8-laboratoriya ishi

Tranzistorlarda bajariladigan kuchaytirgichlarni o‘rganish va sinash.

Ishning maqsadi: Kuchaytirgichlarni ishlash printsipi bilan tanishish.

Nazariy ma’lumotlar

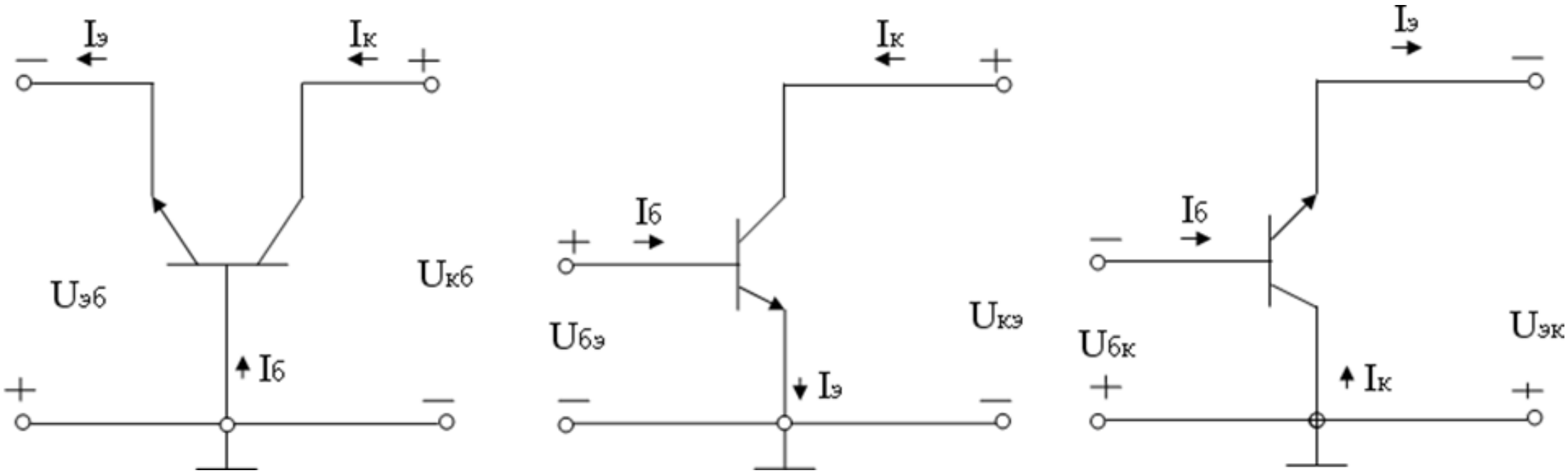
Tranzistor sxemaga ulanayotganda chiqishlaridan biri kirish va chiqish zanjiri uchun umumiy qilib ulanadi, shu sababli quyidagi ulanish sxemalari mavjud:

umumiy baza (UB) (28 a-rasm);

umumiy emitter (UE) (28 b-rasm);

umumiy kollektor (UK) (28 v-rasm).

Bu vaqtda umumiy chiqish potentsiali nol`ga teng deb olinadi. Kuchlanish manbai qutblari va tranzistor toklarining yo`nalishi tranzistorning aktiv rejimiga mos keladi. UB ulanish sxemasi qator kamchiliklarga ega bo`lib, juda kam ishlatiladi.



28– rasm.

Texnik xarakteristika

Stend o’rganiladigan kuchaytirgichlarning quyidagi xarakteristikalarini tekshirishga imkon beradi:

a) tinchlik holati;

b) am’lituda xarakteristikasi;

v) kuchaytirgich koeffitsienti;

g) chastota xarakteristikasi;

d) sxemani xarakterli nuqtalarida tok va kuchlanishni otsillogrammalarini olish.

Kuchaytirgichning asosiy xarakteristikalari

a) kirish signallar dia’azoni, mV: 1-dan 2000-gacha;

b) kollektor manbaasi kuchlanishining o’zgarish dia’azoni, V: 0-dan 24-gacha;

v) stok manbaa kuchlanishi,V: 0-dan 12-gacha;
g) tekshirilayotgan kuchaytirgichlarning kuchaytirish koeffitsienti dia’pa zoni: 0,4-

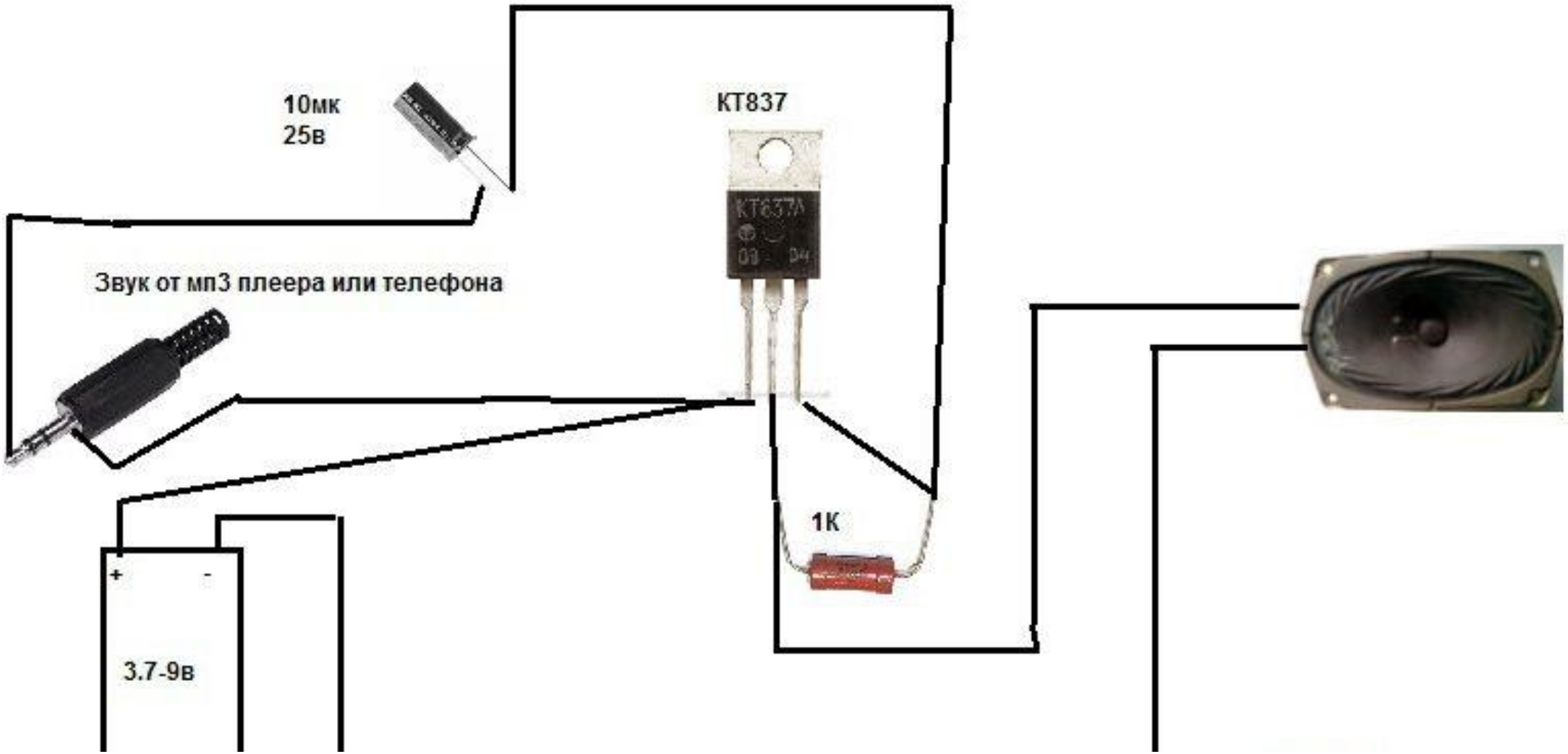
dan 50-gacha;

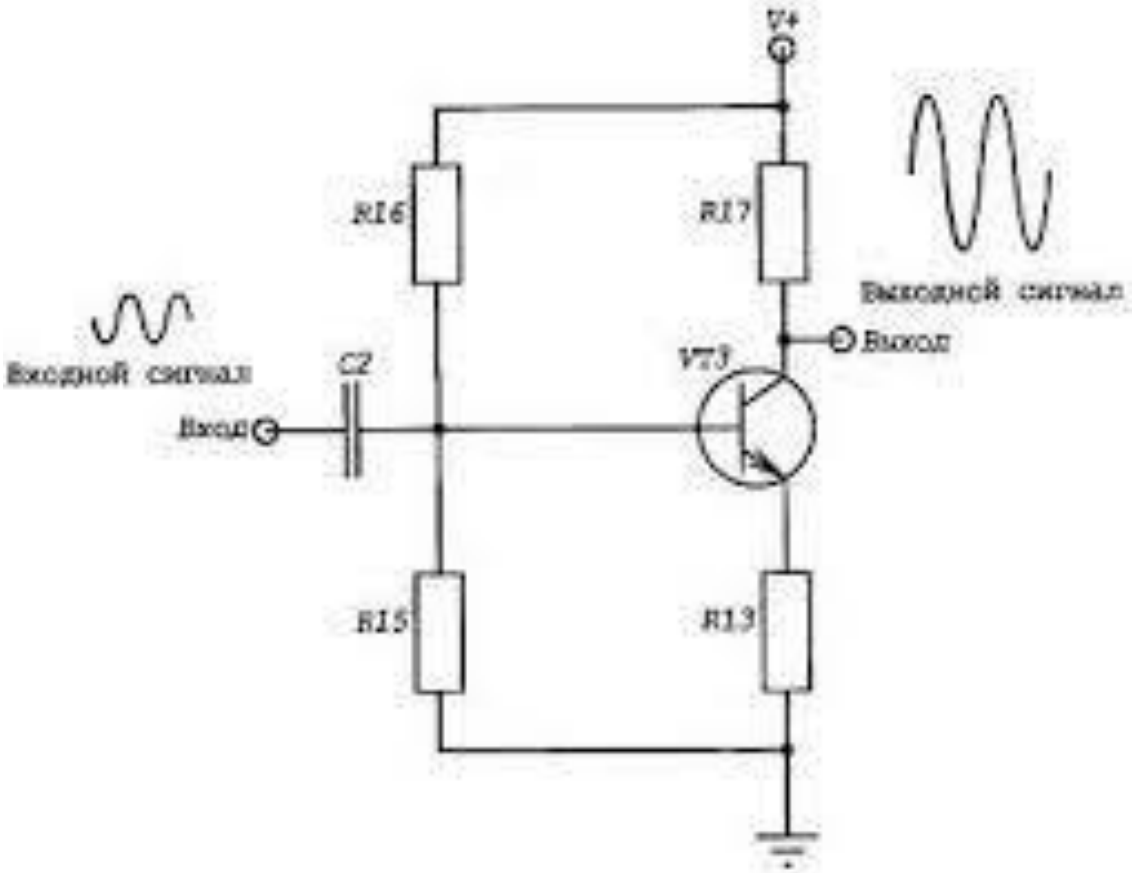
d) tekshirilayotgan kuchaytirgichlarning kirish qarshiligi dia’azoni, O m: 100-dan 10000-gacha;

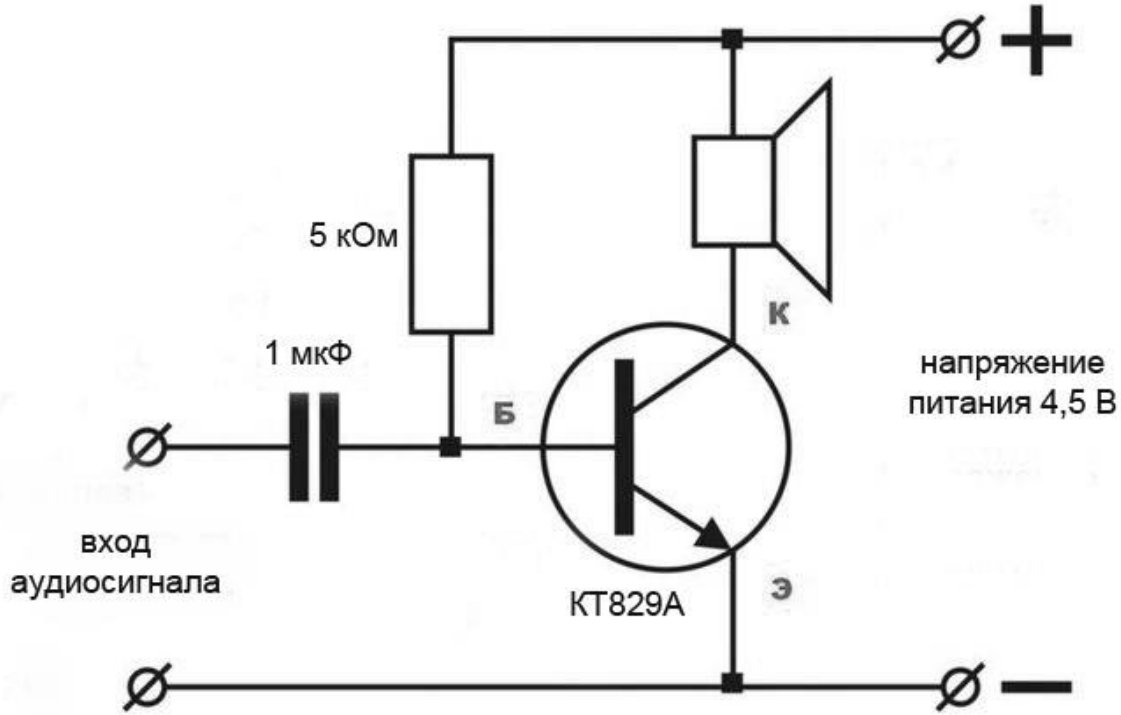
e) tekshirilayotgan kuchaytirgichlarning yuklama qarshiligi dia’azoni, O m: 100 ÷ 10000;

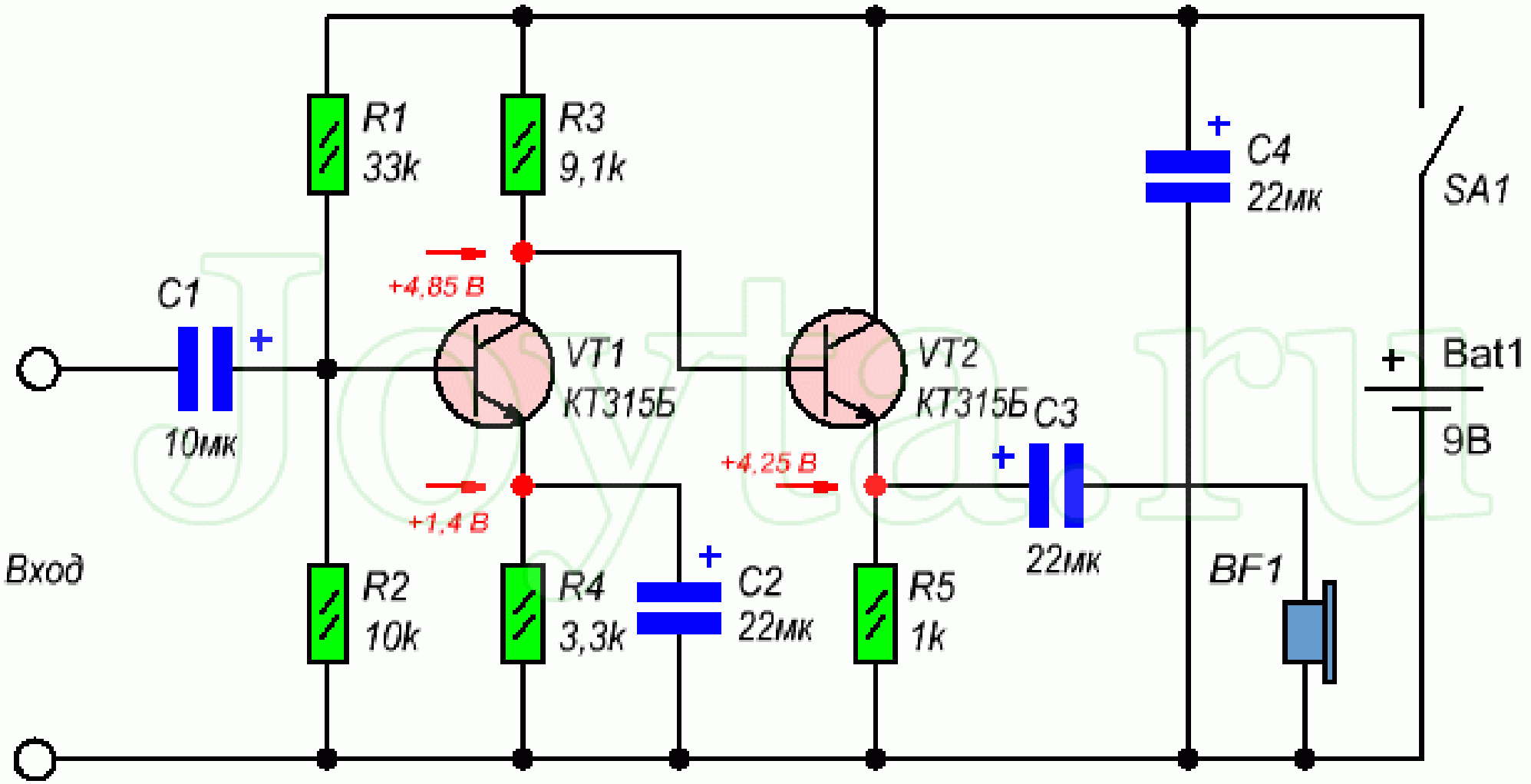
j) o’tkazish kengligi, kGts: 0,05 ÷ 100.

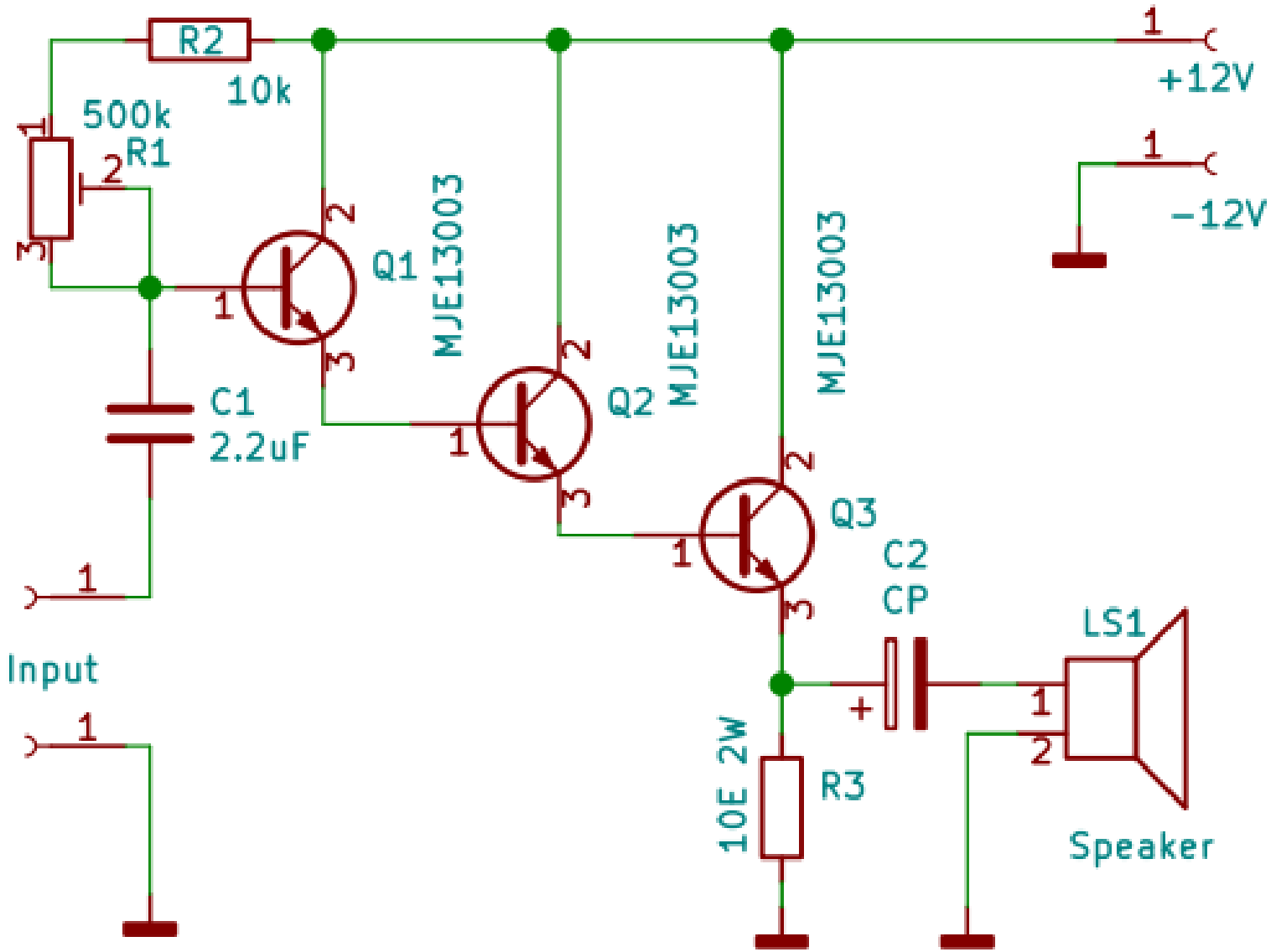
ПРОСТЕЙШИЙ УСИЛИТЕЛЬ ЗВУКА

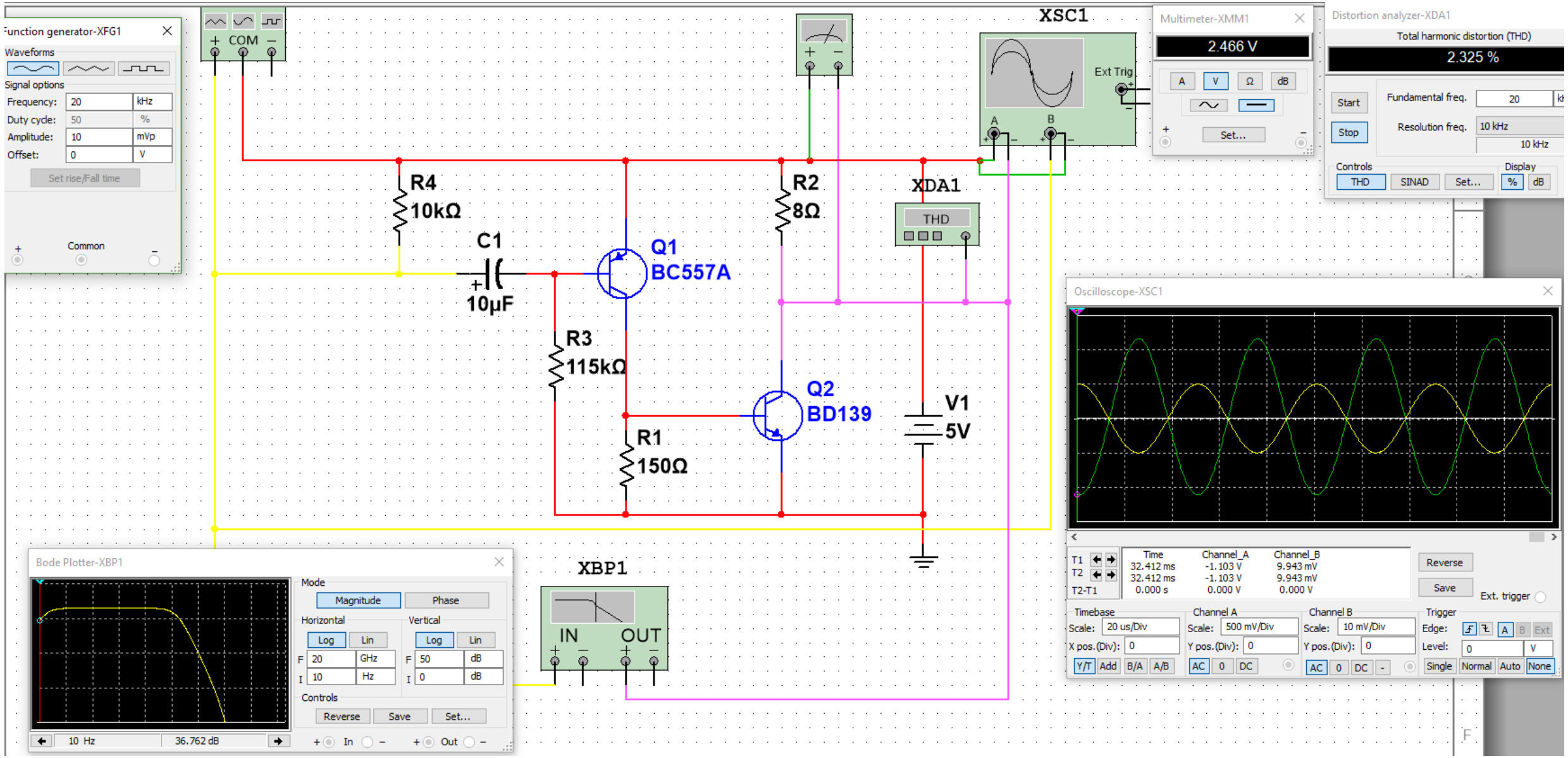


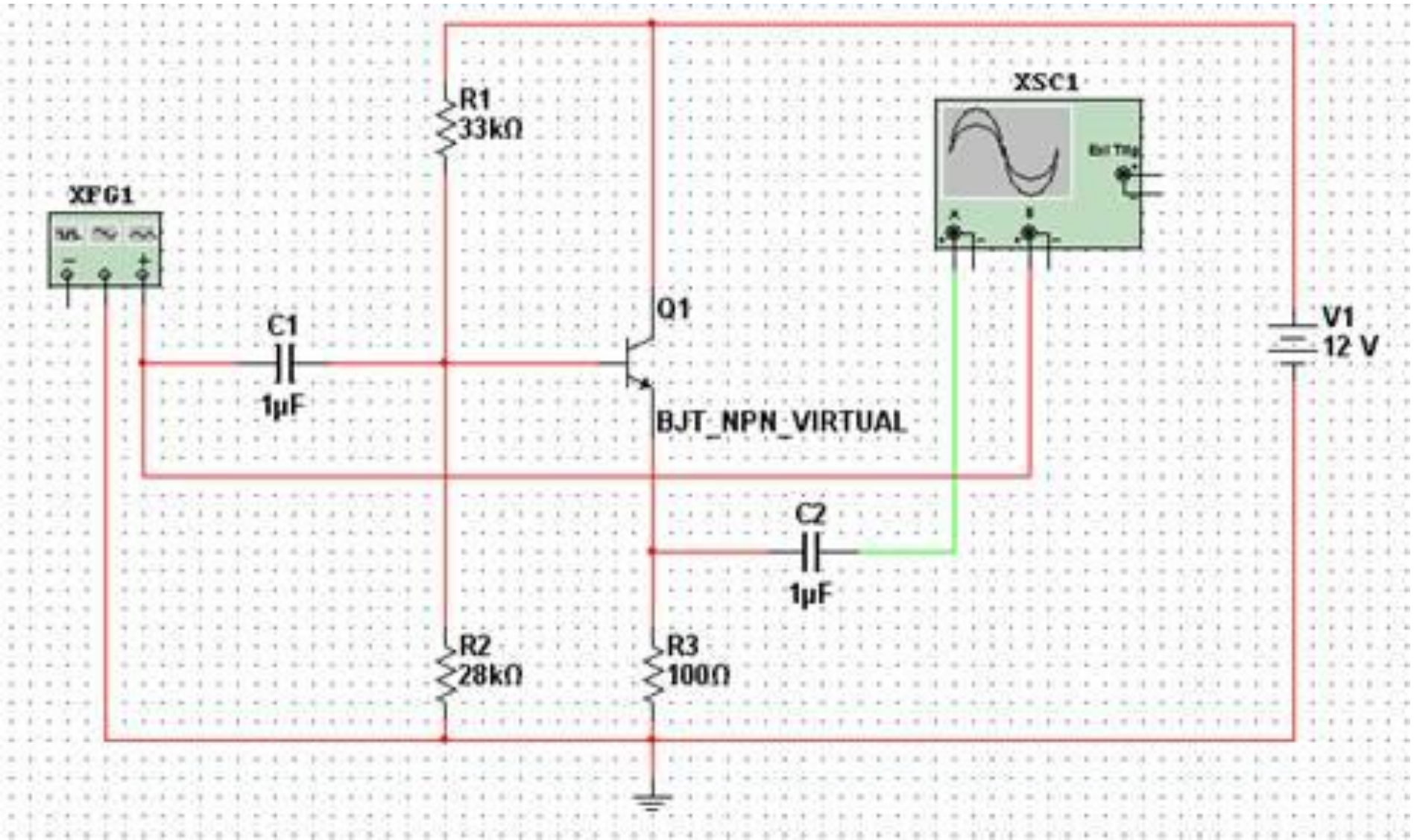

V+
R16
R17
Выходной сигнал
Выход
Входной сигнал
C2
VT3
Вход
R15
R13


5 кОм
1 мкФ
К
Б
напряжение
питания 4,5 В
вход
аудиосигнала
КТ829А
Э


R1
33k
R3
9,1k
C4
22мк
SA1
+4,85 В
C1
10мк
VT1
КТ315Б
VT2
КТ315Б
C3
Bat1
9В
+4,25 В
+1,4 В
Вход
R2
10k
R4
3,3k
C2
22мк
R5
1k
22мк
BF1


R2
10k
500k
R1
Q1
MJE13003
Q2
MJE13003
Q3
MJE13003
C1
2.2uF
C2
CP
LS1
Speaker
R3
10E 2W
+12V
-12V
Input


Function generator-XFG1
Waveforms
Signal options
Frequency: 20 kHz
Duty cycle: 50 %
Amplitude: 10 mVp
Offset: 0 V
Set rise/Fall time
Common
COM
R4
10kΩ
C1
10µF
Q1
BC557A
R3
115kΩ
R1
150Ω
Q2
BD139
R2
8Ω
XSC1
Ext Trig
A
B
XDA1
THD
V1
5V
Multimeter-XMM1
2.466 V
A
V
Ω
dB
Set...
Distortion analyzer-XDA1
Total harmonic distortion (THD)
2.325 %
Start
Stop
Fundamental freq. 20
Resolution freq. 10 kHz
10 kHz
Controls
THD
SINAD
Set...
Display
%
dB
Oscilloscope-XSC1
T1
T2
T2-T1
Time
Channel_A
Channel_B
32.412 ms -1.103 V 9.943 mV
32.412 ms -1.103 V 9.943 mV
0.000 s 0.000 V 0.000 V
Reverse
Save
Ext. trigger
Timebase
Scale: 20 us/Div
X pos.(Div): 0
Y/T Add B/A A/B
Channel A
Scale: 500 mV/Div
Y pos.(Div): 0
AC 0 DC
Channel B
Scale: 10 mV/Div
Y pos.(Div): 0
AC 0 DC
Trigger
Edge:
Level: 0 V
Single Normal Auto None
Bode Plotter-XBP1
Mode
Magnitude
Phase
Horizontal
Log Lin
F 20 GHz
I 10 Hz
Vertical
Log Lin
F 50 dB
I 0 dB
Controls
Reverse
Save
Set...
10 Hz
36.762 dB
In
Out
XBP1
IN
OUT

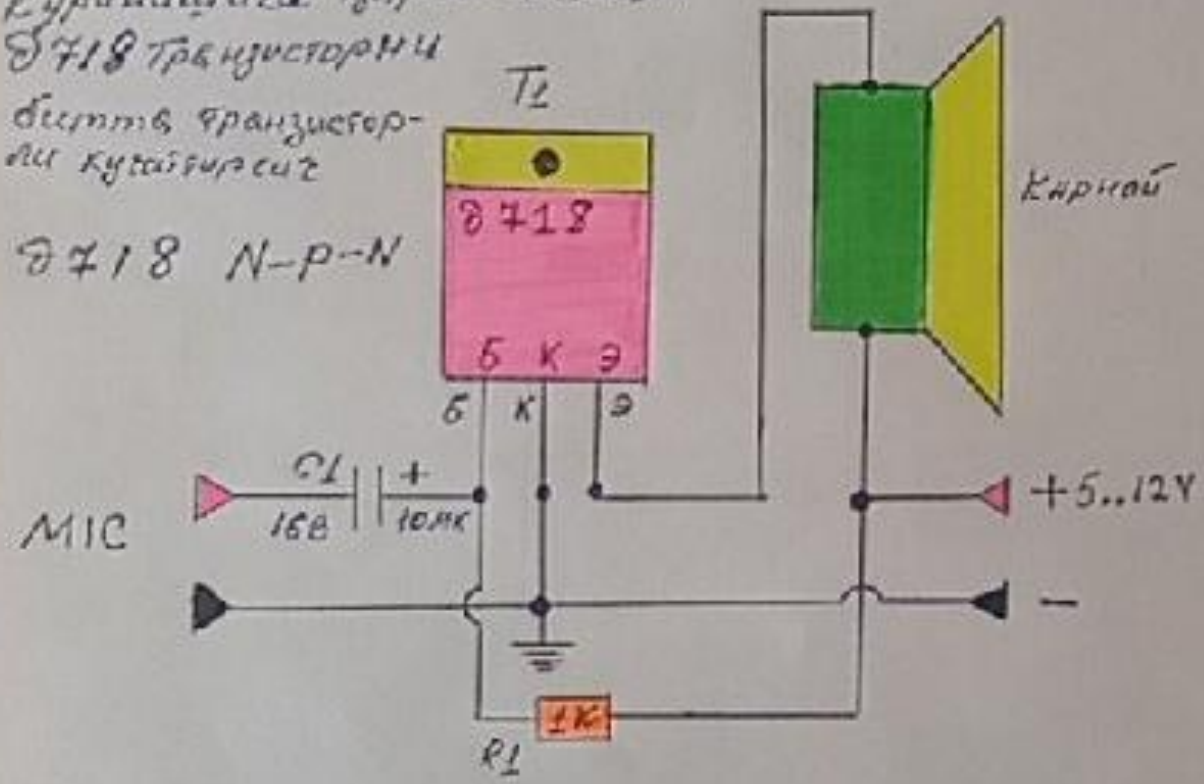

R1
33kΩ
XSC1
XFG1
Q1
C1
1µF
V1
12 V
BJT_NPN_VIRTUAL
C2
1µF
R2
28kΩ
R3
100Ω

а)-расм Кучайтиргичли схеманинг кўринишга қараб ясалиши

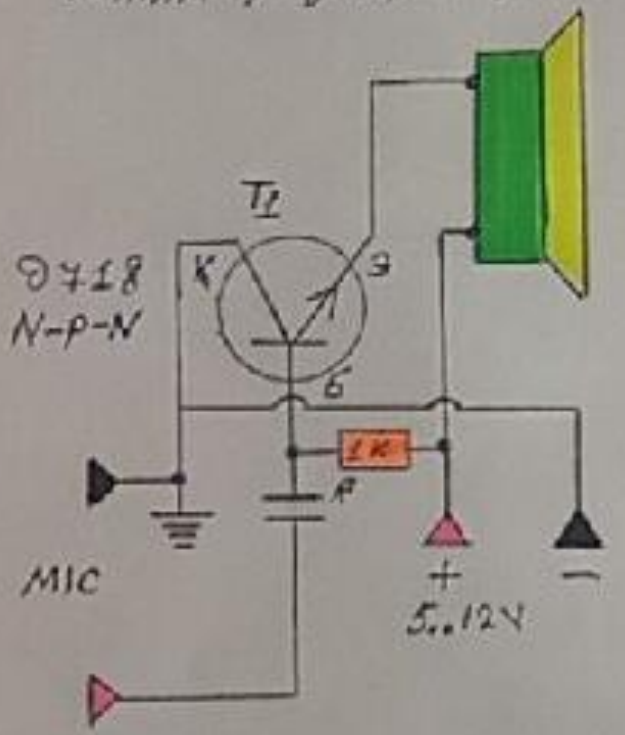
Д718 транзисторли

бипп транзистор-ли кучайтиргич

Д718 N-P-N



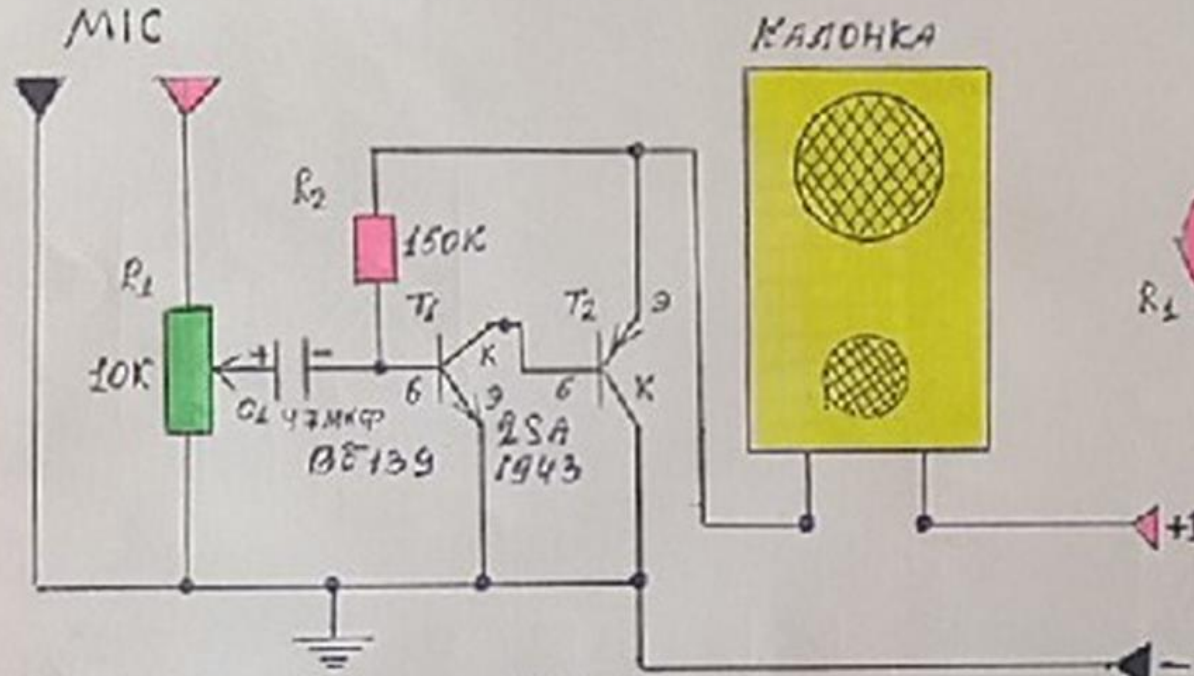
б)-расм Д718 транзисторли схеманинг биттта транзистори кучайтиргич

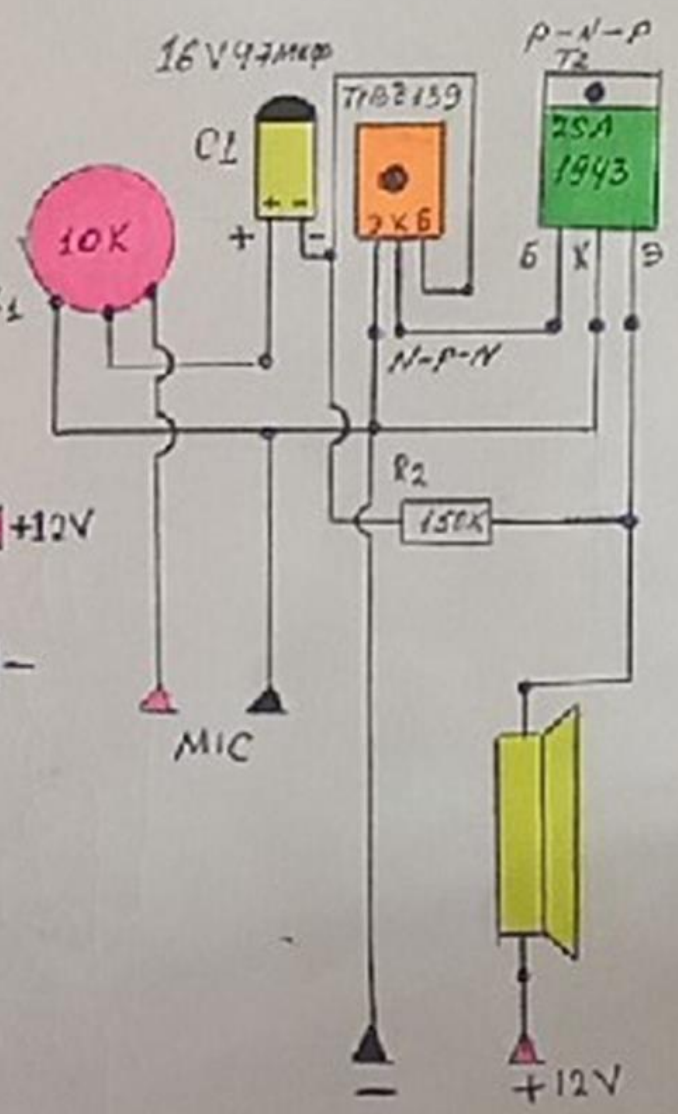


Кучайтиргичли кўринишга қараб ясалиши ва схемасига қараб ясалиши.

а)-расм икки транзисторли кучайтиргич схемаси.

б)-расм элементлари кўрин-ишига кўра ўзининг схемаси

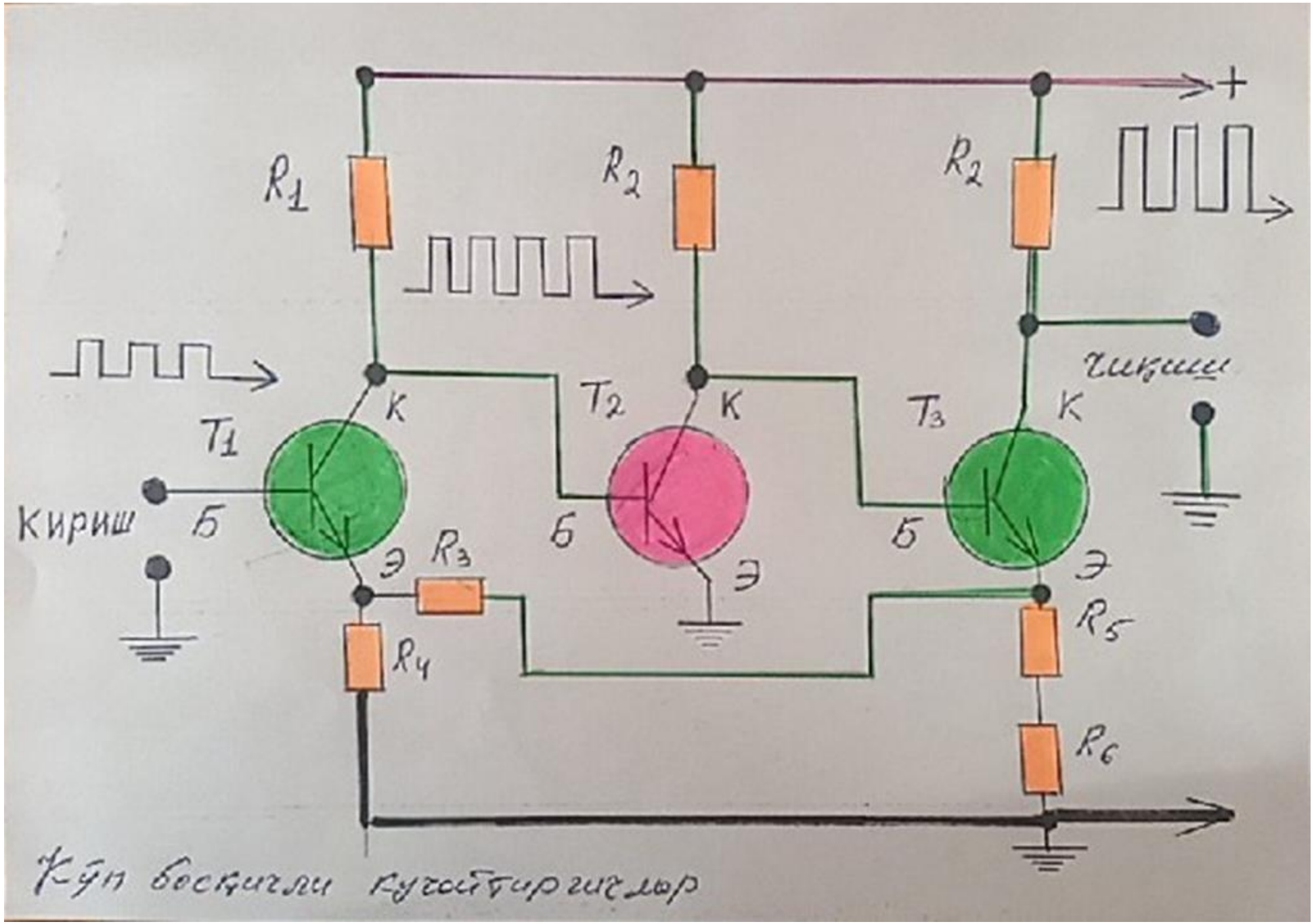


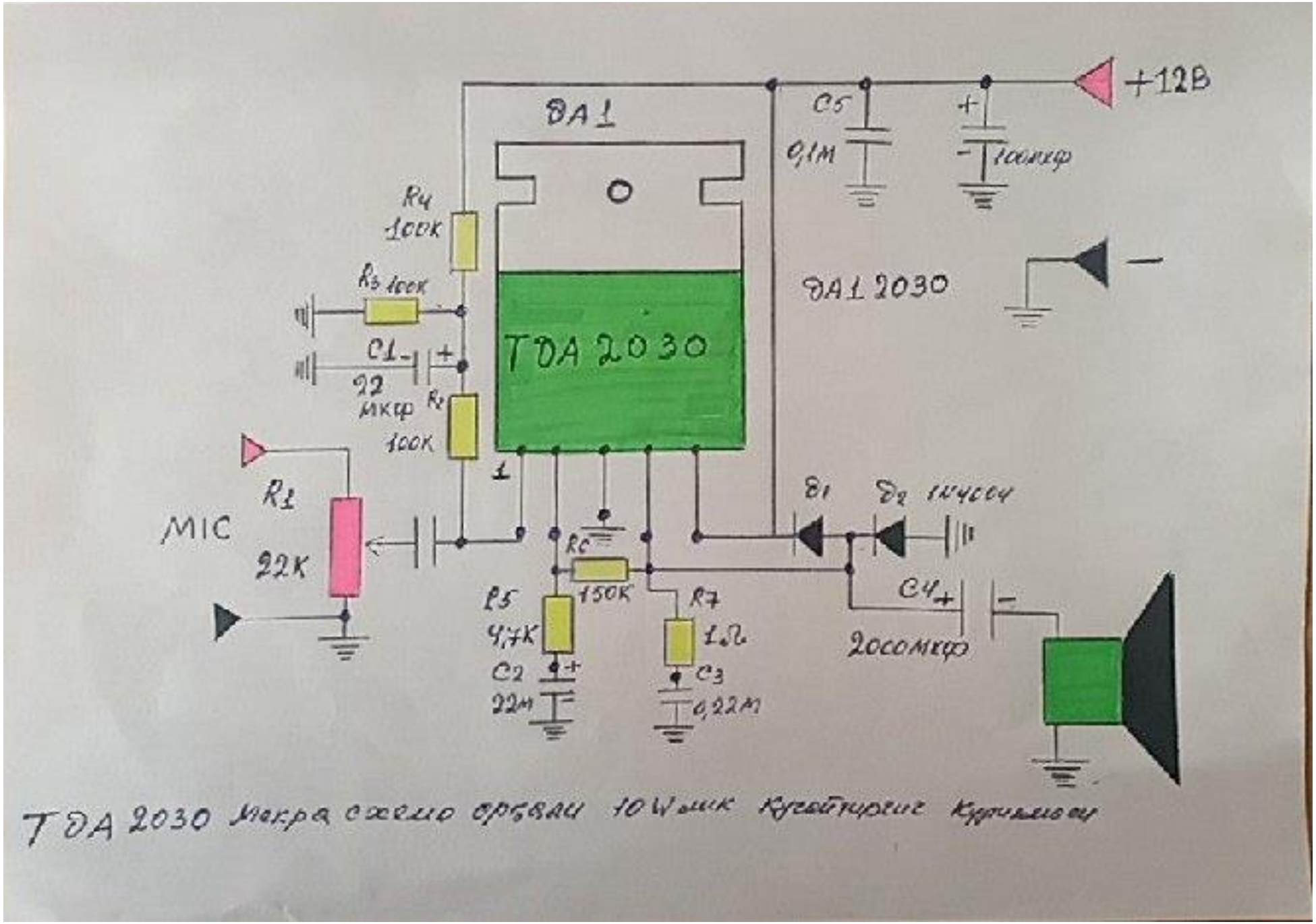


+12V

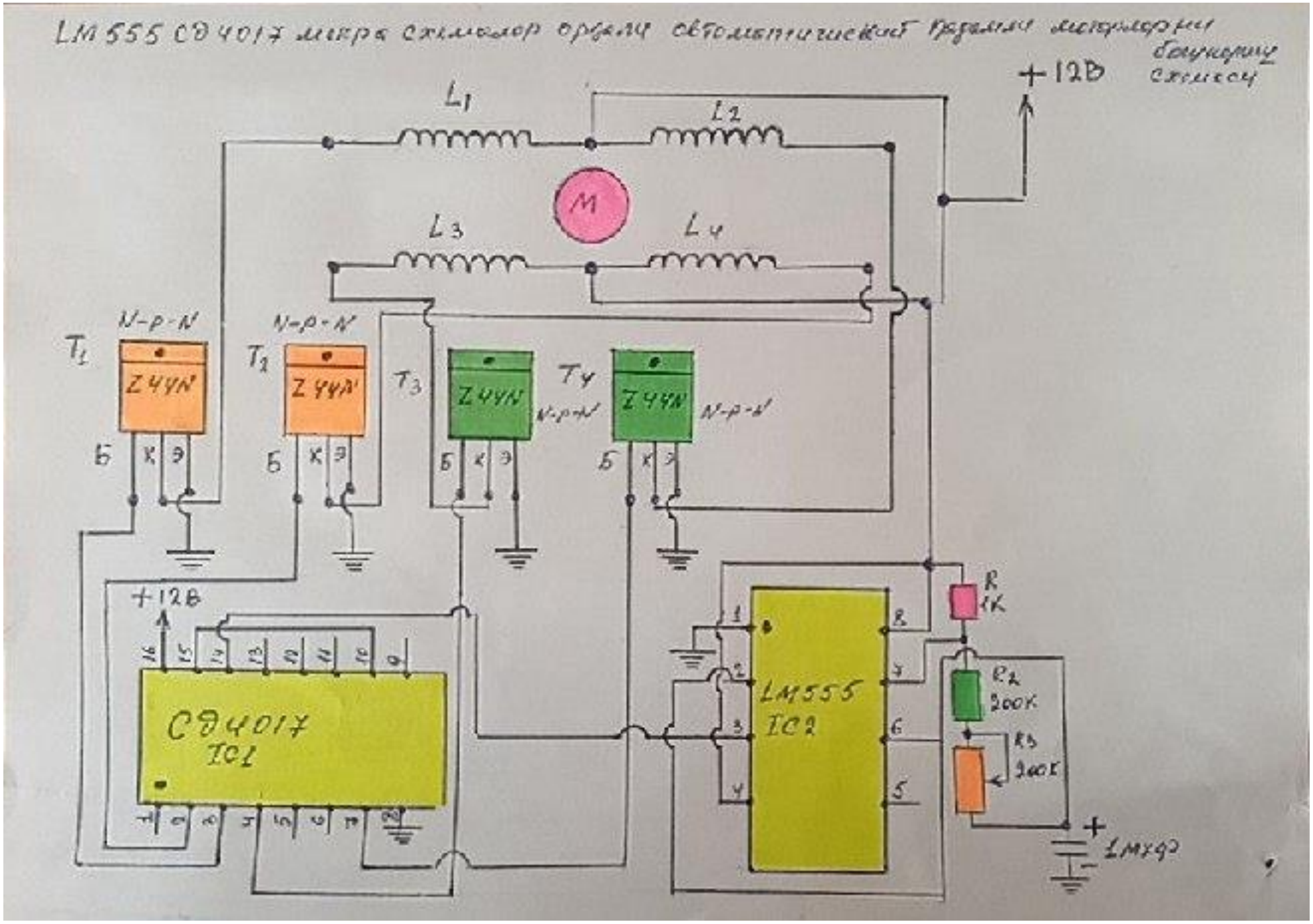
T_1 Транзистор N-P-N BD139

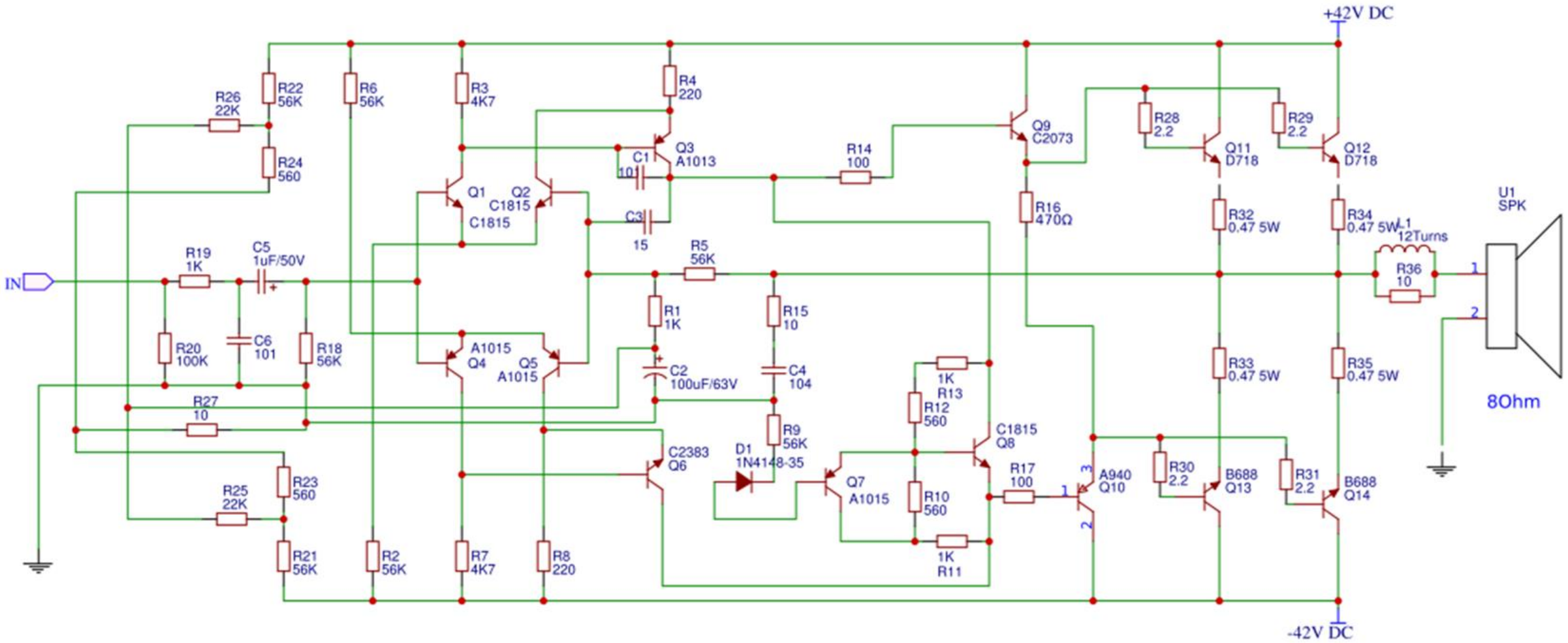
T_2 Транзистор P-N-P 2SA1943

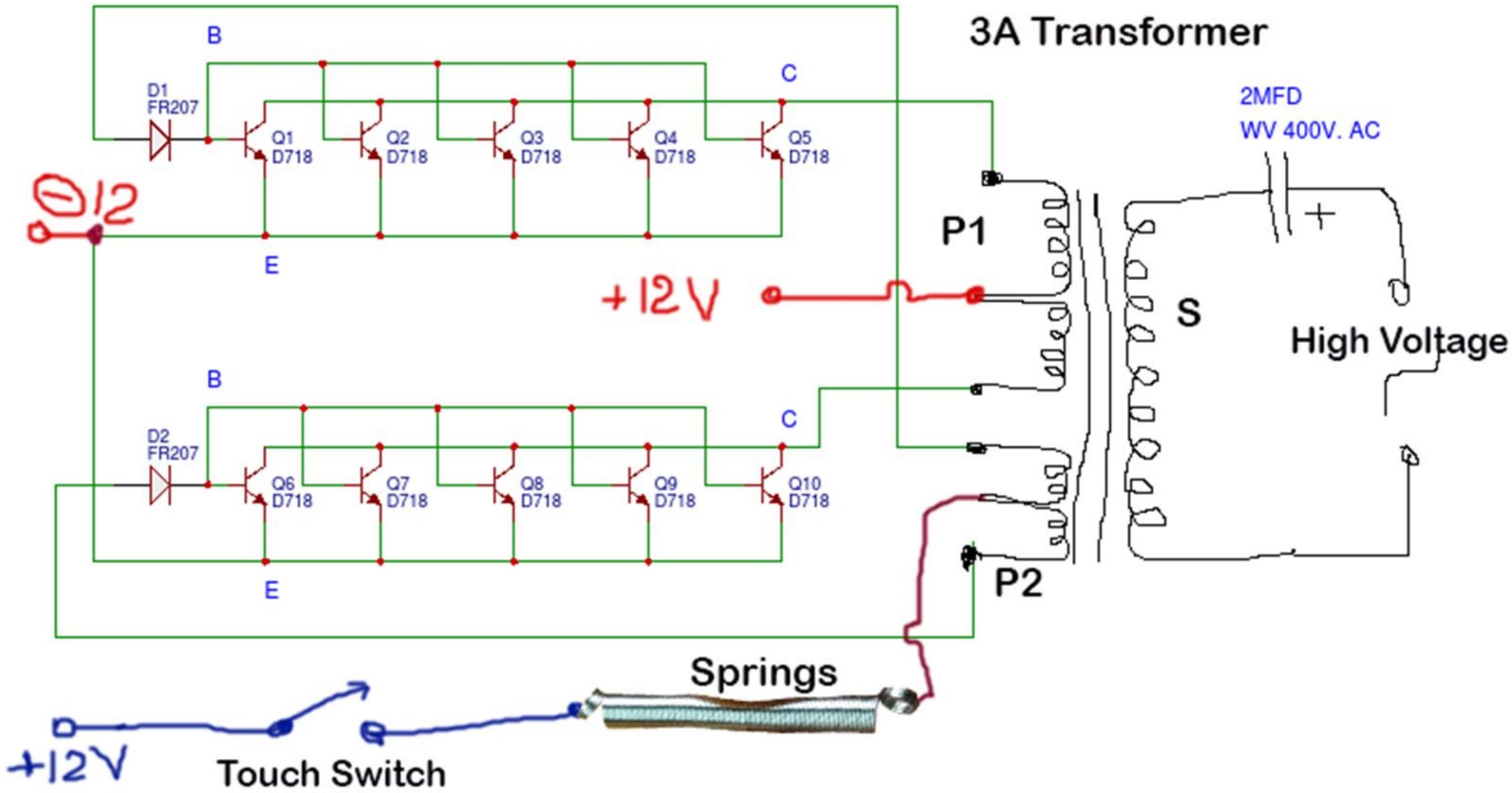

+
R_1
R_2
R_2
T_1
T_2
T_3
К
К
К
Б
Б
Б
Э
Э
Э
Кириш
Чиқиш
R_3
R_4
R_5
R_6
Куп босқичли кучайтиргичлар

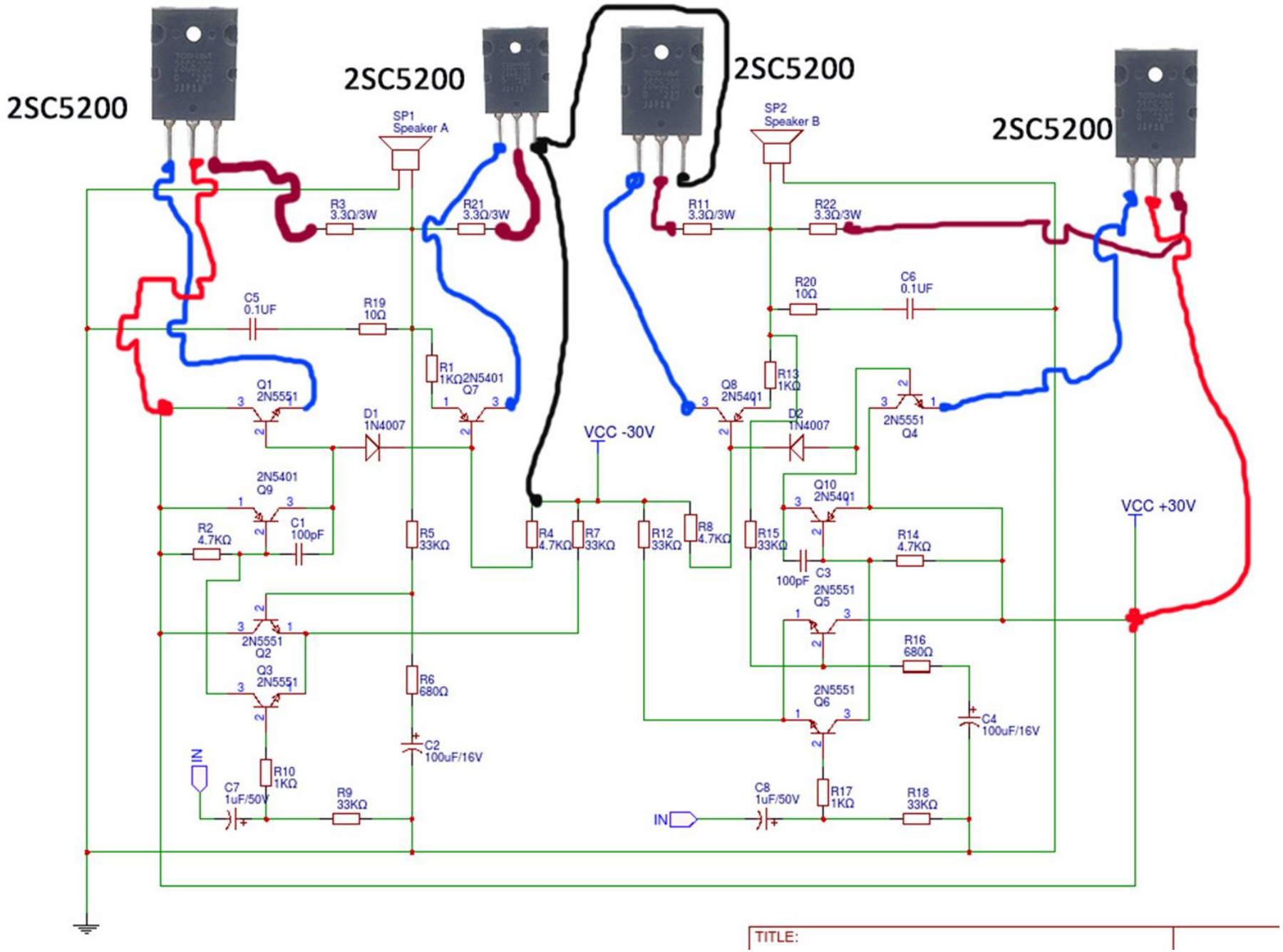


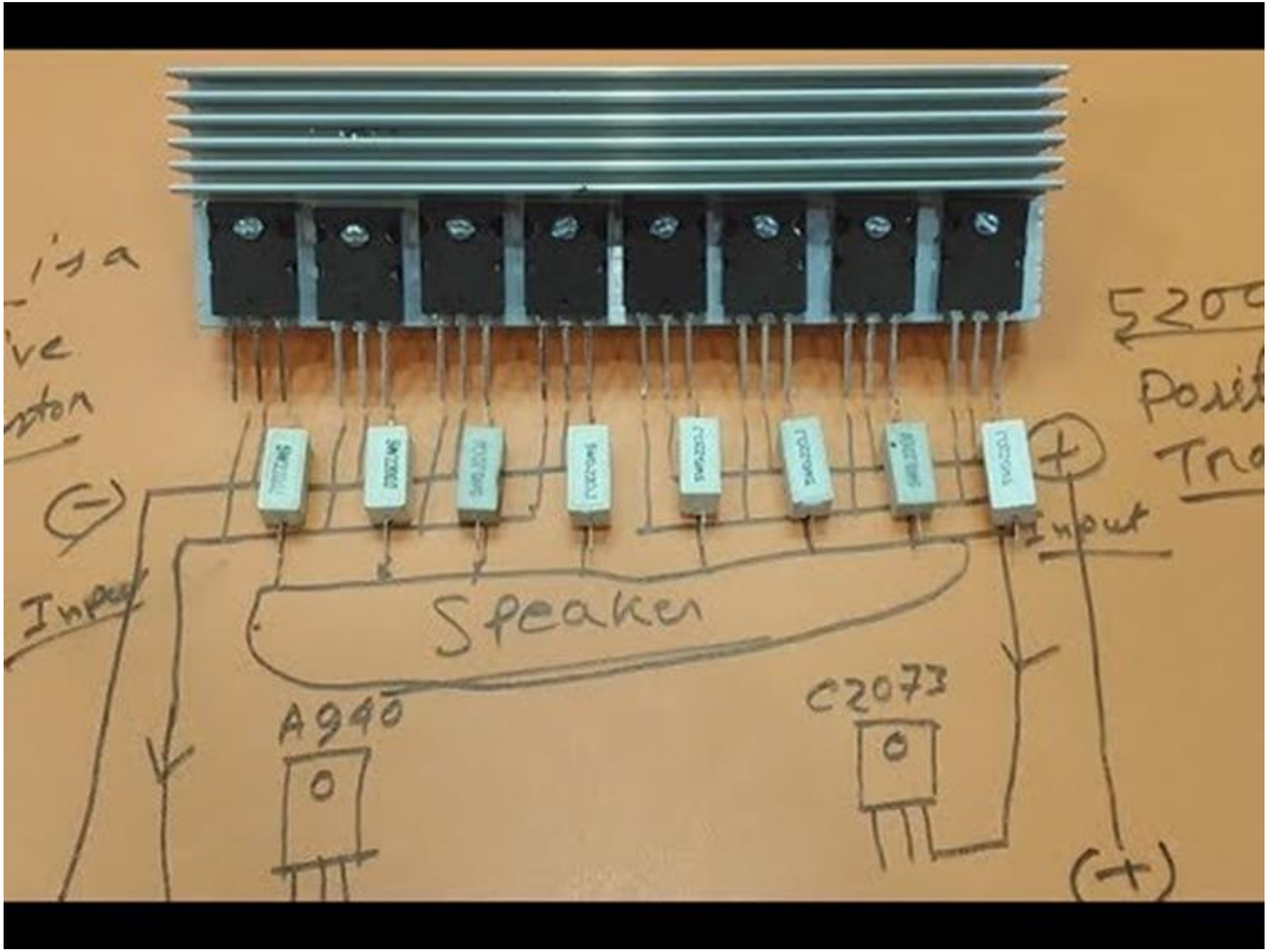
TDA 2030 Макра схеми оръвай 10 Wлик Кучайтириш Курилмаси

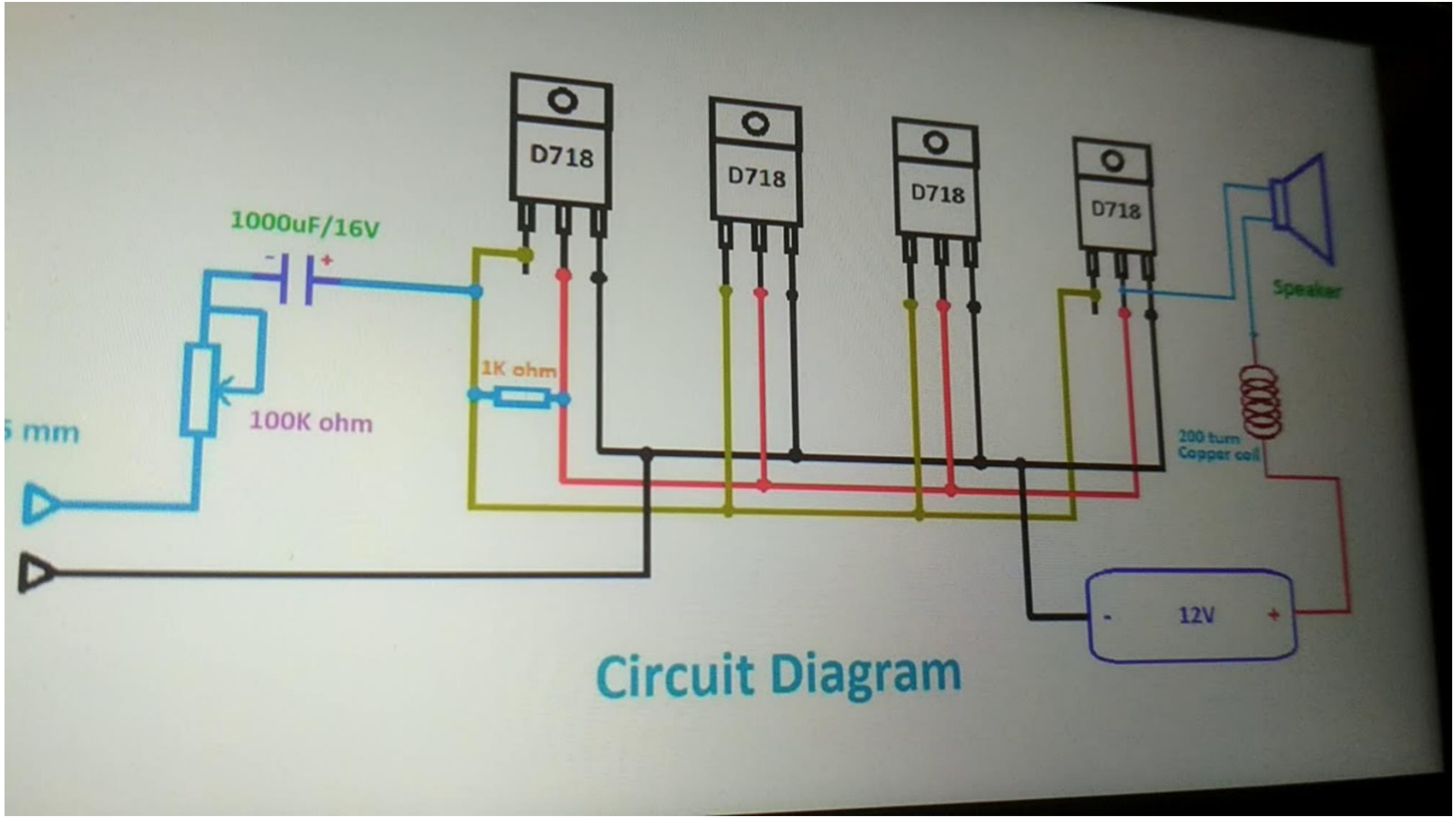

LM555 CD4017 микросхемор орудий автоматической
+12В
L1
L2
M
L3
L4
N-P-N
T1
Z44N
T2
T3
T4
Б
К
Э
+12В
CD4017
IC1
LM555
IC2
R
1K
R2
200K
R3
200K
1MKФ

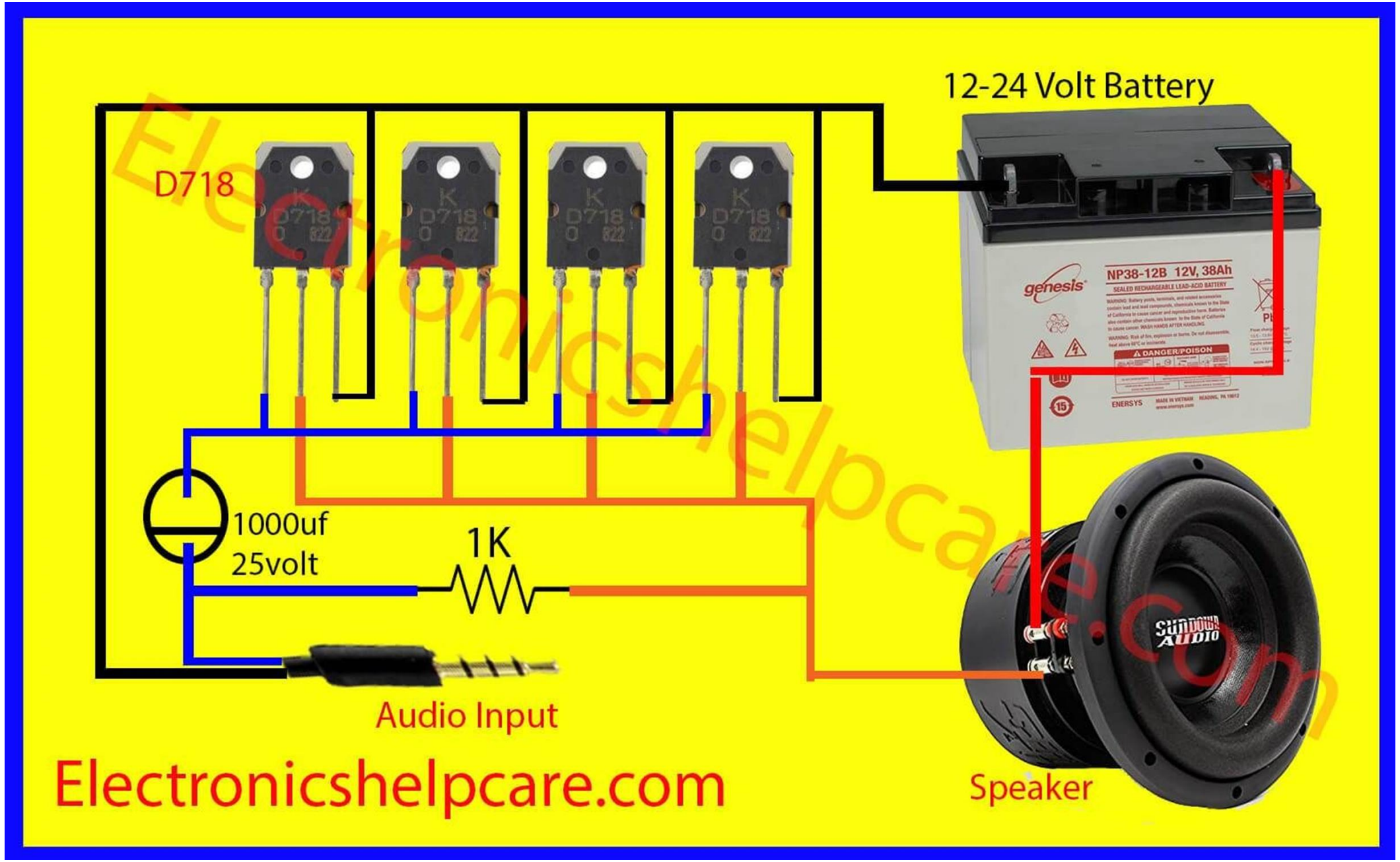

+42V DC
-42V DC
IN
R26 22K
R22 56K
R24 560
R6 56K
R3 4K7
R4 220
Q1
Q2 C1815
C1815
C1 101
Q3 A1013
C3 15
R14 100
Q9 C2073
R28 2.2
Q11 D718
R29 2.2
Q12 D718
R16 470Ω
R32 0.47 5W
R34 0.47 5W
L1 12Turns
U1 SPK
R36 10
8Ohm
R19 1K
C5 1uF/50V
R5 56K
R1 1K
R15 10
R20 100K
C6 101
R18 56K
A1015 Q4
Q5 A1015
C2 100uF/63V
C4 104
R27 10
R9 56K
D1 1N4148-35
C2383 Q6
1K R13
R12 560
C1815 Q8
R17 100
A940 Q10
R33 0.47 5W
R35 0.47 5W
R30 2.2
B688 Q13
R31 2.2
B688 Q14
Q7 A1015
R10 560
1K R11
R23 560
R25 22K
R21 56K
R2 56K
R7 4K7
R8 220


3A Transformer
2MFD
WV 400V. AC
B
C
D1
FR207
Q1
D718
Q2
D718
Q3
D718
Q4
D718
Q5
D718
E
+12V
P1
S
High Voltage
B
C
D2
FR207
Q6
D718
Q7
D718
Q8
D718
Q9
D718
Q10
D718
E
P2
Springs
+12V
Touch Switch

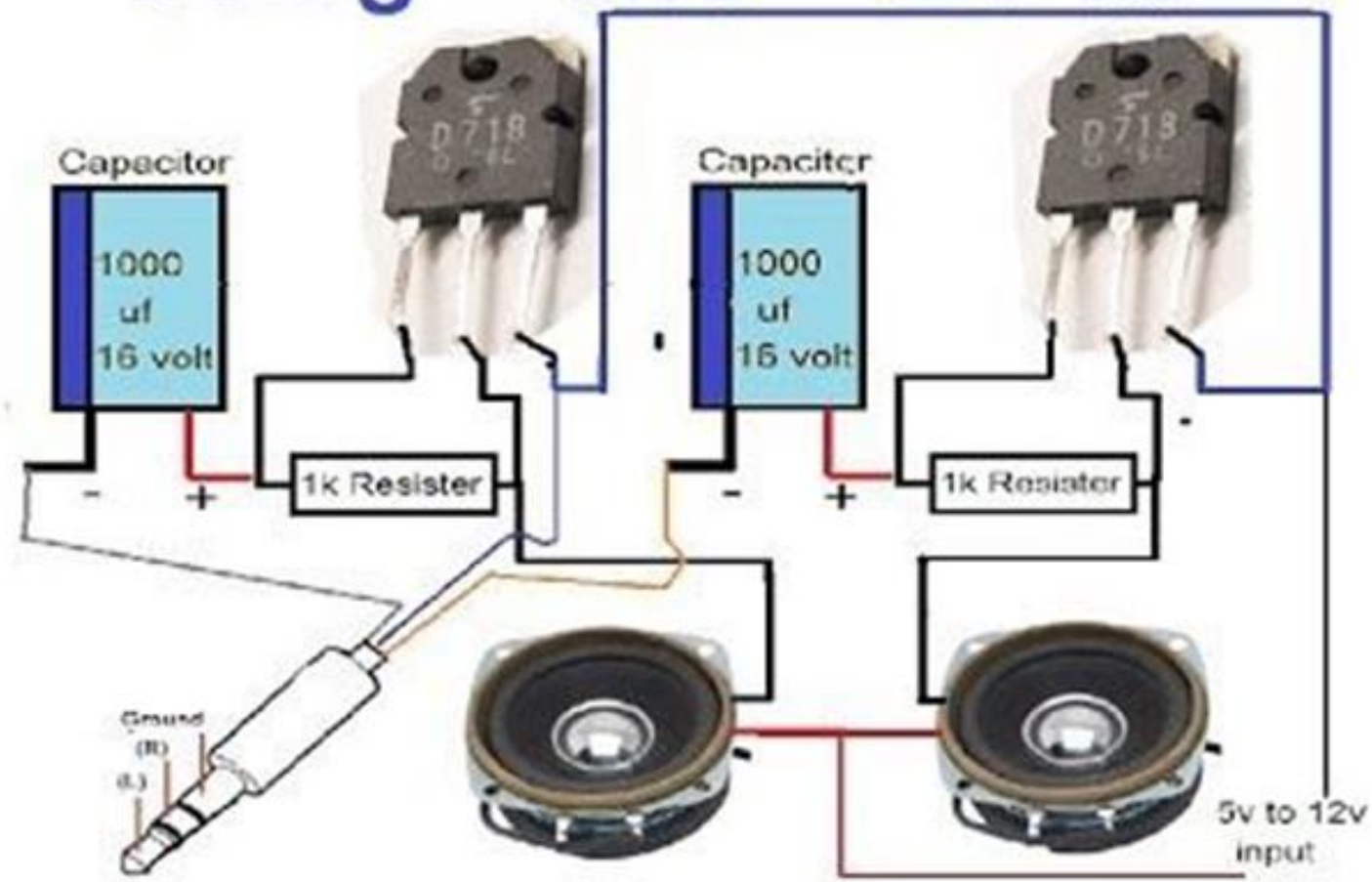

2SC5200
2SC5200
2SC5200
2SC5200
SP1
Speaker A
SP2
Speaker B
R3
3.3Ω/3W
R21
3.3Ω/3W
R11
3.3Ω/3W
R22
3.3Ω/3W
R20
10Ω
C6
0.1UF
C5
0.1UF
R19
10Ω
R1
1KΩ
2N5401
Q7
R13
1KΩ
Q8
2N5401
Q1
2N5551
D1
1N4007
D2
1N4007
2N5551
Q4
VCC -30V
VCC +30V
2N5401
Q9
Q10
2N5401
R2
4.7KΩ
C1
100pF
R5
33KΩ
R4
4.7KΩ
R7
33KΩ
R12
33KΩ
R8
4.7KΩ
R15
33KΩ
R14
4.7KΩ
C3
100pF
2N5551
Q2
2N5551
Q5
R16
680Ω
Q3
2N5551
R6
680Ω
2N5551
Q6
C4
100uF/16V
C2
100uF/16V
IN
R10
1KΩ
C7
1uF/50V
R9
33KΩ
C8
1uF/50V
R17
1KΩ
R18
33KΩ
IN
TITLE:


Speaker
A940
C2073
Input
Input
(+)
(+)

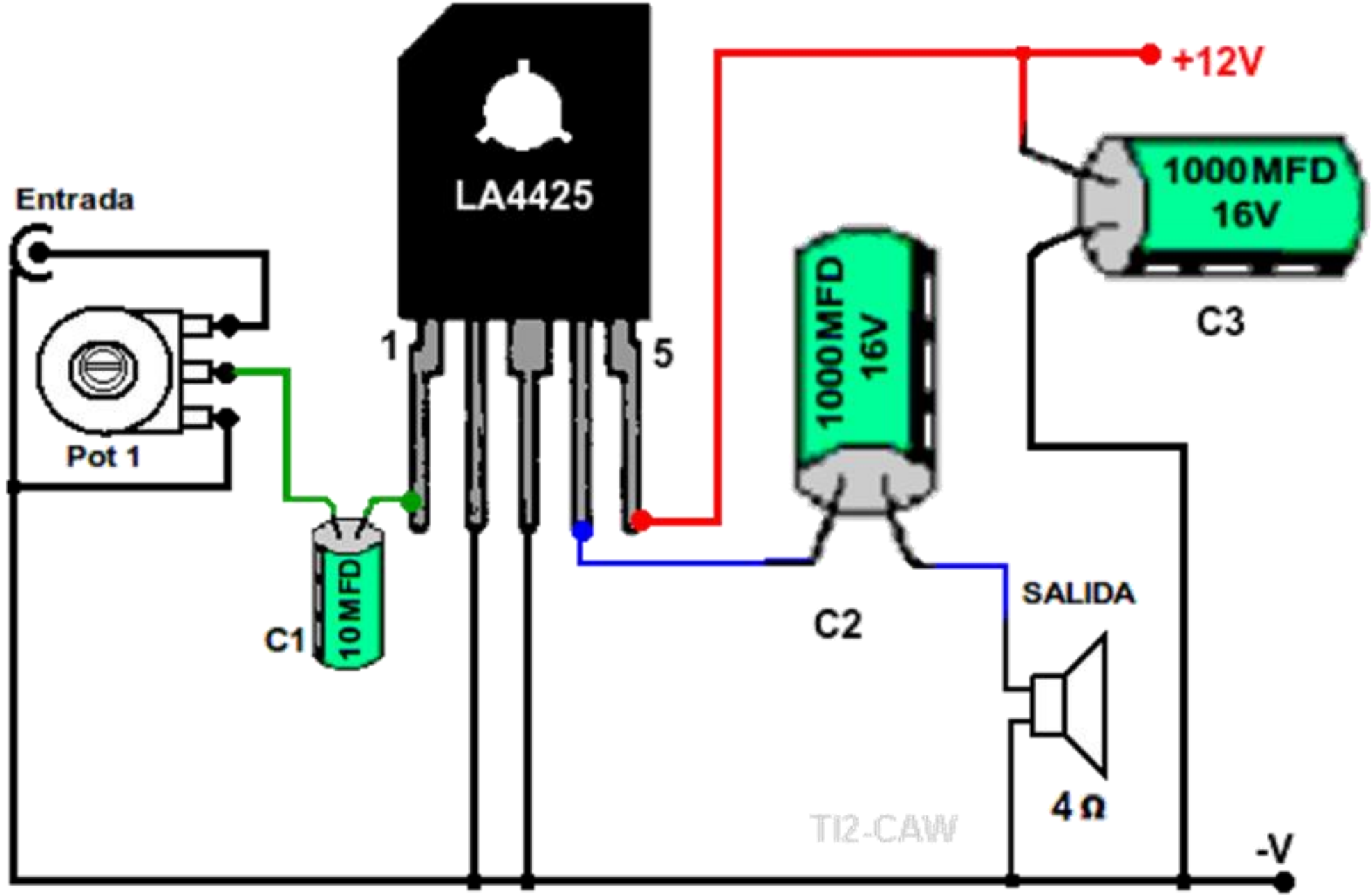

D718
D718
D718
D718
1000uF/16V
1K ohm
100K ohm
mm
Speaker
200 turn
Copper coil
12V
Circuit Diagram

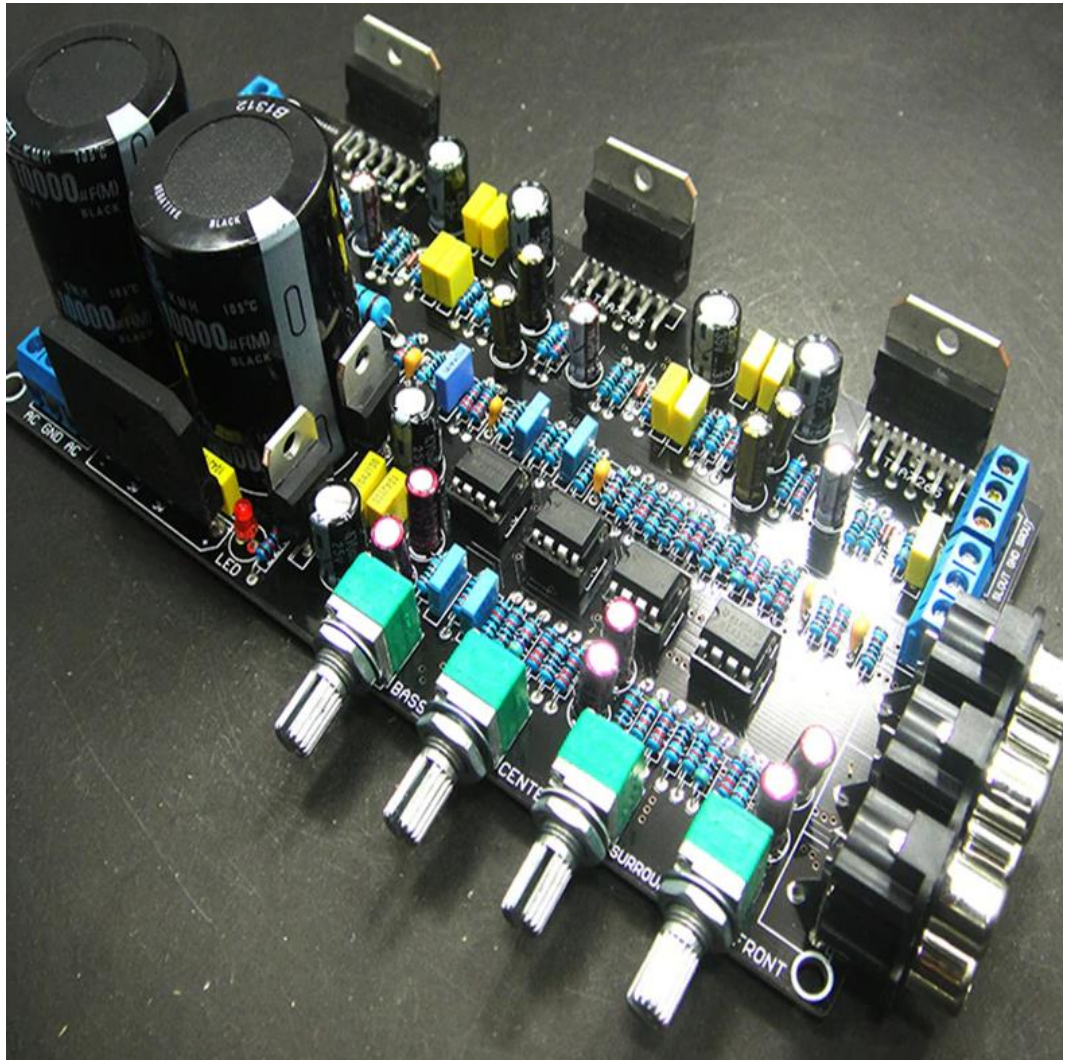

12-24 Volt Battery
D718
1000uf
25volt
1K
Audio Input
Speaker
Electronicshelpcare.com

Stereo Audio Amplifier Using two D718

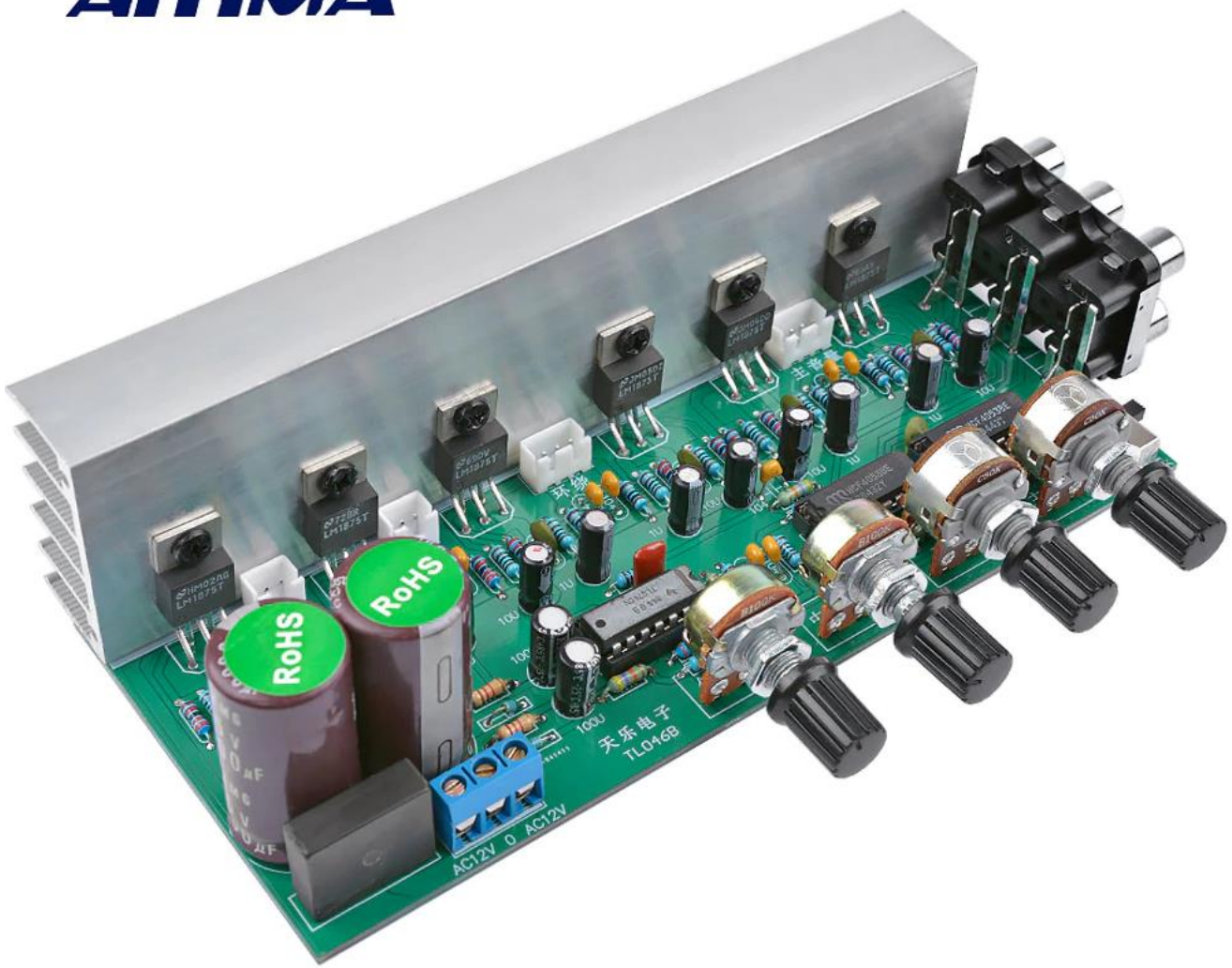


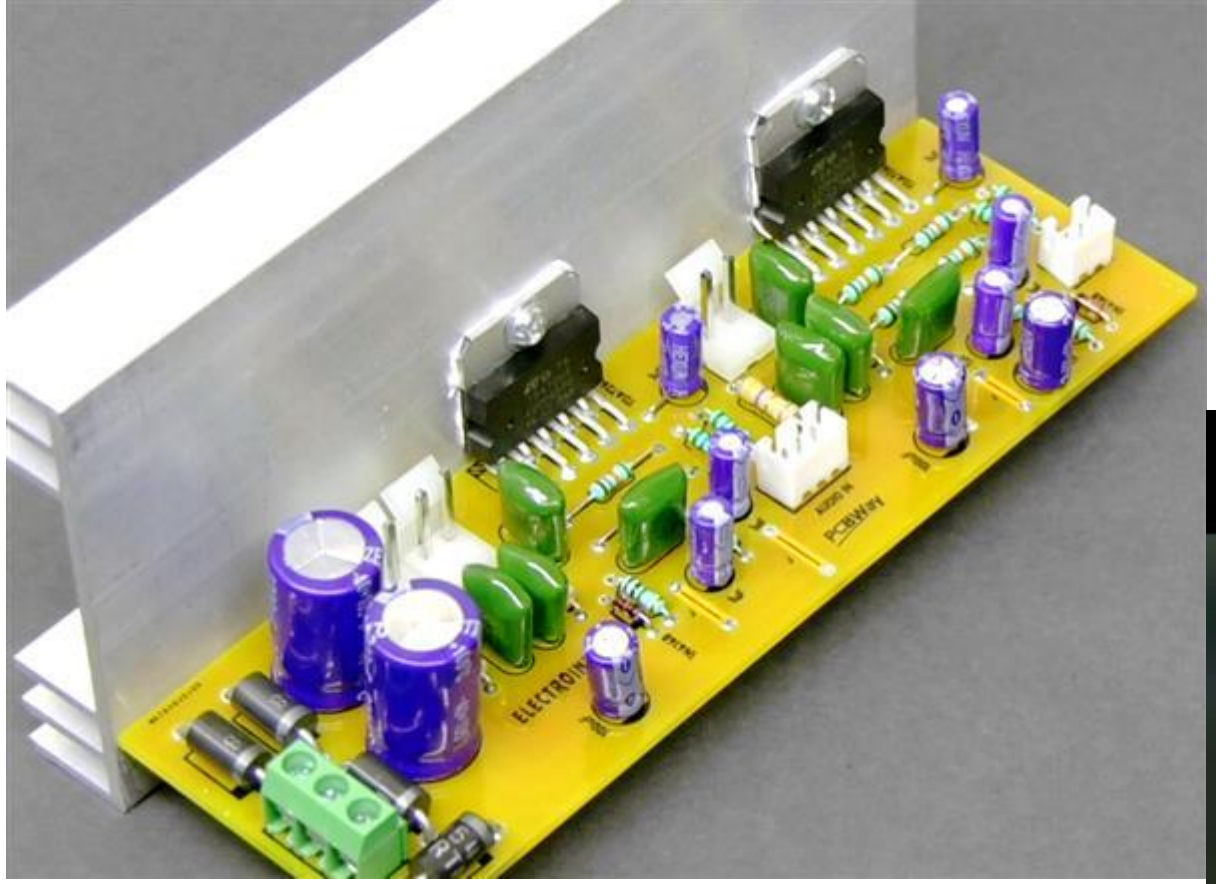
350K+ VIEWS


LA4425
Entrada
Pot 1
1
5
+12V
1000MFD
16V
C3
1000MFD
16V
C2
10MFD
C1
SALIDA
4Ω
-V
TI2-CAW

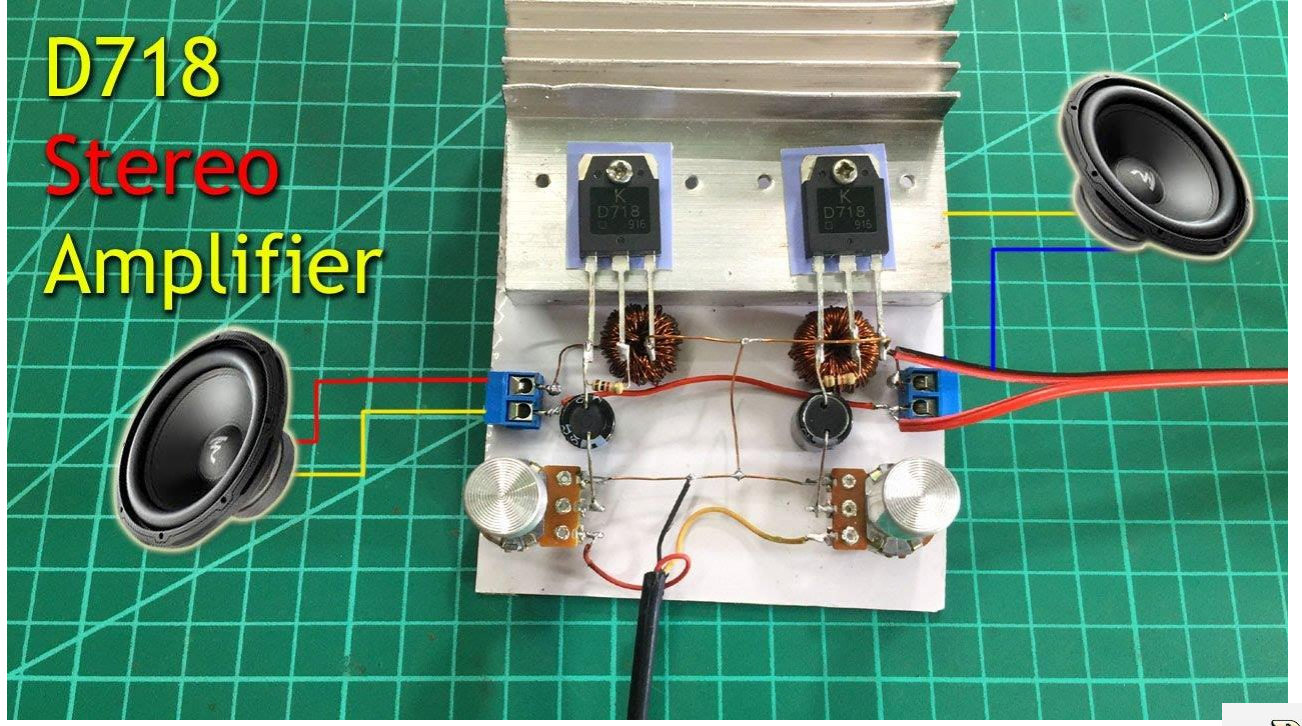


AIYIMA





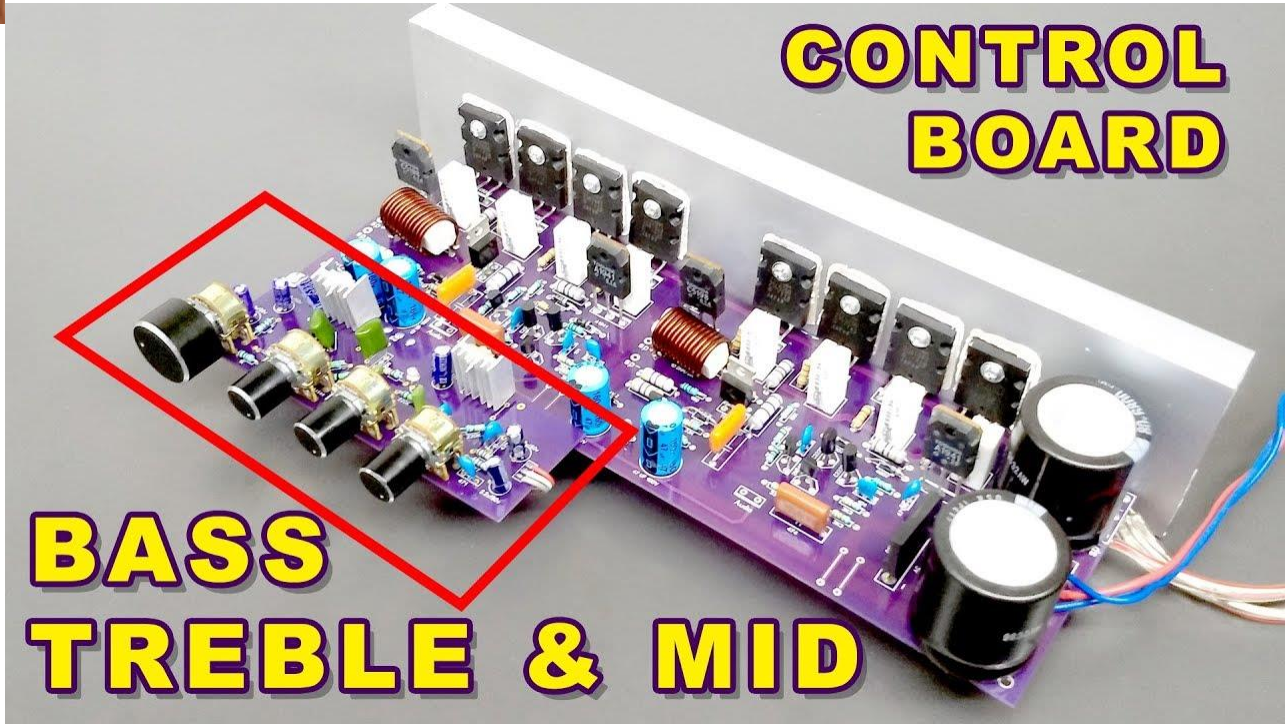

NEW!! 2020
LA4440
AmplifieR
With
VolumE
BaSS TreblE


D718
Stereo
Amplifier


Diy Amplifier
13007 From
The
Old
Computer
Power Supply
CAMBRIDGE
SOUNDWORKS
4Ω
AG00000210306
010543


AMPLIFIER
IRFZ44N
AMPLIFIER
STEREO
POWERFUL


Bass Treble
With
Echo


CONTROL
BOARD
BASS
TREBLE & MID

Topshiriqlar

1	2 trazistorli ovoz kuchaytirgich 1 tranzistorli ovoz kuchaytirgich 3 tranzistorli ovoz kuchaytirgich 4 tranzistorli ovoz kuchaytirgich	Topshirqni har bir talaba jurnal nomeri bo’yicha tanlab. Jurnal nomeridagi quvvat bo’yicha sxemani tuzib MultiSim dasturida bajarish