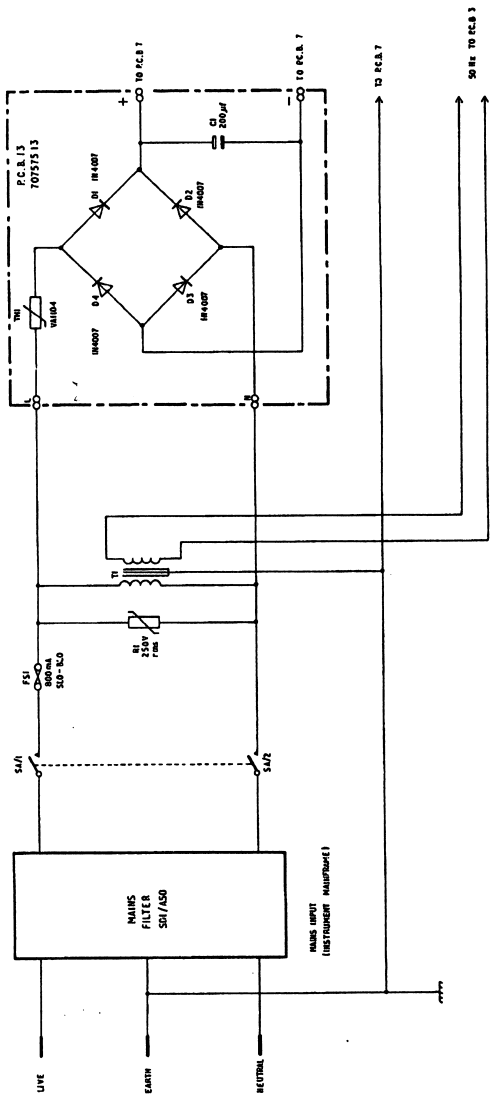
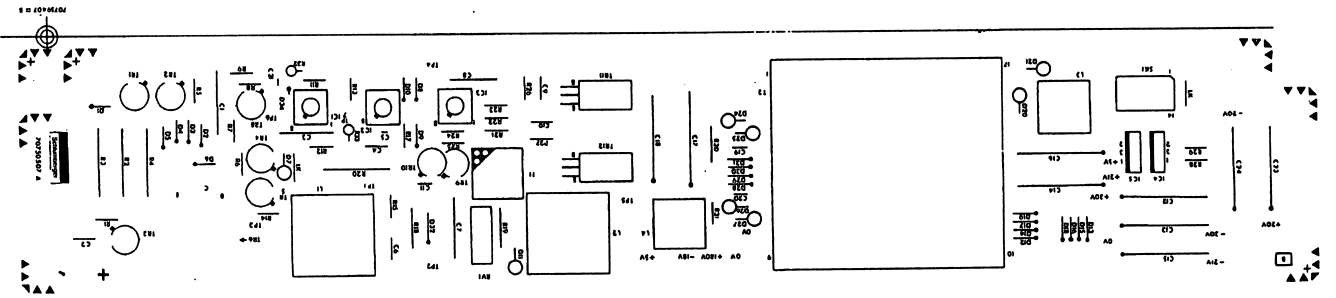
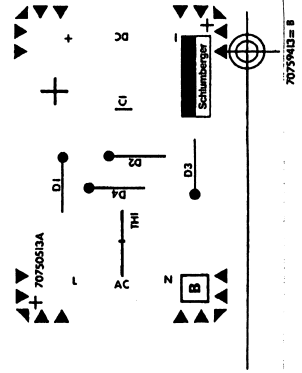


Floating Logic Diag 6.10 pcb 6 (sheet 2)

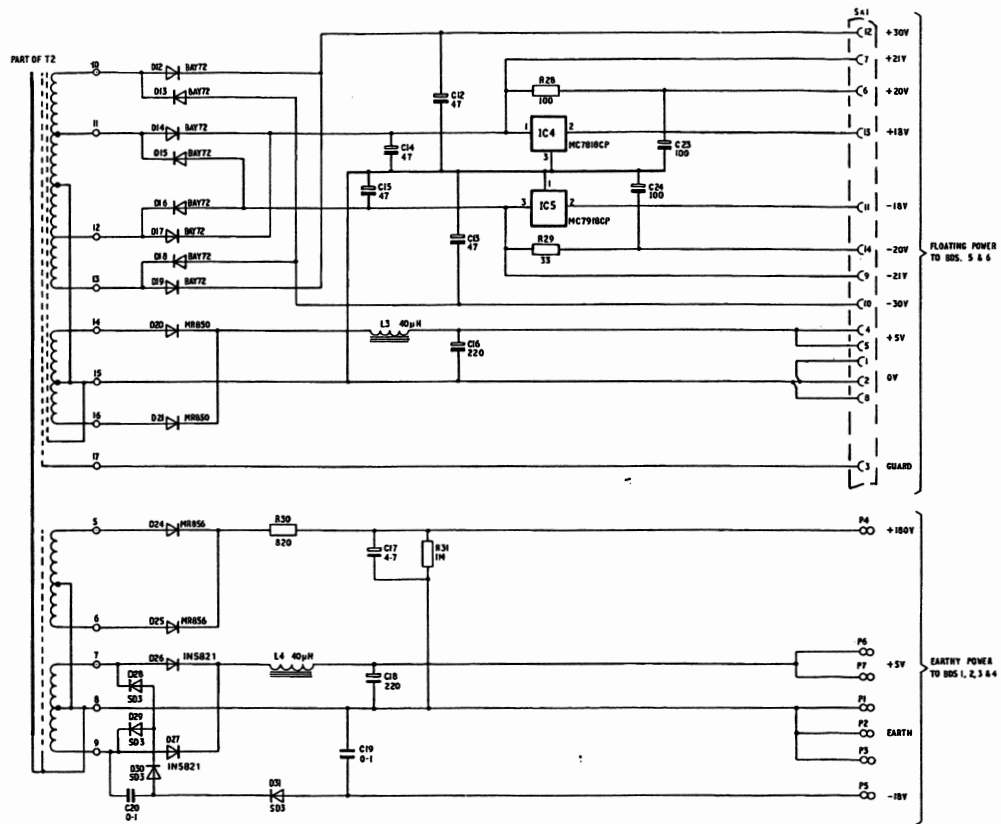
PCB 7 Notations



Mainframe Diag. 6.11



PCB 13 Notations



RECTIFICATION (Diag. 6.13)

T2 secondary windings provide the rectifier current required to power the various dc rails used within the voltmeter.

IC4, IC5 are used to regulate the floating positive/negative 18V rails.

D27 to D30 act in a voltage trebler circuit from the earthy +5V winding to give a nominal -18V on P5. This rail supplies the keep-alive electrode of the display tubes.

The anodes of the display elements are fed with +180V, output on P4.

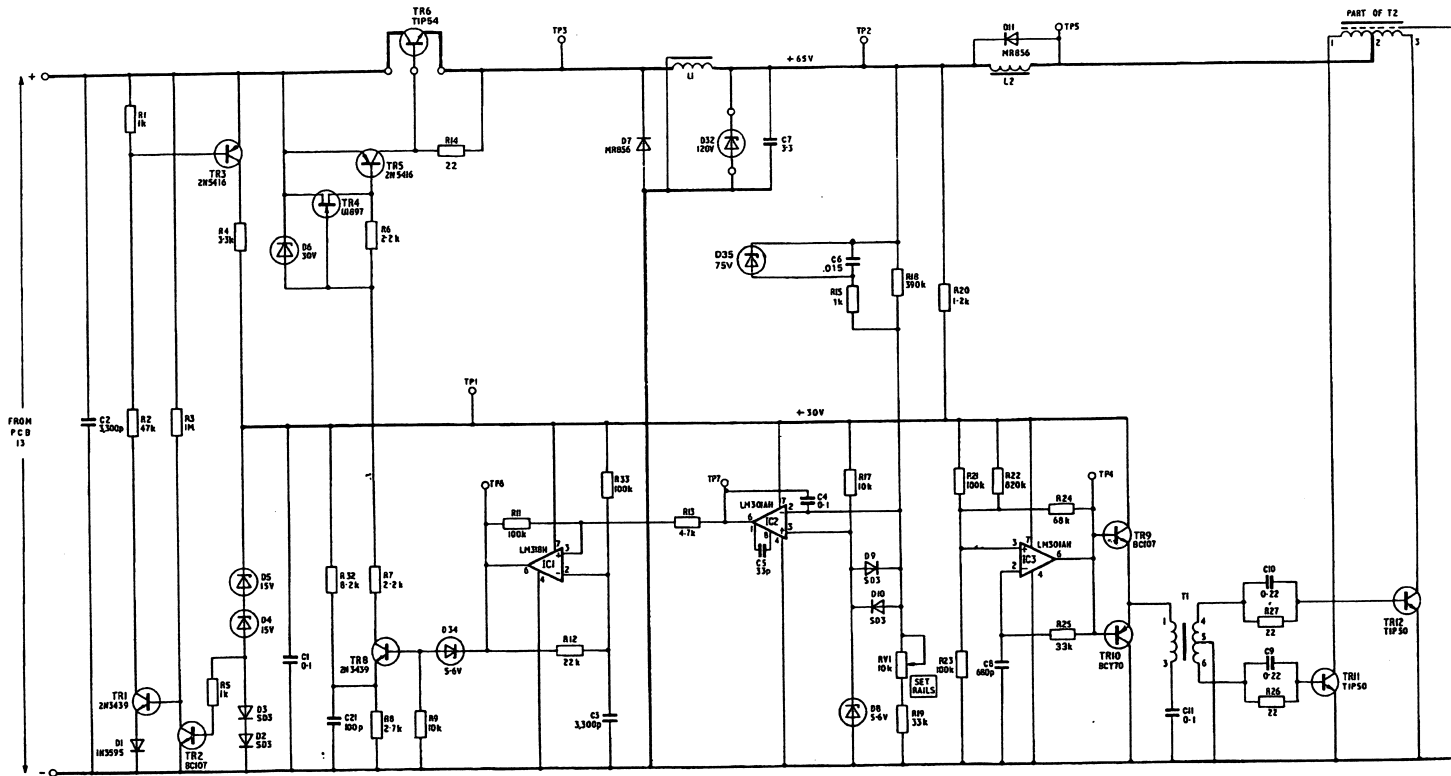
Note that terminal 17 of transformer T2 is at Guard potential and should NOT be connected to 0V, nor to Supply Earth.

WARNING – FLOATING SUPPLIES

For safety always use an isolating transformer.

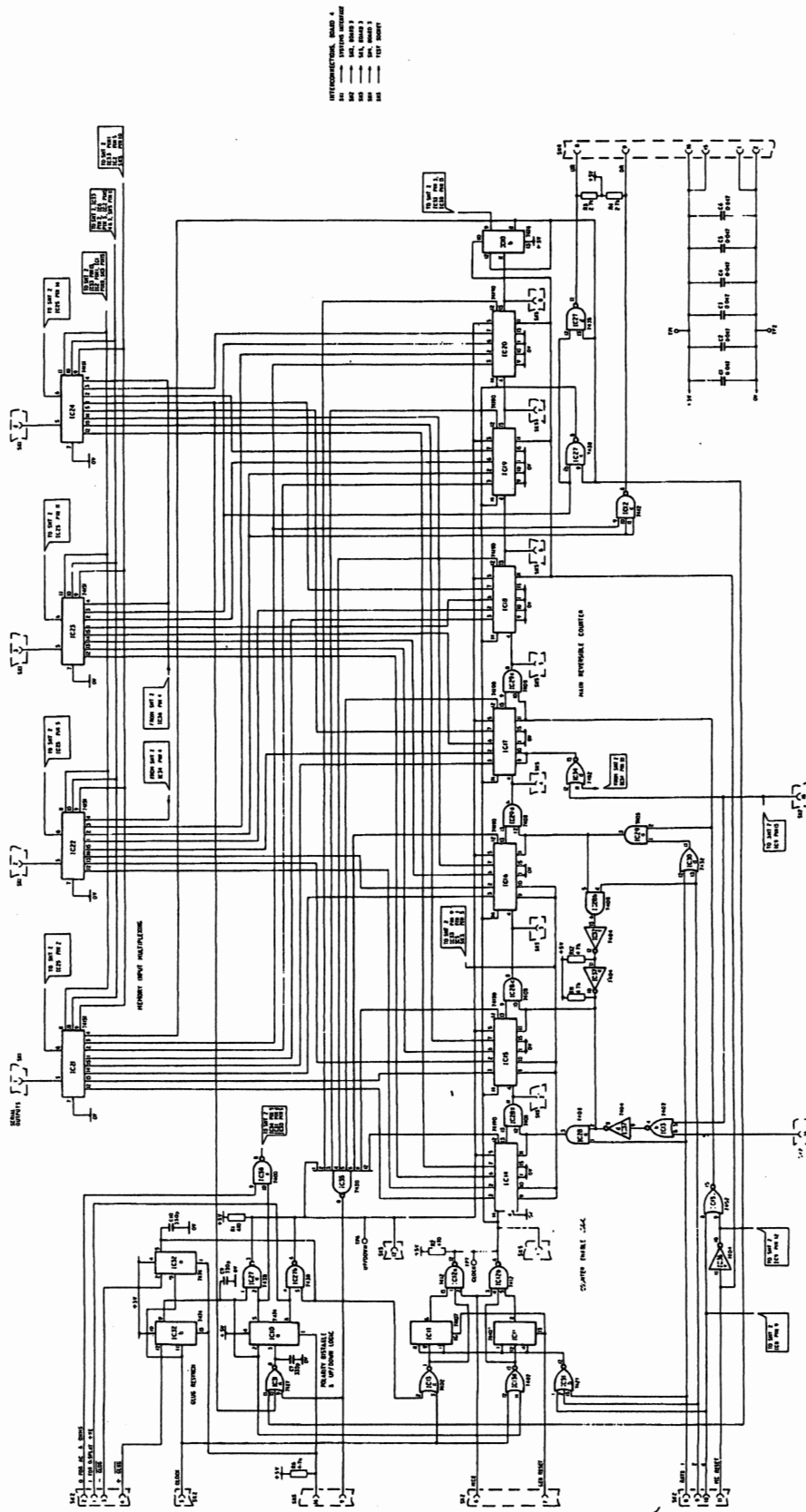
← Diag. 6.13

Rectification Diag. 6.13 pcb 7 (sheet 2)

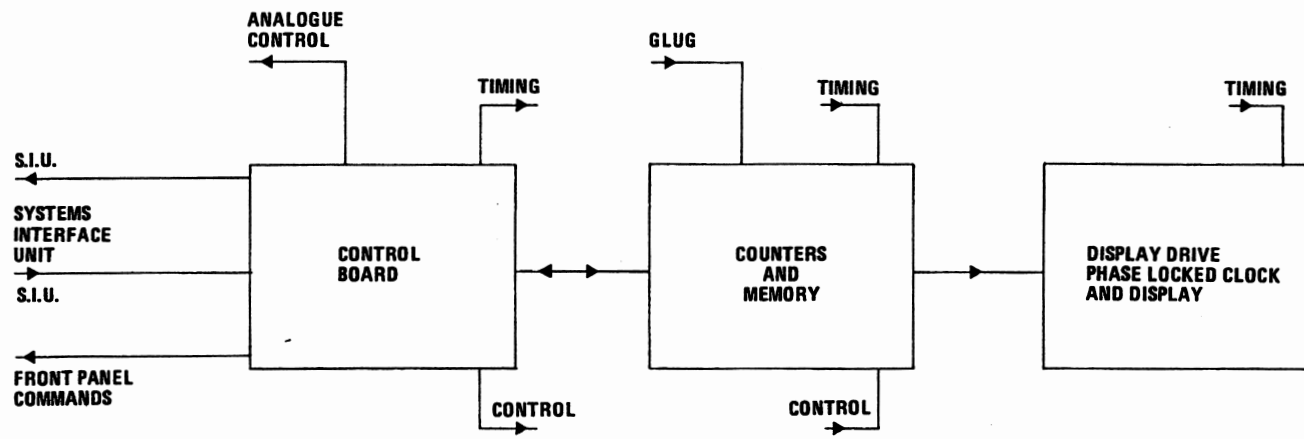


NOTE :- IF T1 SPEC No. IS 309408701
 R26 AND R27 SHOULD BE 22Ω (1720122001)
 IF T1 SPEC No. IS 309408701
 R26 AND R27 SHOULD BE 10Ω (1720110001)

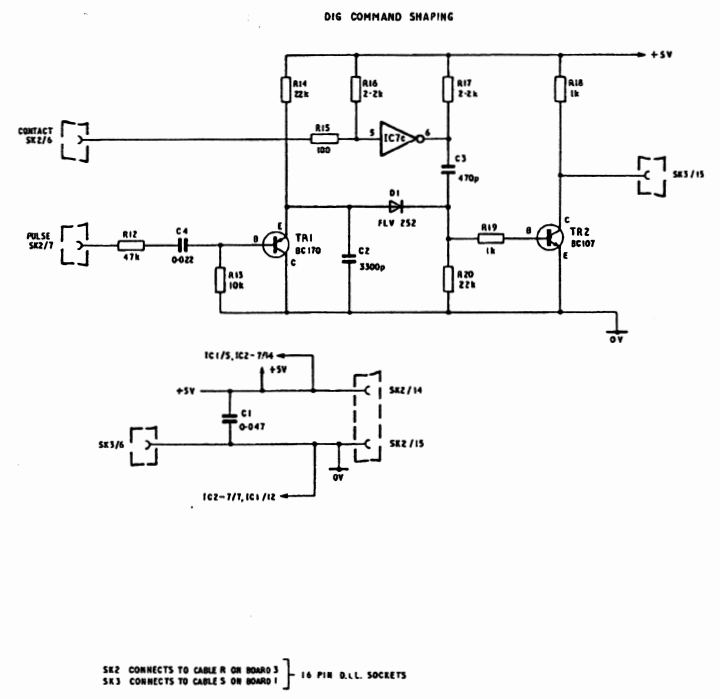
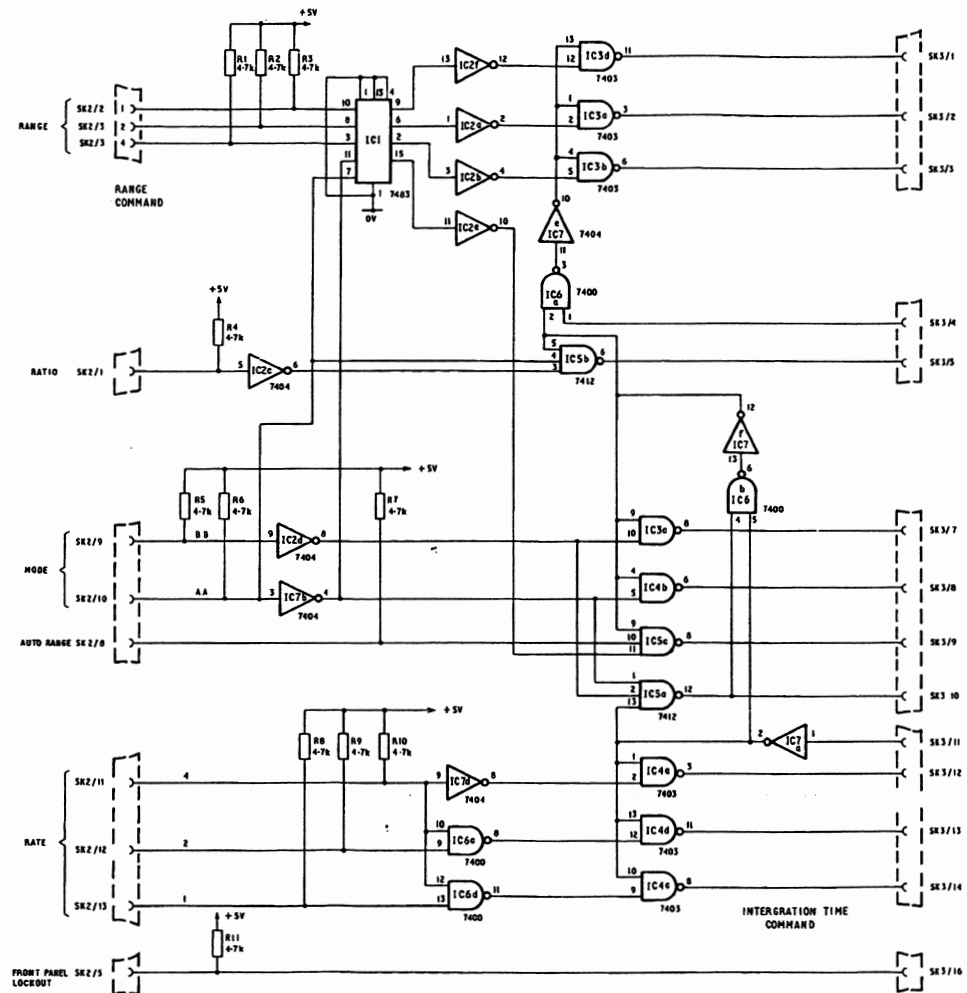
Power Supply Diag. 6.12 pcb 7 (sheet 1)

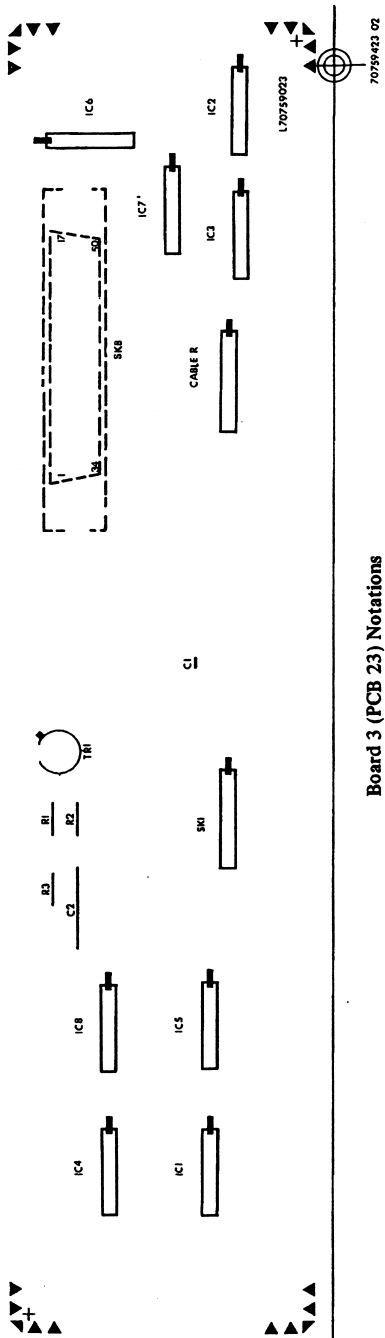


Counters and Memory Diag. 6.15 pcb 4 (sheet 2)



Block Schematic Diag. 6.14





Board 3 Diag 9.3

Input Commands on SKB are passed directly to board 2 via cable R.

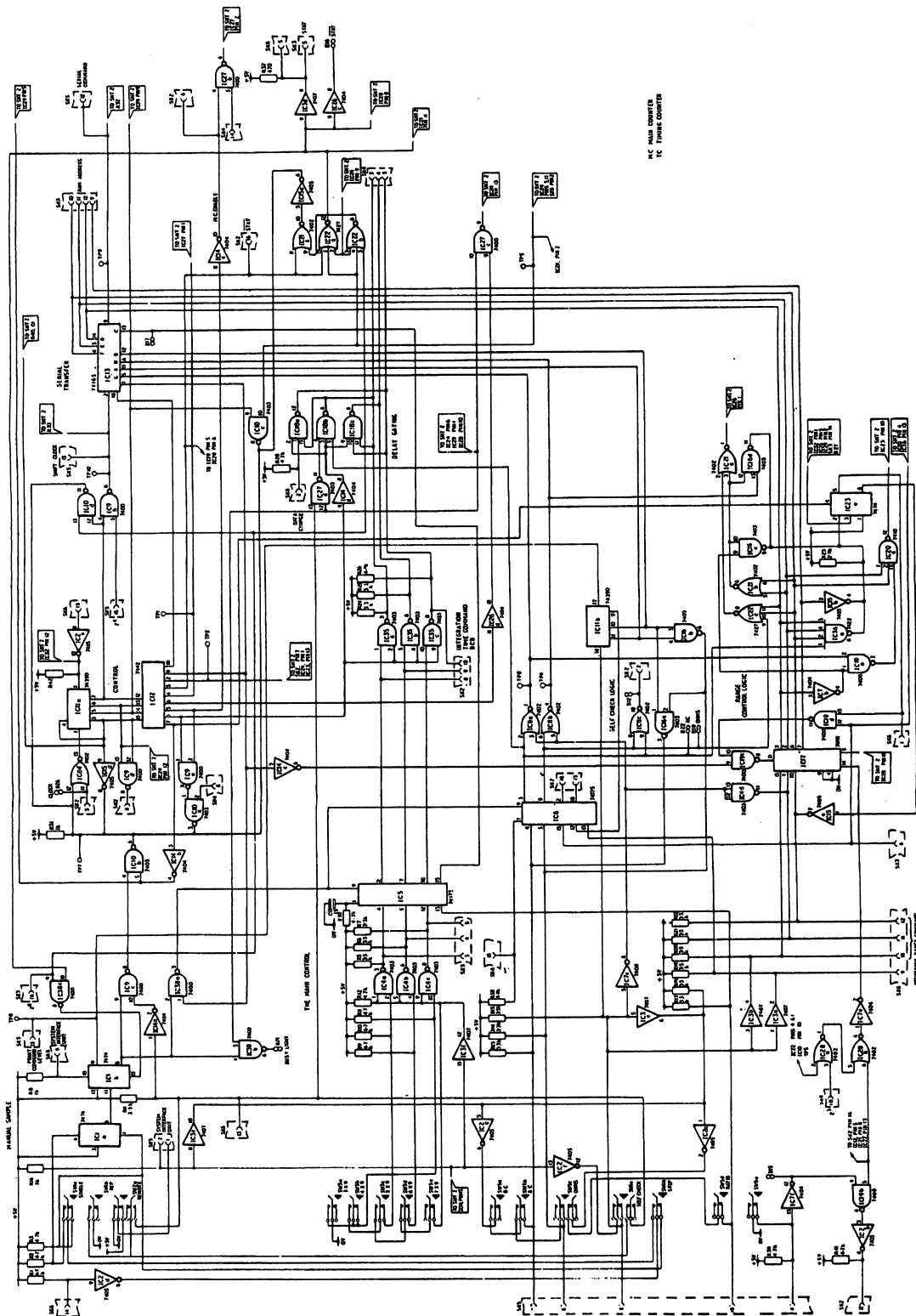
Output information from board 1 is applied directly to SKB.

A PRINT COMMAND PULSE of $12\mu\text{s}$ duration is produced by TRI when DATA CAN CHANGE goes low.

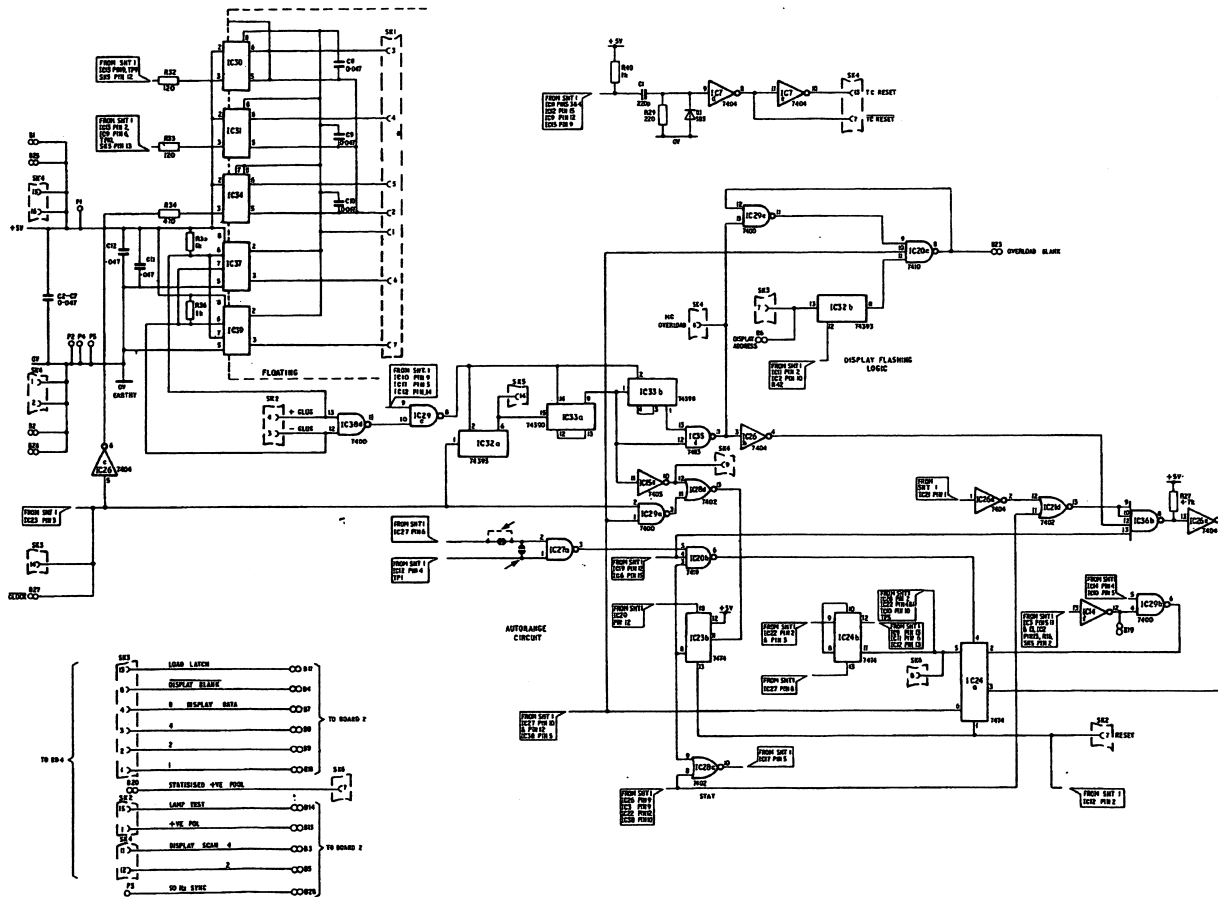
32 clock pulses are applied to the clock inputs of shift registers IC's 1 to 4 at 800 kHz while the serial information is applied to IC1 pins 1 and 2. The transfer lasts for $40\mu\text{s}$. IC's 5 to 8 invert and buffer the outputs.

Note. Current jumper lead notations refer to modules ser no 000161 onwards. On modules prior to this serial number:
 Cable R was annotated T.
 Cable S was annotated R.
 Cable T was annotated S.

← PCB 23 Notations

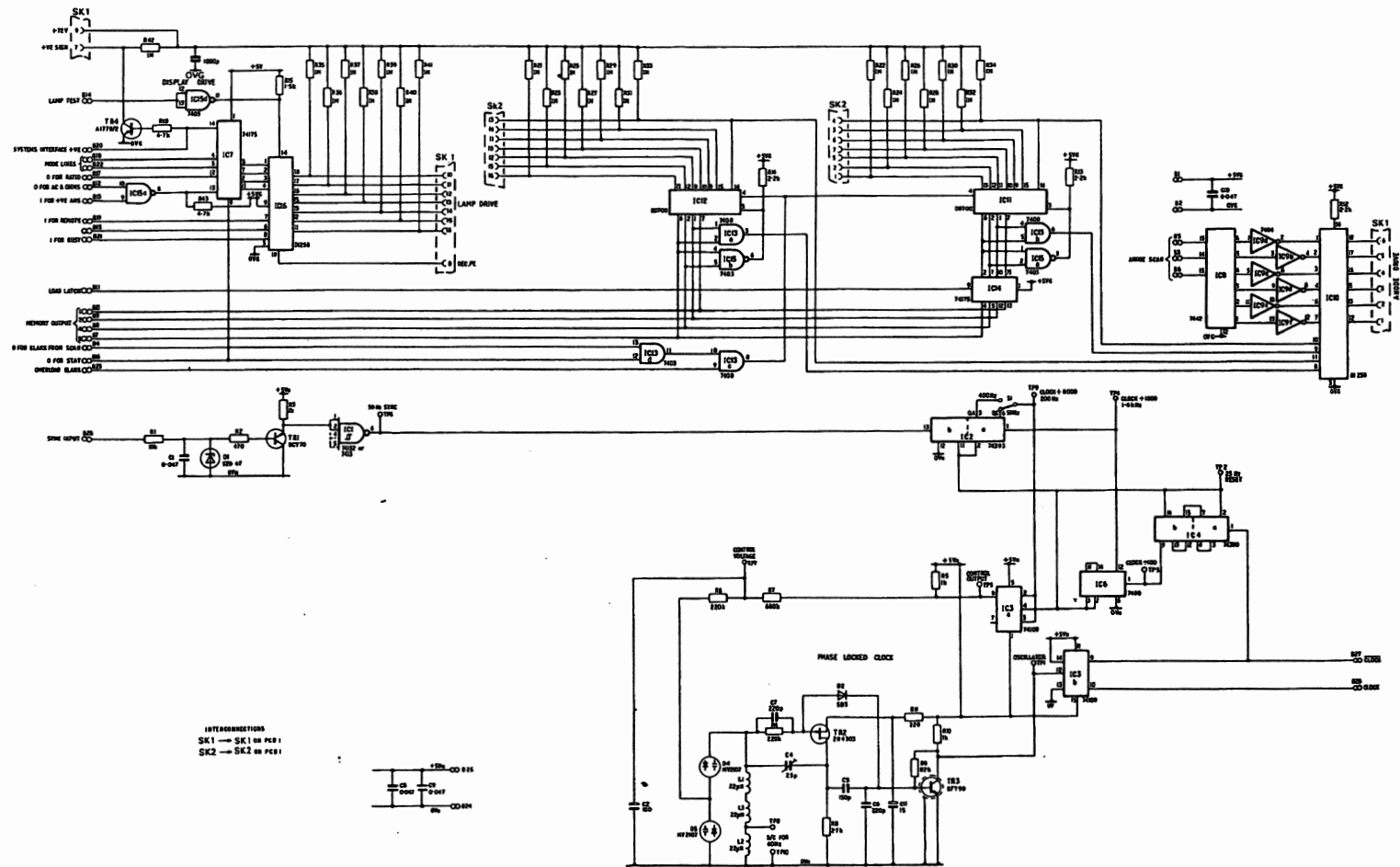


Control Board Diag. 6.17 pcb 3 (sheet 1)

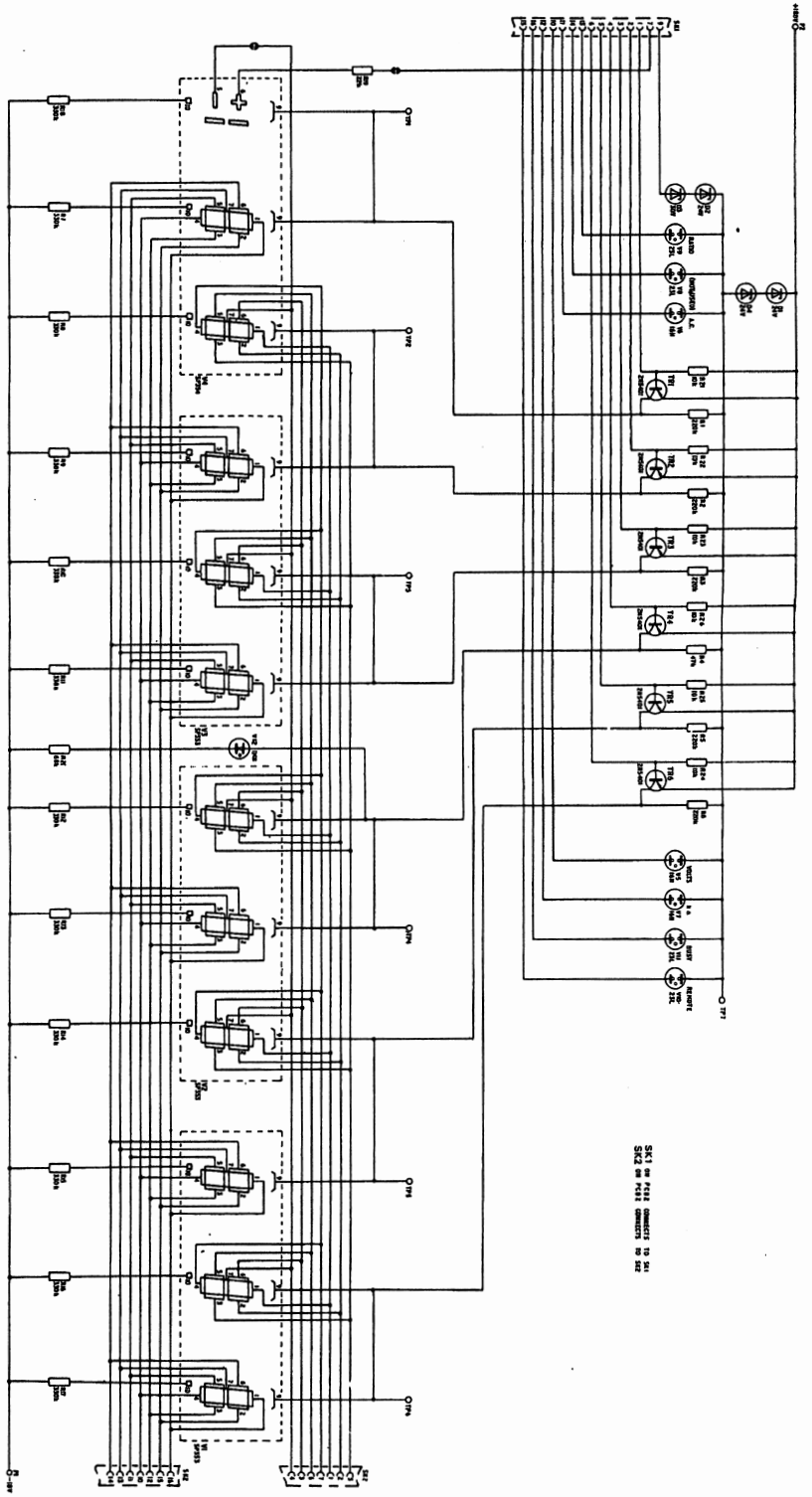


853	LOAD LATCH	CO 80
854	DISPLAY BLANK	CO 81
855	0 DISPLAY DATA	CO 82
856	1	CO 83
857	2	CO 84
858	3	CO 85
859	4	CO 86
860	STATISTICS 4 YR POOL	CO 87
861	LAST TEST	CO 88
862	+VE PUL	CO 89
863	DISPLAY SCAN 4	CO 90
864	1	CO 91
865	2	CO 92
866	TO RL STK	CO 93

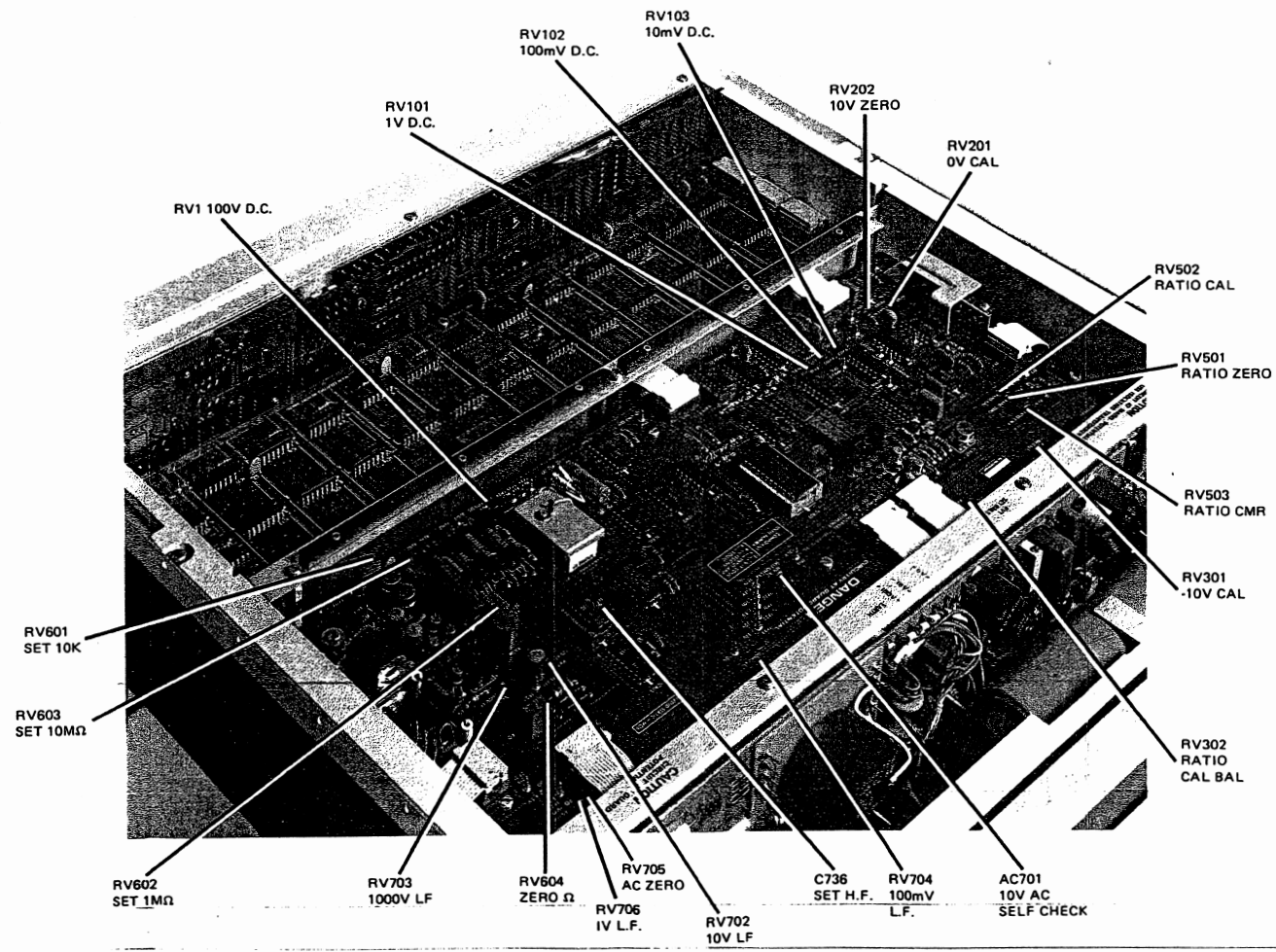
Control Board Diag. 6.18 pcb 3 (sheet 2)



Display Drive and Phase Locked Clock Diag. 6.19 pcb 2



Display Diag. 6.20 pcb 1



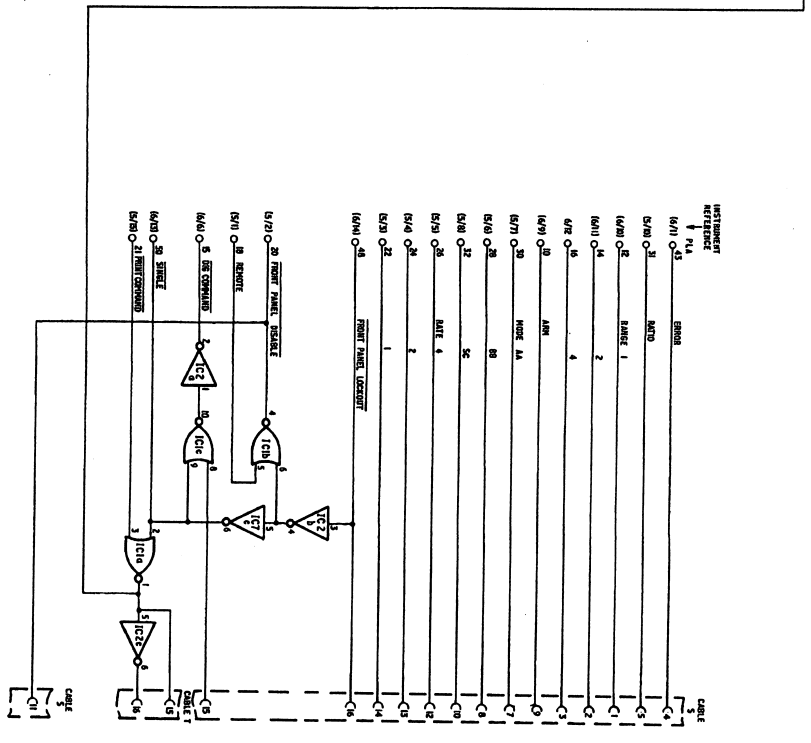
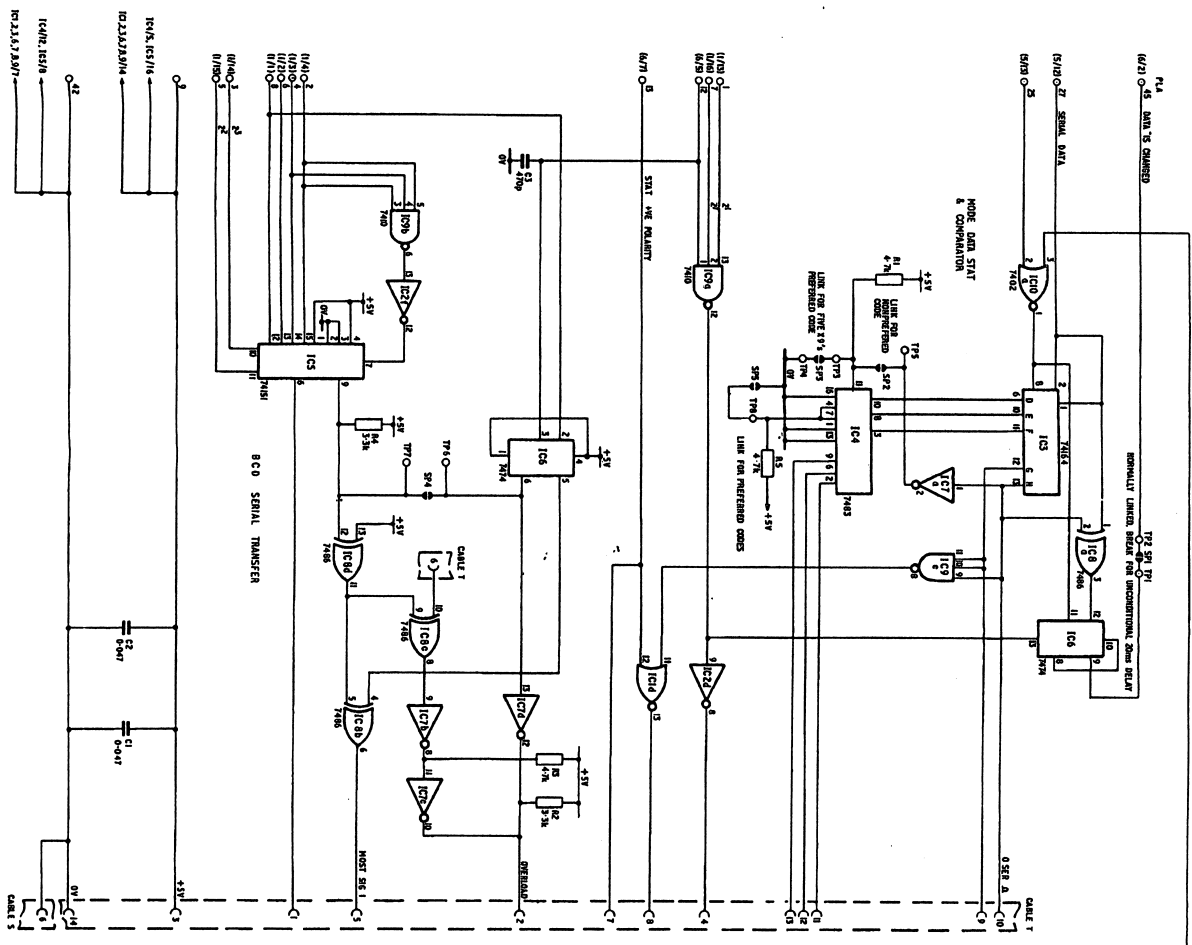
NOTES

1. To avoid the slowing down effect of range hunting when Autorange is remotely commanded, receipt of a SAMPLE Command is necessary for autorange to occur. When in LOCAL operation however, detection of an overload causes an immediate Autorange upwards, independent of the receipt of SAMPLE Command.
2. Should a SAMPLE Command occur during a self-protecting autorange sequence it will be stored, to be obeyed once the overload condition no longer exists. With the foregoing exception SAMPLE Command occurring at any time other than after a PRINT Command output, will be ignored.

CONNECTION TABLE

SKB Pin No.	FUNCTION	SKB Pin No.	FUNCTION
1	1×10^6	26	+ ve POLARITY
2	8×10^5	27	- ve Output code
3	4×10^5	28	FUNCTION output code 0 for A.C. } Both 0 0 for Ω } for CHECK
4	2×10^5	29	
5	1×10^5	30	(4) }
6	8×10^4	31	(2) } RANGE Output
7	4×10^4	32	(1) }
8	2×10^4	33	PULSE PRINT Command
9	1×10^4	34	LEVEL (Output signal)
10	8×10^3	35	DATA CAN CHANGE Output
11	4×10^3	36	OVERLOAD (Output signal)
12	2×10^3	37	EARTH/Logic '0' level
13	1×10^3	38	FRONT PANEL LOCKOUT
14	8×10^2	39	SAMPLE Command - CONTACT
15	4×10^2	40	SAMPLE Command - Pulse
16	2×10^2	41	RATIO Command
17	1×10^2	42	FUNCTION Command 0 for AC } Both 0 (DC, AC (RMS or Ω) 0 for Ω } for CHECK
18	8×10^1	43	
19	4×10^1	44	(4) }
20	2×10^1	45	(2) } INTEGRATION TIME
21	1×10^1	46	(1) } Command
22	8×10^0	47	AUTORANGE Command
23	4×10^0	48	(1) }
24	2×10^0	49	(2) } RANGE Command
25	1×10^0	50	(4) }

Systems Interface 50-way
Cannon Socket Connections.



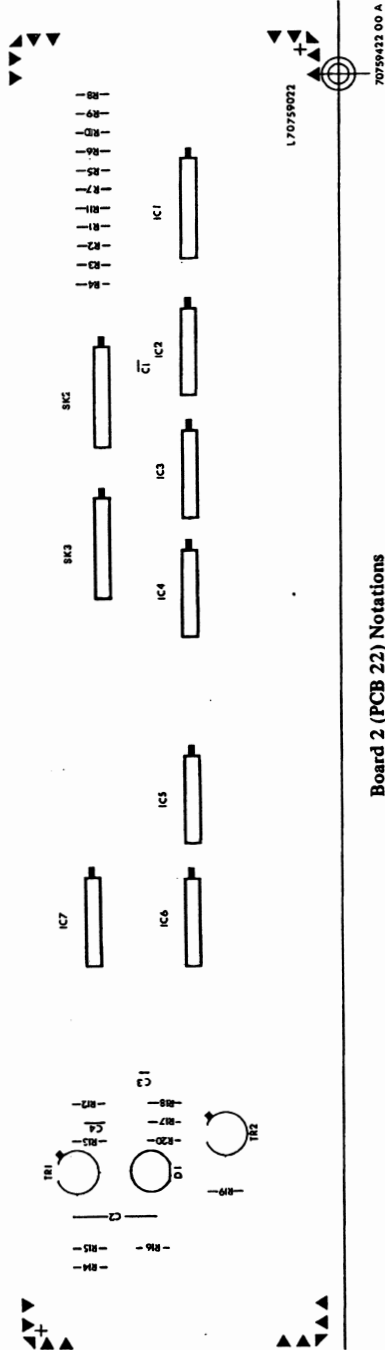
NON PREFERRED NAME OUTPUT CODE

1000	000	1000
1001	001	1001
1002	002	1002
1003	003	1003
1004	004	1004
1005	005	1005
1006	006	1006
1007	007	1007
1008	008	1008
1009	009	1009
1010	010	1010
1011	011	1011
1012	012	1012
1013	013	1013
1014	014	1014
1015	015	1015
1016	016	1016
1017	017	1017
1018	018	1018
1019	019	1019
1020	020	1020
1021	021	1021
1022	022	1022
1023	023	1023
1024	024	1024
1025	025	1025
1026	026	1026
1027	027	1027
1028	028	1028
1029	029	1029
1030	030	1030
1031	031	1031
1032	032	1032
1033	033	1033
1034	034	1034
1035	035	1035
1036	036	1036
1037	037	1037
1038	038	1038
1039	039	1039
1040	040	1040
1041	041	1041
1042	042	1042
1043	043	1043
1044	044	1044
1045	045	1045
1046	046	1046
1047	047	1047
1048	048	1048
1049	049	1049
1050	050	1050

FOR FIVE X 5% PREFERRED CODE SUBTRACT ONE

CABLE 1 CONNECTS TO SSI ON BOARD 3
 CABLE 2 CONNECTS TO SSI ON BOARD 2
 NUMBERS REFER TO CIRCLES REFER TO PIN CONNECTIONS ON 50 WAY CANNON PLUG P14

Board 1 Diag. 9.1



Board 2 Diag 9.2

RANGE COMMAND codes applied to IC1 are converted to internal codes, by incrementing by 1 for the OHMS mode and 2 for the VOLTS DC/AC mode.

IC3a, b and d disable these range commands if:-

1. ERROR is detected by the instrument on SK3 pin 4 (IC 6 pin 1 goes low).
2. in Local operation, IC7 pin 1 high → IC6 pin 6 high → IC6 pin 2 low.
3. in the Self Check mode, SK3 pin 10 low.

RATIO COMMAND (Low at SK2 pin 1) is transmitted to the instrument via SK3 pin 5 unless:-

1. It is in the OHMS mode (IC 5 pin 4 not low)
- or 2. in the Self Check mode (IC 6 pin 4 low)
- or 3. in Local operation (IC 7 pin 1 high).

MODE codes on SK2 pins 9 and 10 are transmitted to the instrument unless:-

1. It is the Self Check mode
- or 2. in Local operation when IC3c and IC4b will block commands.

RATE COMMANDS on SK2 pins 11, 12 and 13 are transmitted to the instrument via SK3 pins 12, 13 and 14 unless it is in Local operation, when the commands will be blocked by IC4 a, c and d.

IC6c and d force code 0 on SK3 pins 12, 13 and 14 for input commands 0, 1, 2, 3. Input commands 4, 5, 6, 7 are unaffected.

CONTACT and PULSE SAMPLES are filtered for optimum noise rejection and OR-ed together to produce a low on SK3 pin 15. The specifications for these inputs are given in this section of the manual.

← PCB 22 Notations