



SCHEMATHEEK  
Beh. T. Hultermans  
Postbus 4228  
5604 EE Eindhoven

## SPECIFICATIONS

Countable Digits  
Type

Six decimal digits.  
Light-emitting diode frequency display with hold memory.

DISPLAY (in combination with TS-520S)

Frequency Range

All TS-520S transmit and receive channel frequencies as precise as 0.1 kHz digit.

Accuracy  
Input

Reference time  $\pm 0.2$  count.  
TS-520S heterodyne local oscillator signal, VFO signal, and all carrier oscillator signals.

### COUNTER

Measurable Frequency Range

100 Hz to 40 MHz

Input Sensitivity

50 mV r.m.s. at 10 kHz to 10 MHz

(at Room Temperature)

200 mV r.m.s. at 100 Hz to 40 MHz

Absolute Max. Input

200V (DC + peak).

Level

5V r.m.s. (continuous at 100 Hz to 40 MHz).

Input Impedance

Approx. 5 k $\Omega$ , less than 22pF.

Accuracy

Reference time  $\pm 0.1$  count.

Count Time

0.1 sec.

Least Significant Digit

0.1 kHz.

### REFERENCE TIME

Frequency

10 MHz

Error

Less than  $1 \times 10^{-5}$  (at room temperature).

Temperature Stability

Greater than  $3 \times 10^{-5}$  (at 0°C to +50°C).

Aging Rate

Lower than  $1 \times 10^{-6}$ /month (at room temperature).

### GENERAL

Ambient Temperature

-10°C to +50°C.

Power

Supplied from TS-520S.

External Power

12 to 16V, 0.9A DC (with 13.8V reference).

Dimensions

167mm (6-9/16") wide X 260 mm (10-1/64")

[268mm (10-1/16"), max.] deep X (1-37/64")

[43mm (1-11/16"), max.] high

Net Weight

1.27 kg (2.8 lbs.)

Semiconductors Used

42 ICs, 31 transistors, 19 diodes, 3 two-digit LEDs, and 1 LED indicator.

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9

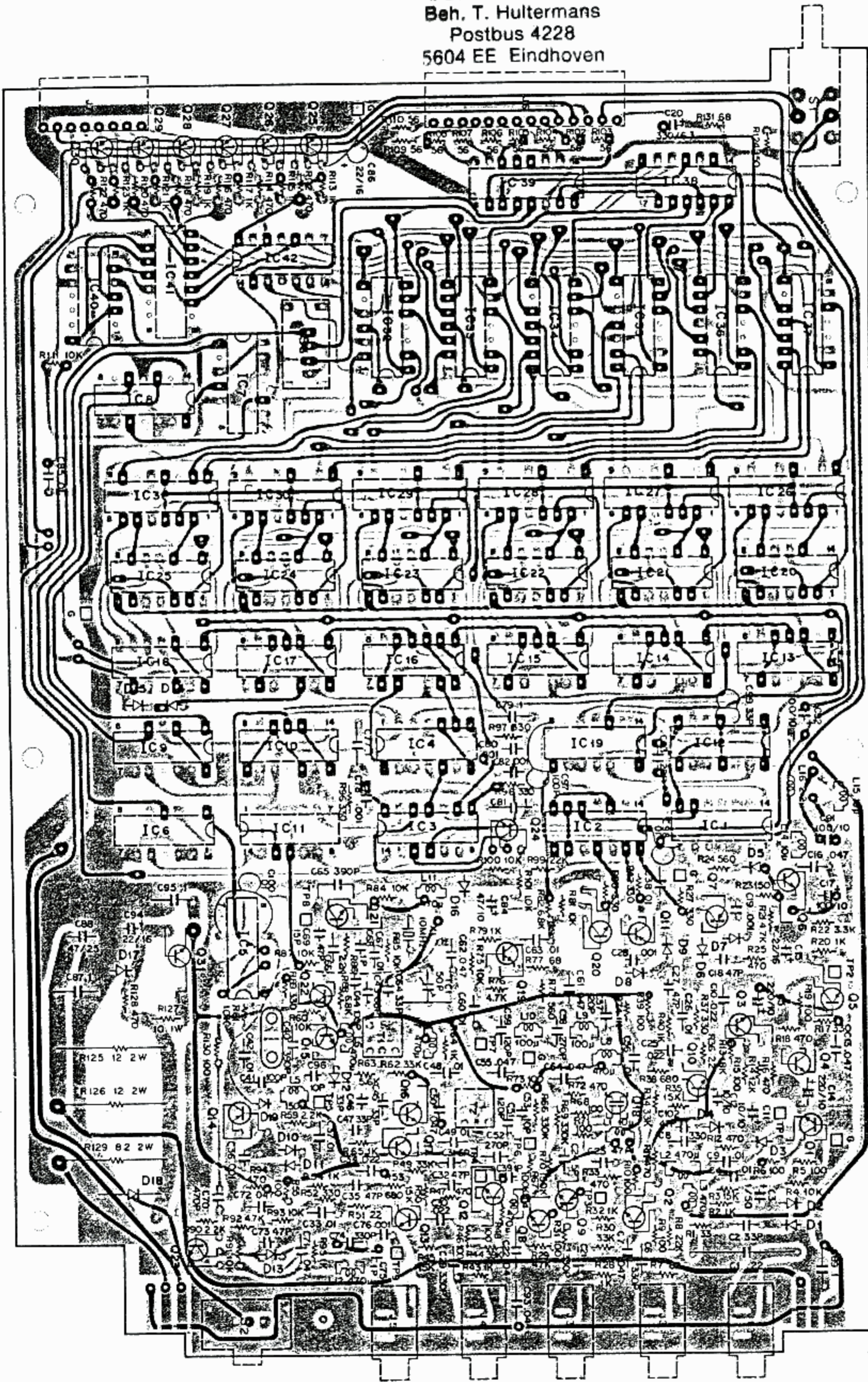
DG-5

KENWOOD

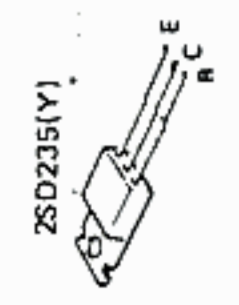
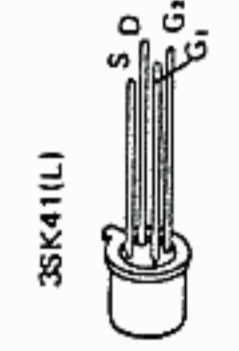
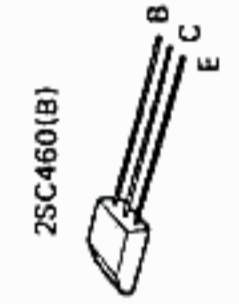
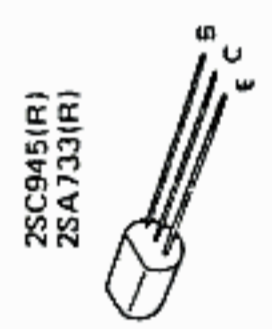
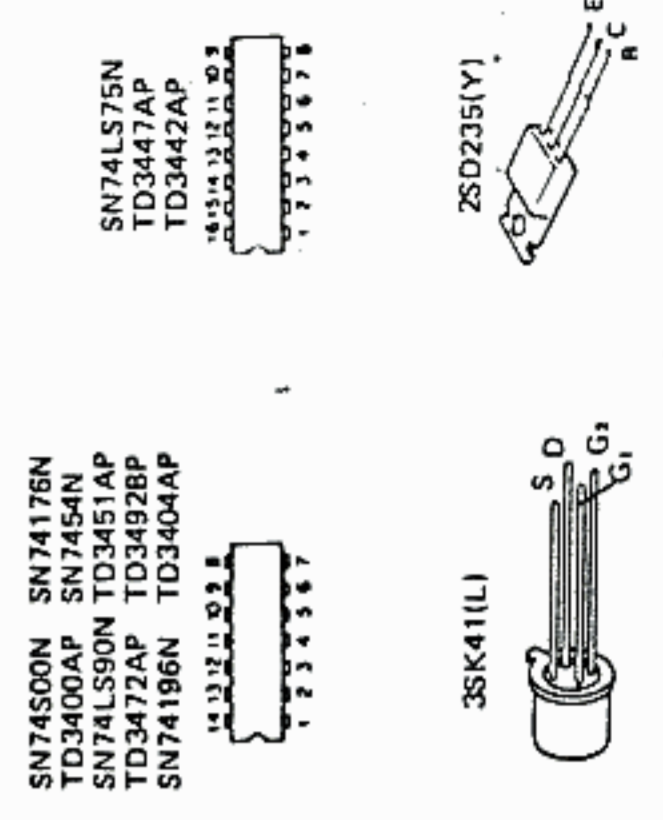


▼ Counter Unit (X54-1260-00)

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IC1:SN74S00N, IC2~4, 38:TD3400AP, IC5~10, 13~18:SN74LS90N, IC11:TD3472AP, IC12:SN74196N,  
IC19~25:SN74176N, IC26~31:SN74LS75N, IC32, 34, 35, 37:SN7454N, IC33, 36:TD3451AP,  
IC39:TD3447AP, IC40:TD3492BP, IC41:TD3442AP, IC42:TD3404AP, Q1~3, 5, 6, 9, 10, 12, 13, 19, 20,  
22, 24:2SC945(R), Q4, 8, 15~17, 21, 23:2SC460(B), Q7, 11, 14, 25~30:2SA733(R), Q18:3SK41(L),  
Q31:2SD235(Y), D1~5, 12~16, 19:1S1587, D6~11:1N60, D17:WZ-090, D18:U05B





A

B

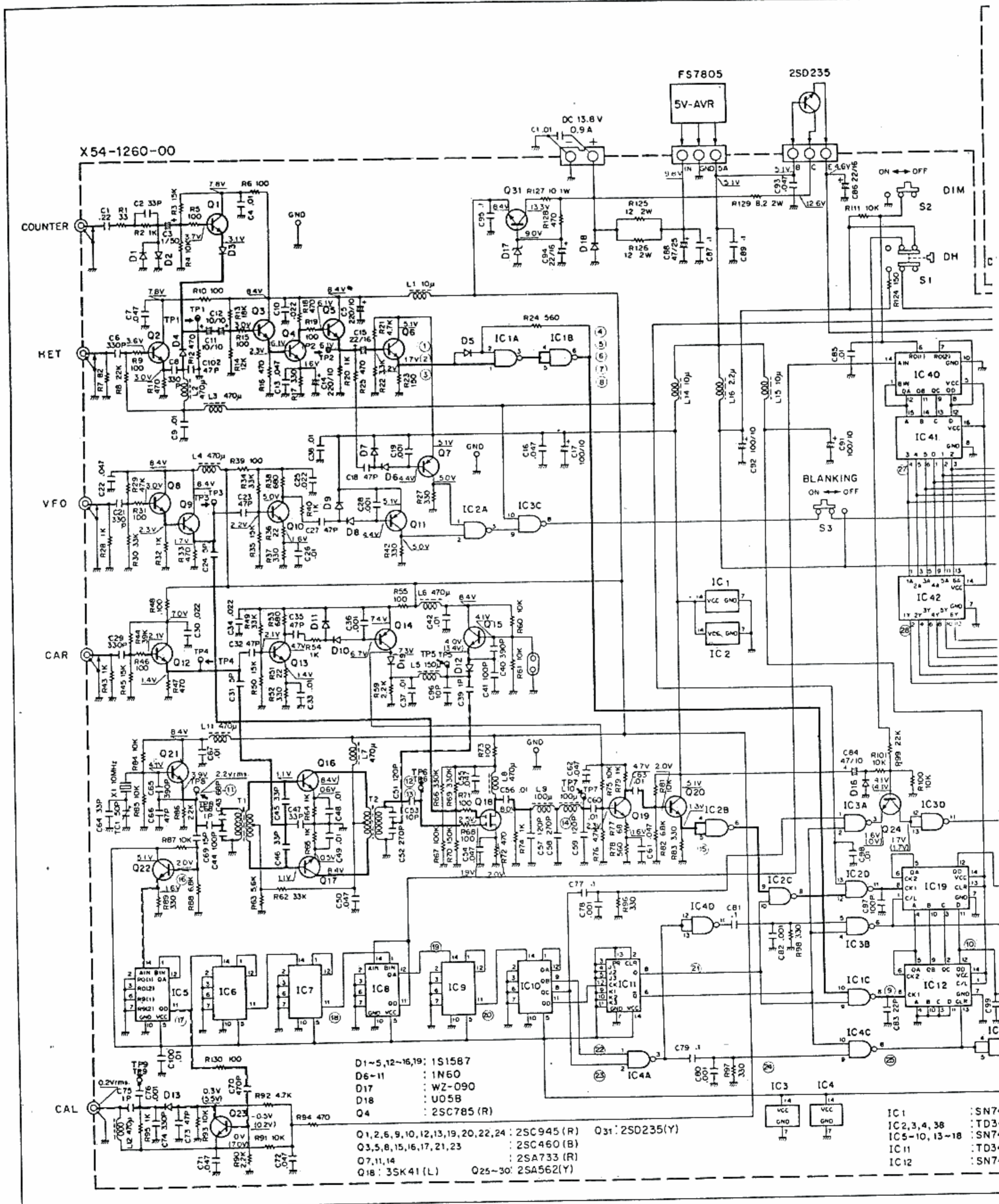
C

D

With regard to the numbers in this diagram, refer to the the wave forms on page 37.

Signal line

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X54-1260-00

COUNTER

MET

VFO

CAR

CAL

F57805  
5V-AVR

250235

DIM

S2

DH

S1

BLANKING

S3

IC 1

IC 2

IC 40

IC 41

IC 42

IC 3A

IC 3B

IC 3C

IC 3D

IC 19

IC 20

IC 21

IC 22

IC 23

IC 24

D1-5, 12-16, 19: 1S1587  
 D6-11 : 1N60  
 D17 : WZ-090  
 D18 : U05B  
 Q4 : 2SC785 (R)

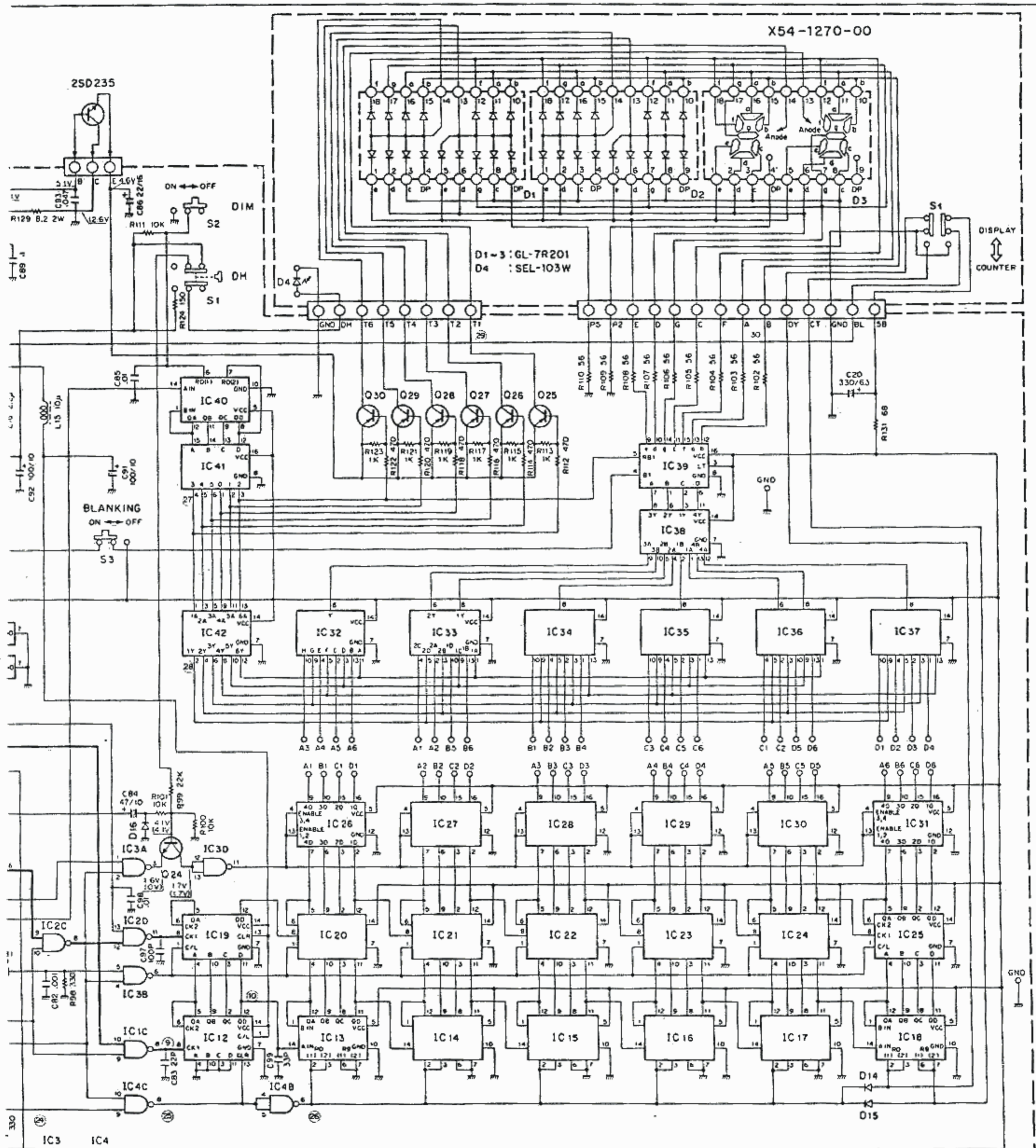
Q1, 2, 6, 9, 10, 12, 13, 19, 20, 22, 24 : 2SC945 (R) Q31: 250235(Y)  
 Q3, 5, 8, 15, 16, 17, 21, 23 : 2SC460 (B)  
 Q7, 11, 14 : 2SA733 (R)  
 Q18 : 3SK41 (L) Q25-30: 2SA562(Y)

IC 1 : SN74  
 IC 2, 3, 4, 38 : TD34  
 IC 5-10, 13-18 : SN74  
 IC 11 : TD34  
 IC 12 : SN74

1  
2  
3  
4  
5  
6



— Signal line    - - - - - Control signal line



IC1	: SN74S00N	IC19 - 25	: SN74176N	IC40	: TD3492BP
IC2,3,4,38	: TD3400AP	IC26 - 31	: SN74LS75N	IC41	: TD3442AP
IC5-10,13-18	: SN74LS90N	IC32,34,35,37	: SN7454N	IC42	: TD3404AP
IC11	: TD3472AP	IC33,36	: TD3451AP		
IC12	: SN74196N	IC39	: SN74247N		

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