

TIME BASE

CONTENTS

INTRODUCTION

GENERATION OF THE TDA 8855H COMMAND SIGNALS

DRIVER STAGE

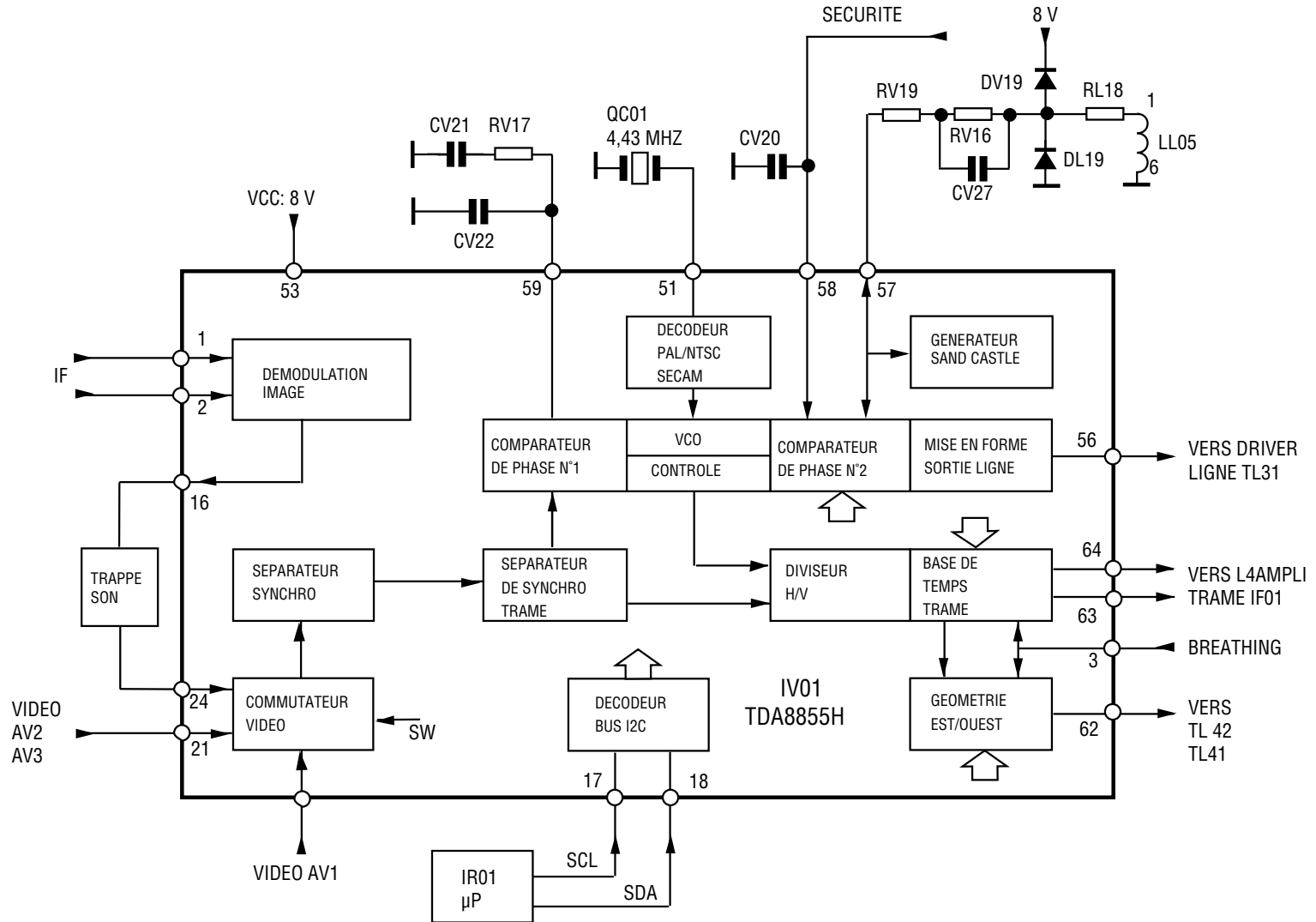
LINE POWER AND THT

EW STAGE

FORMAT CORRECTION

FRAME SCANNING

TIME BASE SAFETY



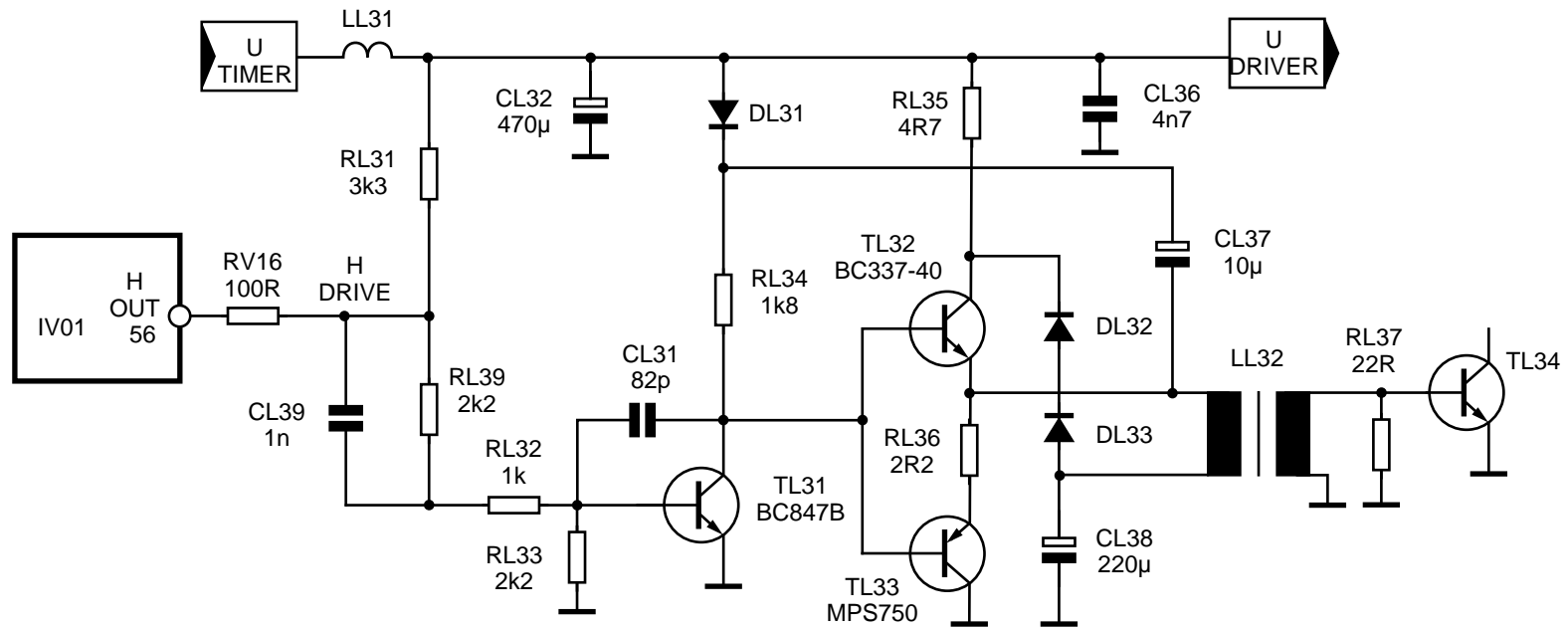
INTRODUCTION

Time base commands are generated by the video processor IV01: TDA 8855H
The latter is supplied with power from the 8 V voltage at pin 53.
This voltage is available in "ON" mode.
The 12C BUS is present on pins 17 and 18.

GENERATION OF THE LINE COMMAND

A VCO and divider assembly managed by the 4.43 MHz quartz (pin 51) supplies a signal at line frequency.
A first phase comparator, on receiving the video signal line synchronisation, locks the divider.
A second phase comparator ensures static phasing. It receives line return pulses from pin 1 of transformer THT LL05 on pin 57.
The line signal, after a formatting stage, is present at pin 56 of IV01 and is then sent to the line power transistor TL54 via the driver stage.

NOTES :



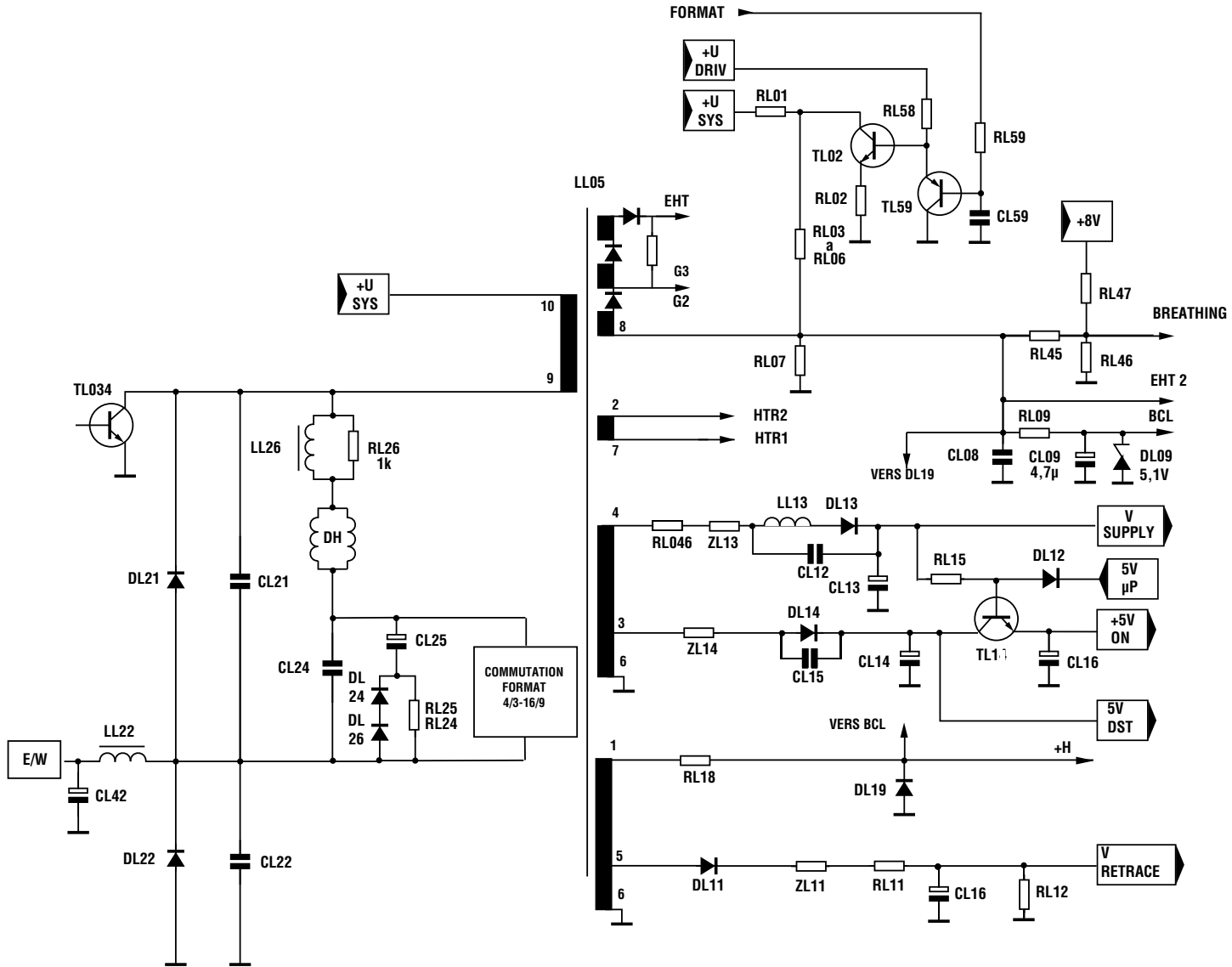
DRIVER STAGE

The line transistor is controlled by the intermediary of a driver transformer operating in forward mode. Its primary is permanently crossed by a positive or negative current.

For this purpose, the base of the primary LL32 relies on positive voltage from the charge of capacitor CL38 linked to the cyclical ratio of the line command. The transistor driver TL 31 switched by this signal controls the push-pull TL 32/TL 33.

Diodes DL32/DL 33 intervene in the case of a short-circuit between the collector/transmitter of transistor TL 32 to render the TV set safe by stopping scanning. From this time TL 33 conducts permanently and causes rapid destruction of RL35.

NOTES :



LINE POWER AND THT

The LL05 primary supplied by the + USYS voltage is associated with the line power transistor TL34 and the diode modulator DL21, DL22, CL21, CL22.

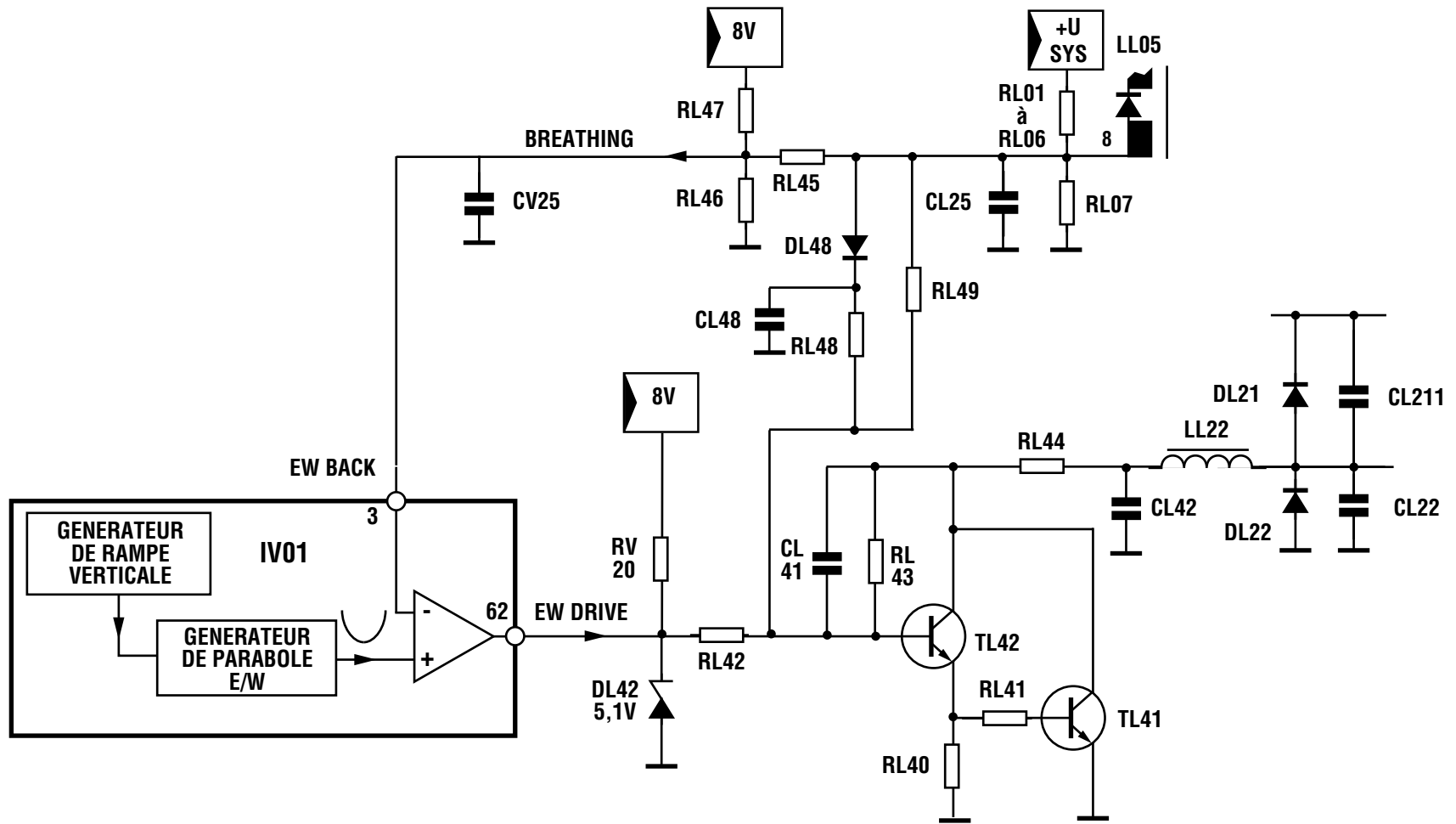
These switching components also channel current from the horizontal deviator connected in serial with the capacitor of "S " CL24 and the linearity inductance coil LL26.

Two circuits are assembled in parallel on the capacitor "S". The first is a damping circuit to suppress oscillations which appear during rapid changes in beam current. The second on the 16/9 rack only, allows by adding a capacitor switched by a thyristor, adjusting line amplitude during changes of format.

On the LL05 secondaries the following are located:

- pin 2 and 7 a pulse for heating the image tube filament.
- pin 4 rectified by DL13 filtered by CL13 "V SUPPLY" voltage.
- pin 3 rectified by DL14 filtered by CL14 and stabilised by TL14 from the 5 Vmp with a voltage of 5V ON.
- pin 1 a positive line return pulse to obtain service signals.
- pin 5 rectified by DL11 filtered by CL16 a "V RETRACE" voltage to supply the frame amplifier during return.
- pin 8 the image of the instantaneous beam current "BREATHING", "bcl", "EHT 2".

NOTES :



EW STAGE

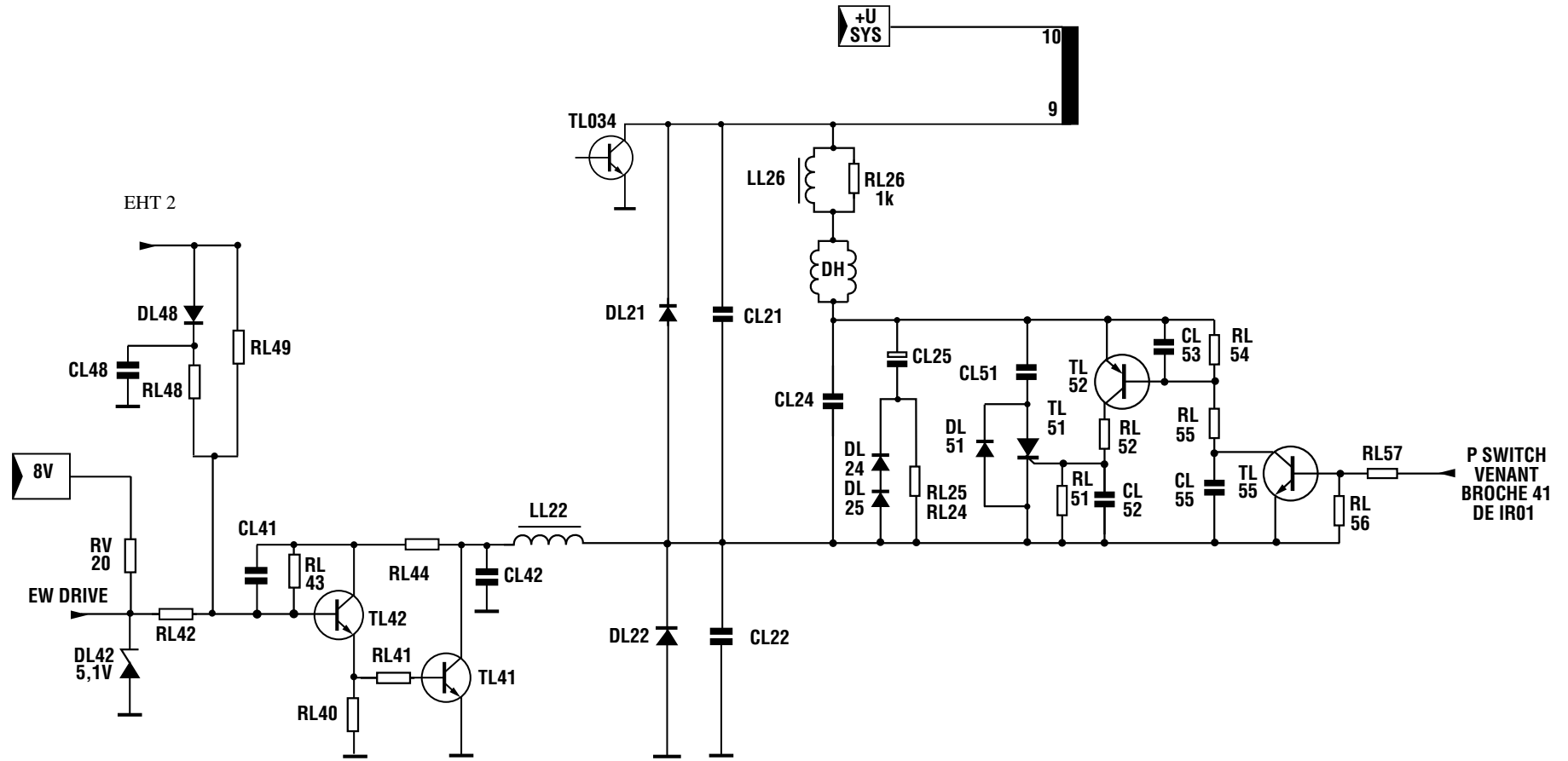
The integrated circuit IV01 integrates the E/W parabola generator synchronised by the vertical ramp generator.

The various adjustments are by the intermediary of service mode and are routed by the 12C bus.

An amplifier integrated in IV01 supplies in the form of a parabolic current at pin 62 an E/W command, which is applied at two transistors TL 41 and TL 42 assembled in darlington. It extract energy from the modulator through the inductance coil LL22.

From the EHT2 voltage image of the beam current and through DL48, RL48, RL49, CL48, automatic correction of width is made depending on the tube rate.

NOTES :

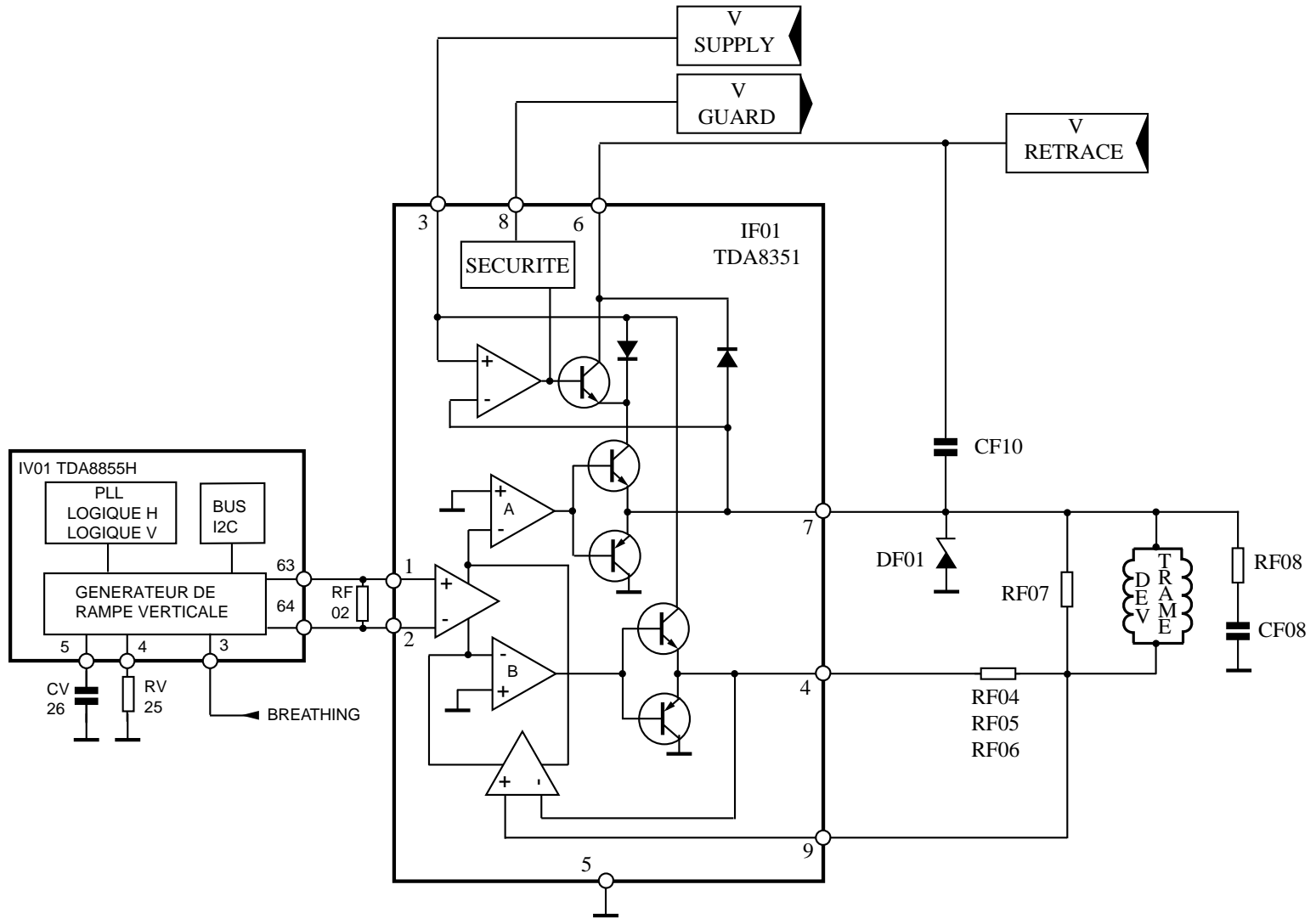


FORMAT CORRECTION

On the 16/9 rack it is possible to switch via the intermediary of TL55, TL52, TL51 controlled by the IR01 μ p, a second capacitor "S" CL51 in parallel on CL24.

The effect is to reduce line amplitude and supply correct linearity in centred 4/3 mode.

NOTES :



FRAME SCANNING

Two circuits are involved in frame scanning.
IV01 (TDA8855H) generates the frame saw tooth
IF01 (TDA8351) amplifies this signal and supplies the signal to the frame deviator

The video processor IV01 incorporates a vertical ramp generator which uses the capacitor CV26 (pin 5) and the resistor RV25 (pin 4).

The amplitude of this ramp is adjusted versus the BREATHING information applied at pin 3 (automatic height correction).

Linearity and amplitude correction is also supplied by IV01. They can be adjusted by bus 12C in the framework of service mode. A correct border is ensured by internal continuous voltage adjusted at bus 12C.

A saw tooth signal is available at pin 64 combined with a continuous component on pin 63 to control the amplifier circuit IF01.

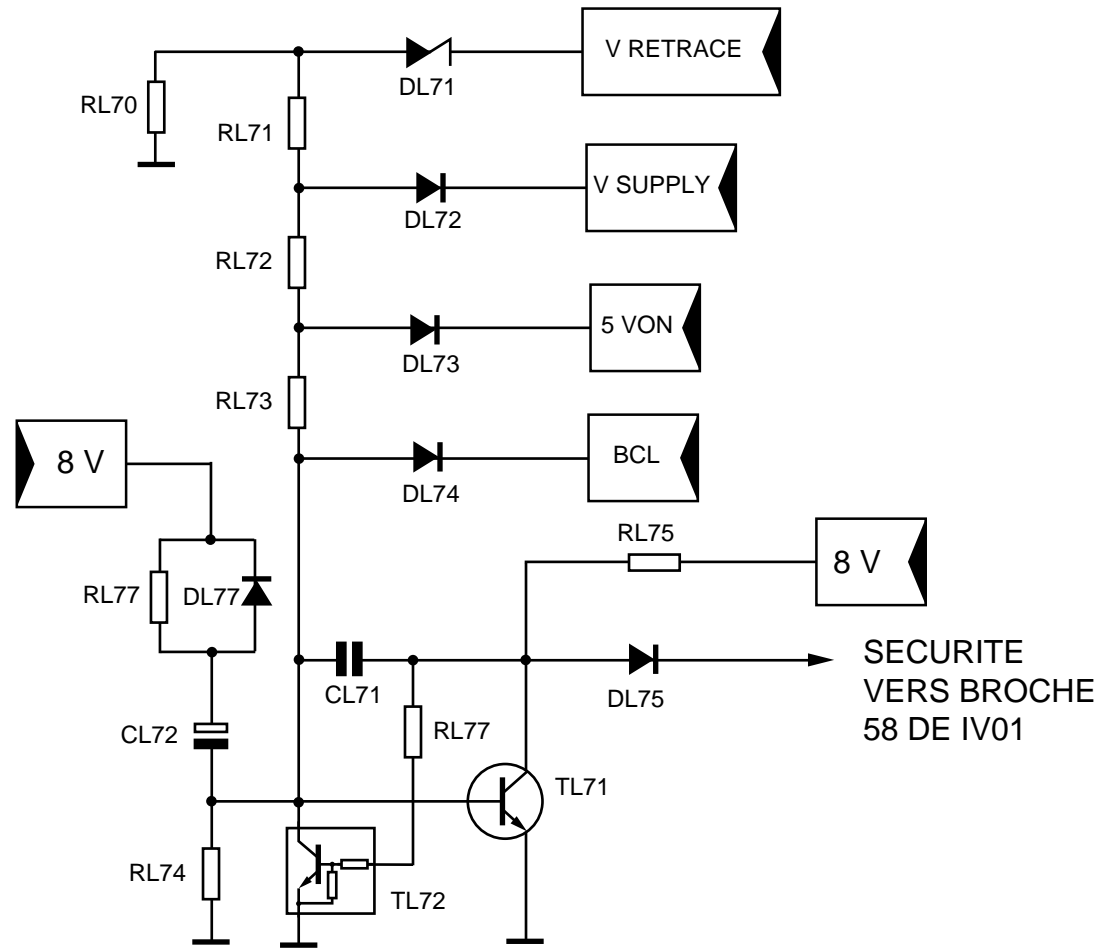
The circuit TDA 8351 receives the previous commands at pins 1 and 2.

The voltages V SUPPLY and V RETRACE supply this circuit.

The output pin 5 supplies current to the deviator. In series with the latter, the resistors RF04, RF05, RF06 develop at their terminals, an image of the current for the counter reaction.

To avoid burning the image tube in the event of frame failure, we monitor satisfactory operation of the frame time base by the GUARD data which will be at high status. In the case of a frame failure, absence of this data indicates to the video processor IV01 (pin 34) a defect, and the latter cuts the three RGB channels by rendering the circuit safe after two start-up attempts (failure code 27).

NOTES :



TIME BASE SAFETY

The safety circuit detects short circuits in scanning or line voltages and runaway of the beam current.

The frame deviator signal supplies a voltage which polarises the zener DL71 and saturates the transistor TL71 imposing a low level on the SAFETY line.

The following defects force a high level on the SAFETY line, which applied at pin 58 of IV01 cuts off line scanning.

- Frame defect by DL71.
- Defect in the V SUPPLY voltage by DL72.
- Defect in the 5V On voltage by DL73.
- Runaway of the beam current.

NOTES :

