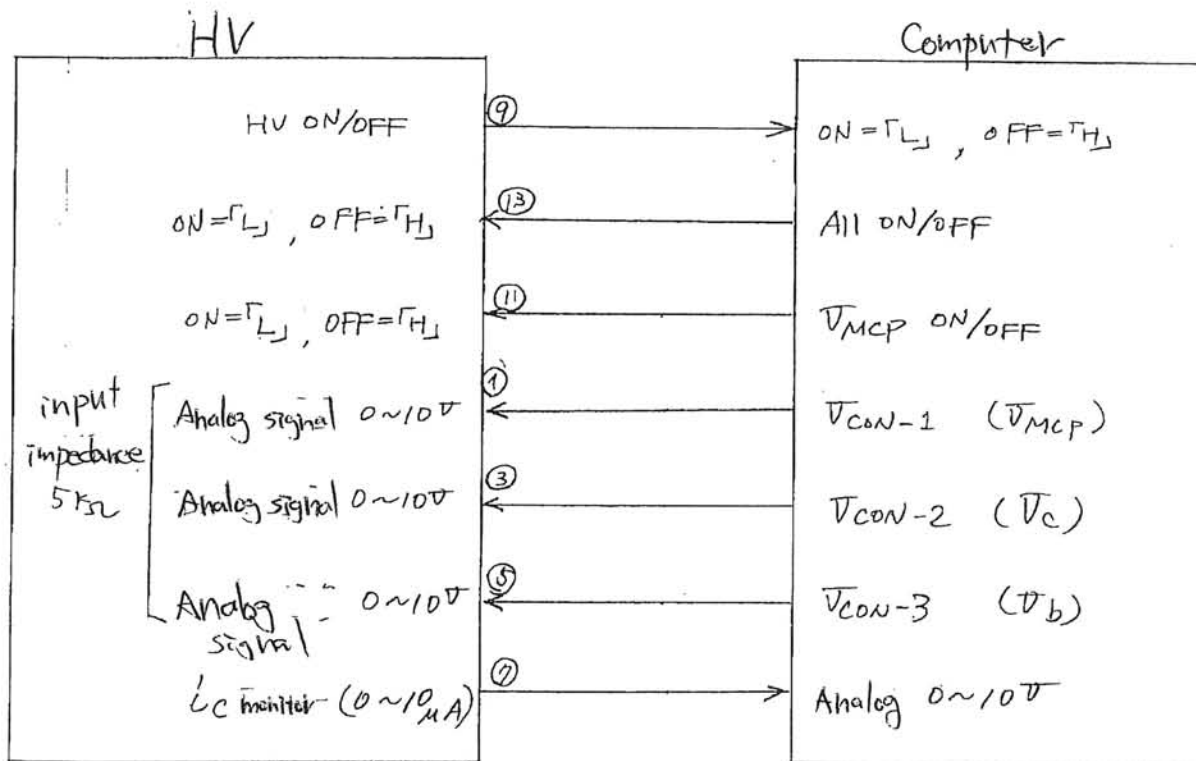
REVISION	DATE	DEPT. NAME	REVISION	DATE	DEPT. NAME
0 NEW	60.11.10	TKB			

ADDRESS

MODEL

SUBJECT

explanation of HV and  
 external input signal



**ENGINEERING INSTRUCTION**

SUPERSEDED SHEET

EI NO.  
 PAGE  
 DATE

EI NO.  
 PAGE 8  
 DATE 80.11.10

USED FOR

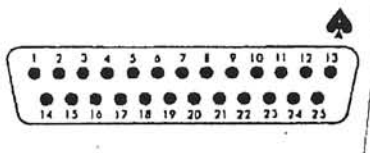
DISTRIBUTED FOR

REVISION	DATE	DEPT. NAME	REVISION	DATE	DEPT. NAME
0 NEW	80.11.10	松田			

ADDRESS MODEL

SUBJECT \_\_\_\_\_

< CONTROL connector . . . >



D-Sub Series CONNECTOR  
 shell size B  
 pin# 25 pins  
 screw lock type

PIN NO.

- |                               |           |        |               |
|-------------------------------|-----------|--------|---------------|
| 1.                            | VCON - 1  | (VMCP) | input         |
| 3.                            | VCON - 2  | (Vc)   | input         |
| 5.                            | VCON - 3  | (Vb)   | input         |
| 7.                            | LC-E=7-出力 |        |               |
| 9.                            | HV        | ON/OFF | Status output |
| 11.                           | VMCP      | ON/OFF | input         |
| 13.                           | All       | ON/OFF | input         |
| 2, 4, 6, 8, 10, 12, . . . . . |           |        | NC            |
| 14 ~ 25 . . . . .             |           |        | GN            |