

General Information

1996
TV4 Chassis
CRT: A66EAS13X01

Service
Adjustments

Alignment Procedure

General Hints

Always use an isolating transformer for repair works and existing safety regulations. Compliance with the generally valued rules for 'protection against static charges' is essential.

X-Ray regulations: the picture tube types and the maximum permissible high voltage ensure that X-Ray intensity within the set remains far below the permissible value. The high voltage is within the permissible limits when operating voltage equals 148V at the minimum beam current. Following servicing, check and adjust this voltage to the nominal value.

Modifications reserved.

Operating Voltage U1

Set the contrast and brightness to minimum. Test point: cathode of diode D806 to ground (GND).

Adjust R814 to +148V (± 0.5V).

Service Mode

Before being switched to the service mode the unit must be set to a channel with a test pattern. Press the red key and the blue key on the remote control simultaneously. Within 5 seconds, press the P- and the V+ key on the local control panel simultaneously. The title "SERVICE V xxx" (xxx is for software version) appears in the screen.

Keys **P+** and **P-** (programme): call up tuning parameters.

Keys **V+** and **V-** (volume): modify tuning parameters.

Note: the parameters are stored if changed (out of change "option bit").

- V-SHIFT:** Adjusts the vertical shift. Fortunately, the bottom screen half can be masked using the yellow button (transmitter).
- H-SHIFT:** Adjusts the horizontal shift.
- V-SIZE:** Adjusts vertical position at the top screen edge.
- V-SYMM:** Adjusts vertical position at bottom screen edge. Repeat alternately using V-SIZE control.
- S-CURVE:** Adjusts top and bottom vertical linearity with linearity of screen centre.

- EW-PARABO:** Makes vertical lines parallel with screen edge.
- H-SIZE:** Adjusts the horizontal size.
- EW-CORNER:** Adjusts vertical lines in corners. Basic setting is 31. Setting should only be changed if EW-PARABO balance cannot be adjusted satisfactorily.

- EW-TRAPEZ:** Adjusts values so that picture has same with top and bottom edges or outer vertical lines are parallel with each other. See White Drive Adjustment.
- W-RED:** See White Drive Adjustment.
- W-GREEN:** See White Drive Adjustment.
- W-BLUE:** See White Drive Adjustment.
- CLDELAY:** Superimpose the luma signal on the chrominance signal.
- PEAKING:** With standard test picture, set to focused picture with few overshoots.
- TUNER- AGC:** Receive a signal on channel 08 with 60dBµV. Testpoint: pin 5 tuner. Adjust with the remote control +6 (± 0.1V). To obtain a correct setting is the adjustment of the reference coil.
- AFC:** No change can be made using the transmitter (see "Picture Carrier Reference Coil" control).
- STEREO ADJ:** Connect 2-channel oscilloscope to loud speaker outputs and set test picture and stereo signal (sinewave with different frequencies for each channel) to lowest crosstalk (not applicable on sets with multi-standards stereo).
- OPTION:** See table (observe hints).

Important: You can select options using the buttons volume + and -. The option bit displayed can be switched ON or OFF using the yellow button (transmitter). To activate an option bit change, switch the set off (main power switch), for a minimum of 5 seconds. Depending on the version, some of the option bits may not be accessible. On versions where you can select the option bits using the buttons P+ and P-, it is not necessary to switch the set off to activate a change. In this case, the ON/OFF functions can be performed using the +/- . Option bits are not described and must not be changed for service settings.

- OPTION 1**
ON: tuner without hyperband.
OFF: tuner with hyperband.
- OPTION 4**
ON: power on - start to standby.
OFF: power on - start at once.

- OPTION 5**
ON: AFC off.
OFF: AFC on

- OPTION 6**
ON: AFC service on.
OFF: AFC service off.

- OPTION 7**
ON: sleep mode off.
OFF: sleep mode on.

- OPTION 12**
ON: hotel mode on.
OFF: hotel mode off.

Note: Sleep mode: set switches to standby after about 6 minutes if no input signal is received by the video processor.

Hotel mode: in the hotel mode, the programming menu, i.e. to change to programme channel, is disabled.

Picture Carrier Reference Coil

- 1: In service mode, set OPTION 5 to ON (AFC off) and OPTION 6 to ON (AFC service on). (Refer to notes).
- 2: Optimise the test picture and sound setting (adjust channel tuning manually since AFC is disabled). In the service mode go to position AFC.
- 3: Turn Fi. 201 coil down to stop.
- 4: Slowly screw out Fi. 201 coil to second setting point so that the bar display is green and the cursor "jumps" about the centre point. If the bar display is yellow you are outside the capture range.
- 5: Switch off service mode.
- 6: Check stations search mode. If the search mode fails to stop at the right position, repeat the setting procedure. In service mode set OPTION 5 to OFF and OPTION 6 to OFF (refer to notes).
- 7:

G2, Focus and Drive Adjustment

- 1: Set the test picture with white field.
- 2: Roughly adjust G2 controller.
- 3: Set white drive to 31 for red, green and blue in service mode.
- 4: Set brightness and contrast to middle position and colour to minimum. Call up programme list (press info button 3 times).
- 5: Set focus controller to optimum general focus.
- 7: Turn G2 to the left until picture is blanked.
- 8: Starting with the black picture, turn G2 controller to the right until white areas have neutral colour or are displayed in minimum hue; the OSD (e.g. programme list) should then give an impression of the same brightness as the white areas of the picture.
- 9: Then set the hue to neutral in service mode using the white drive controller for red, green and blue.
- 10: Reduce the levels of strong primary colours and leave the white drive of the "weakest" colour to 31.

Spare Data Record

The set levels such as picture geometry parameters, etc. are stored in the control processor EEPROM. If these levels are incorrect and the set can no longer be correctly operated, there is the possibility of using a spare data record from the ROM area temporarily and of transferring it to the EEPROM area.

Note: this feature is not possible on all software versions.

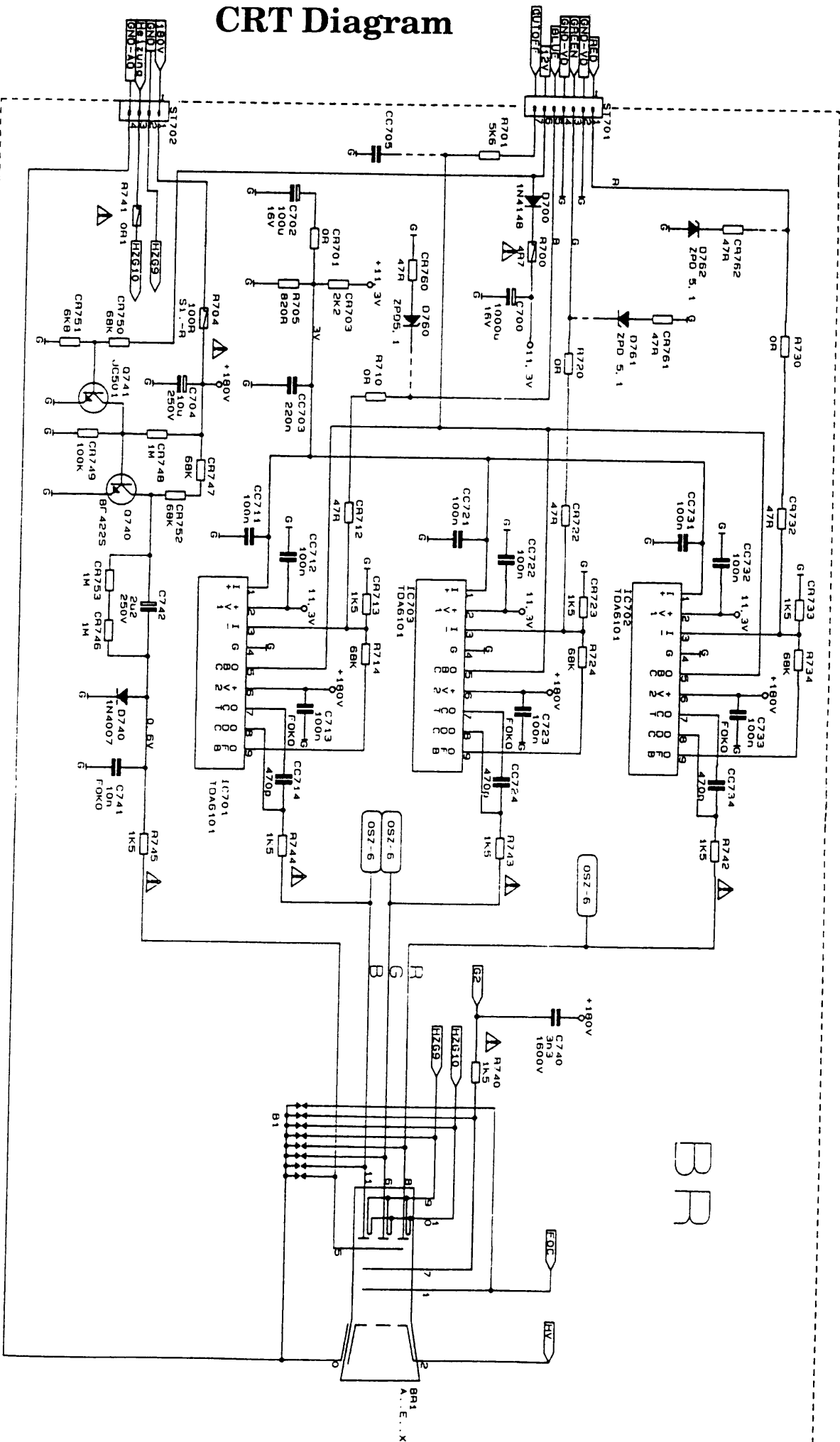
Temporary selection of spare data record

- 1: Switch off set at power switch and wait for a minimum of 5 seconds.
- 2: Depress buttons P+ and P- together on control panel and hold down.
- 3: Turn power switch on keeping the two buttons pressed until the set starts up.
- 4: The control processor loads the spare data from the ROM to RAM and uses this data until the next power down. All functions can be executed in this mode. However it is not possible to store changed values.

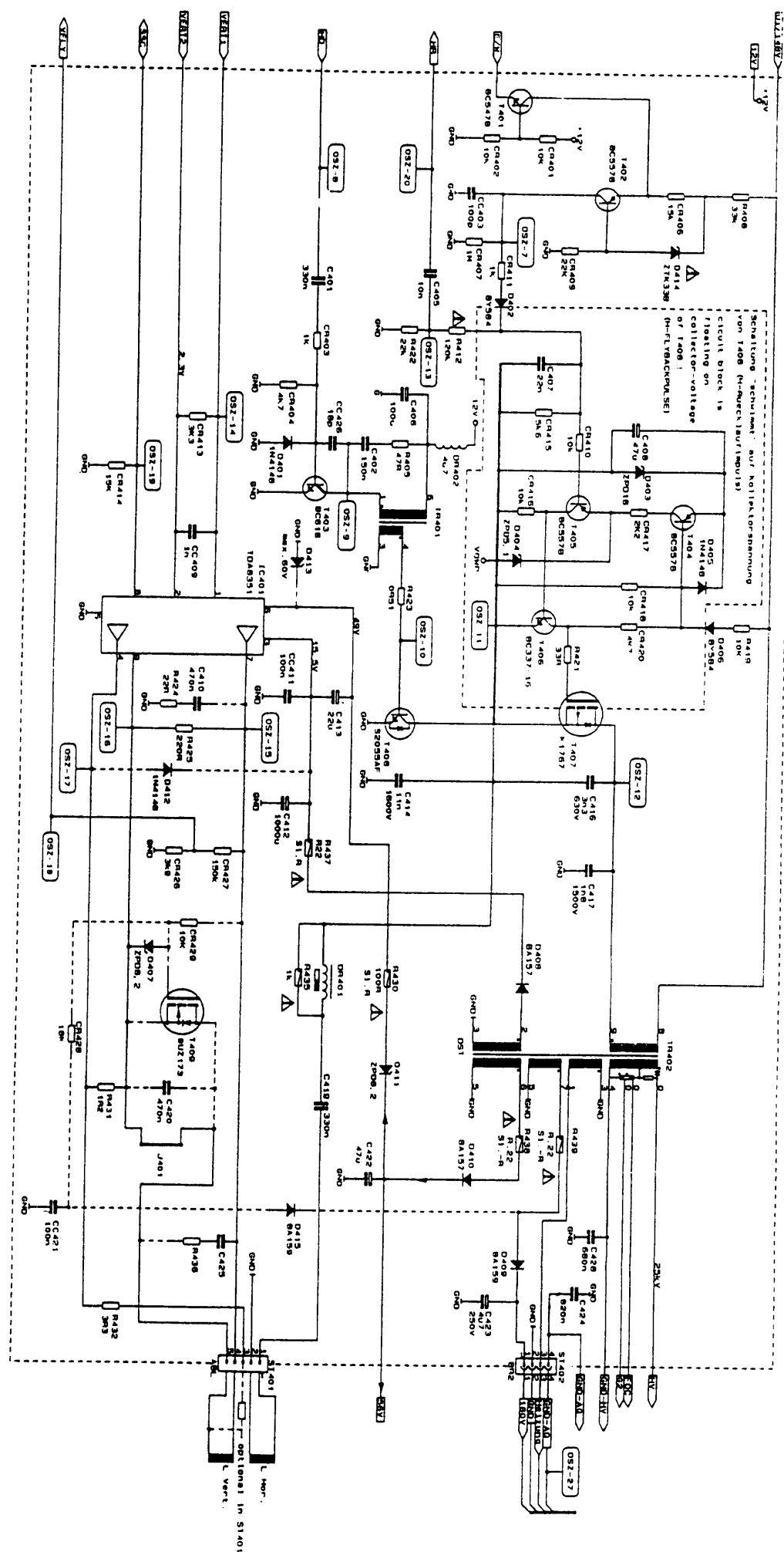
Transferring Spare Data Record to EEPROM

This function is enabled in the same way as for selecting the spare data record. However, pin 5 (PC4) must be connected to pin 9 (GND) on the service socket (rear of set). The values in the EEPROM are overwritten by the spare data and are therefore lost. The unit starts its function using the new

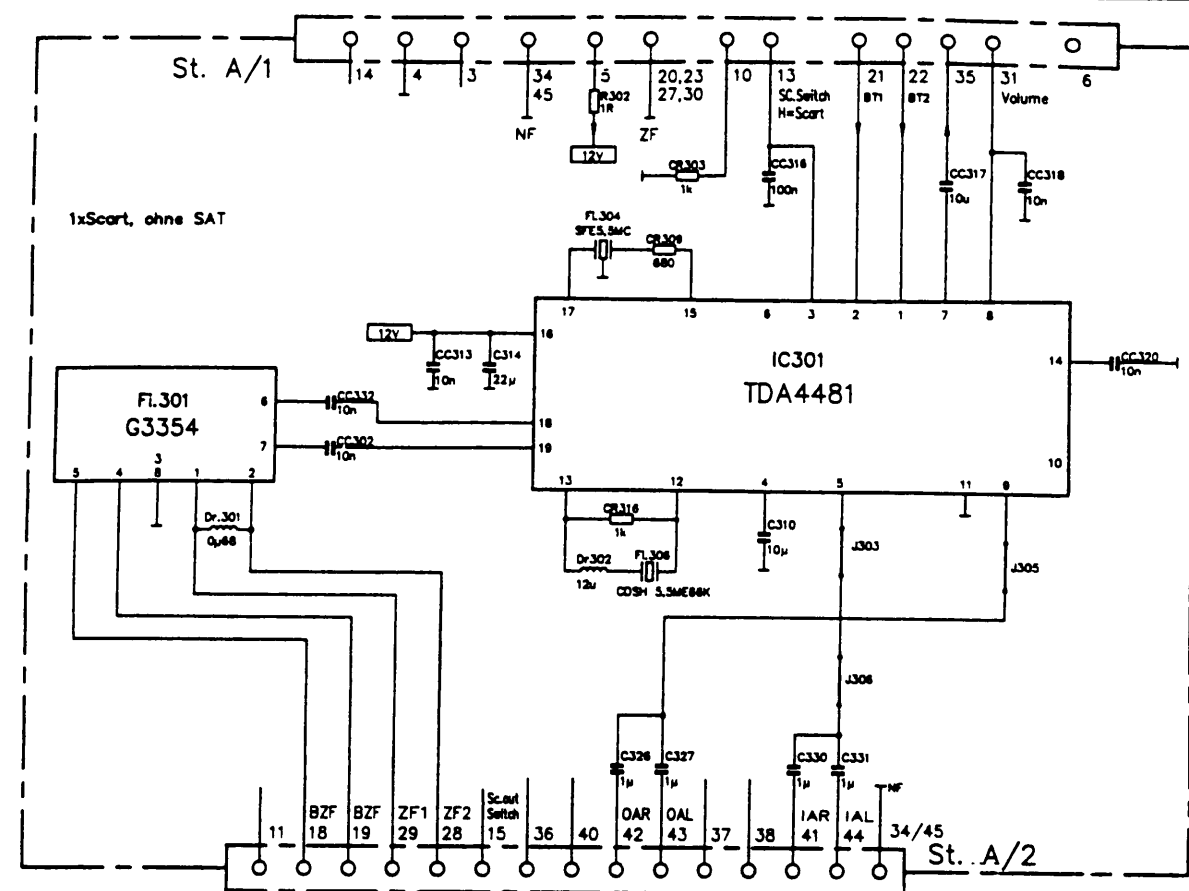
CRT Diagram



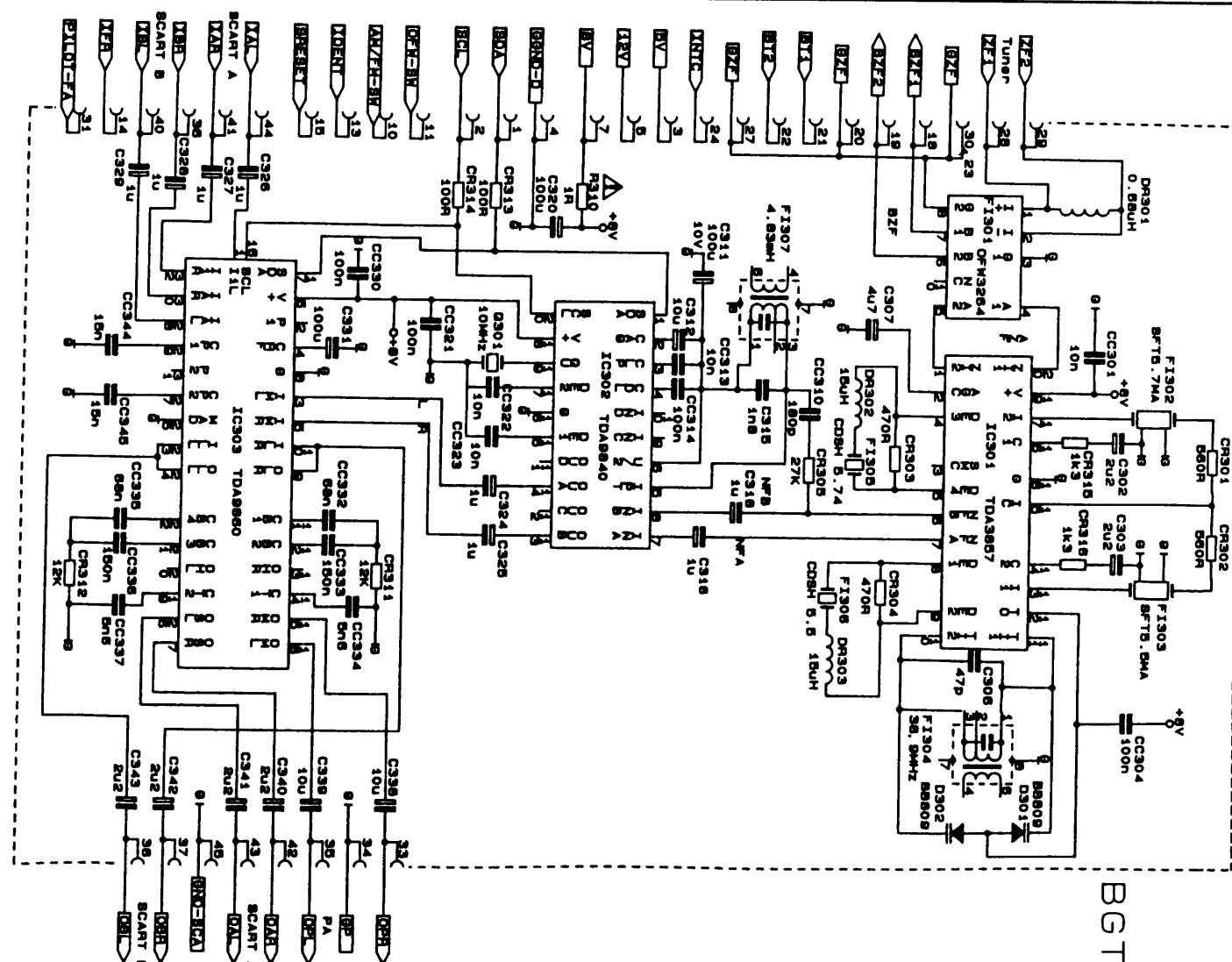
Power Deflection Diagram



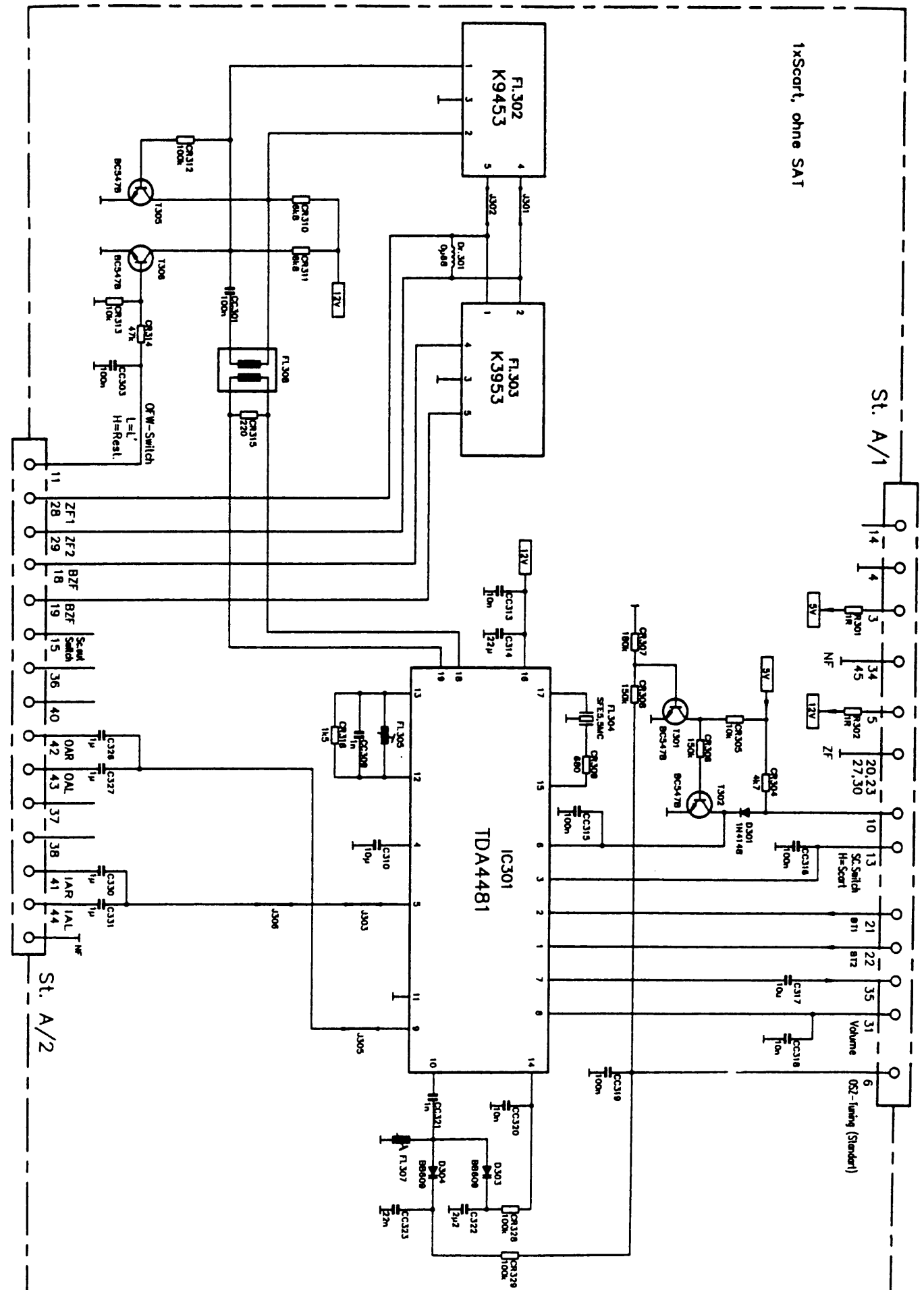
IF B/G Mono Diagram

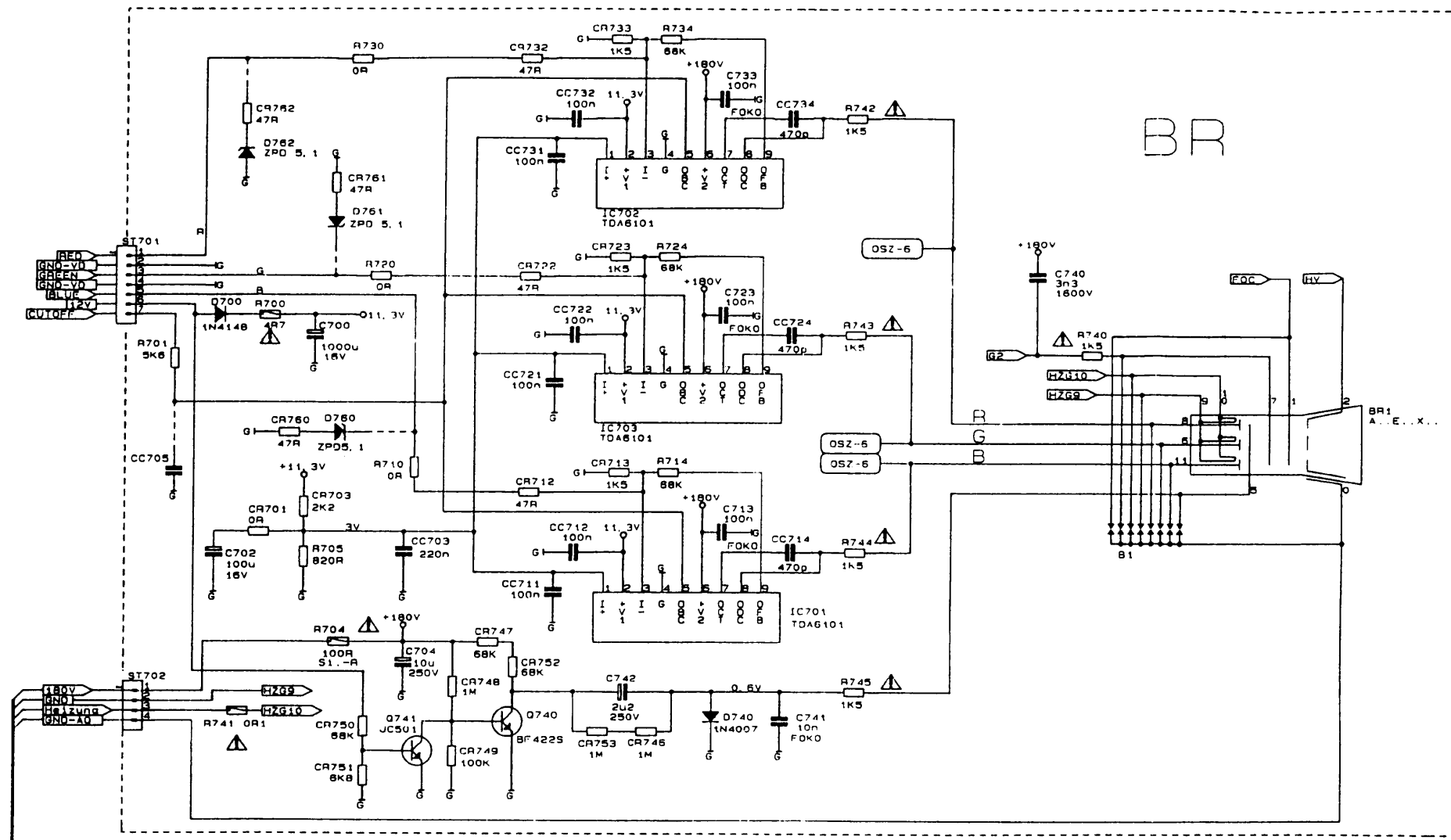


IF B/G Stereo Diagram



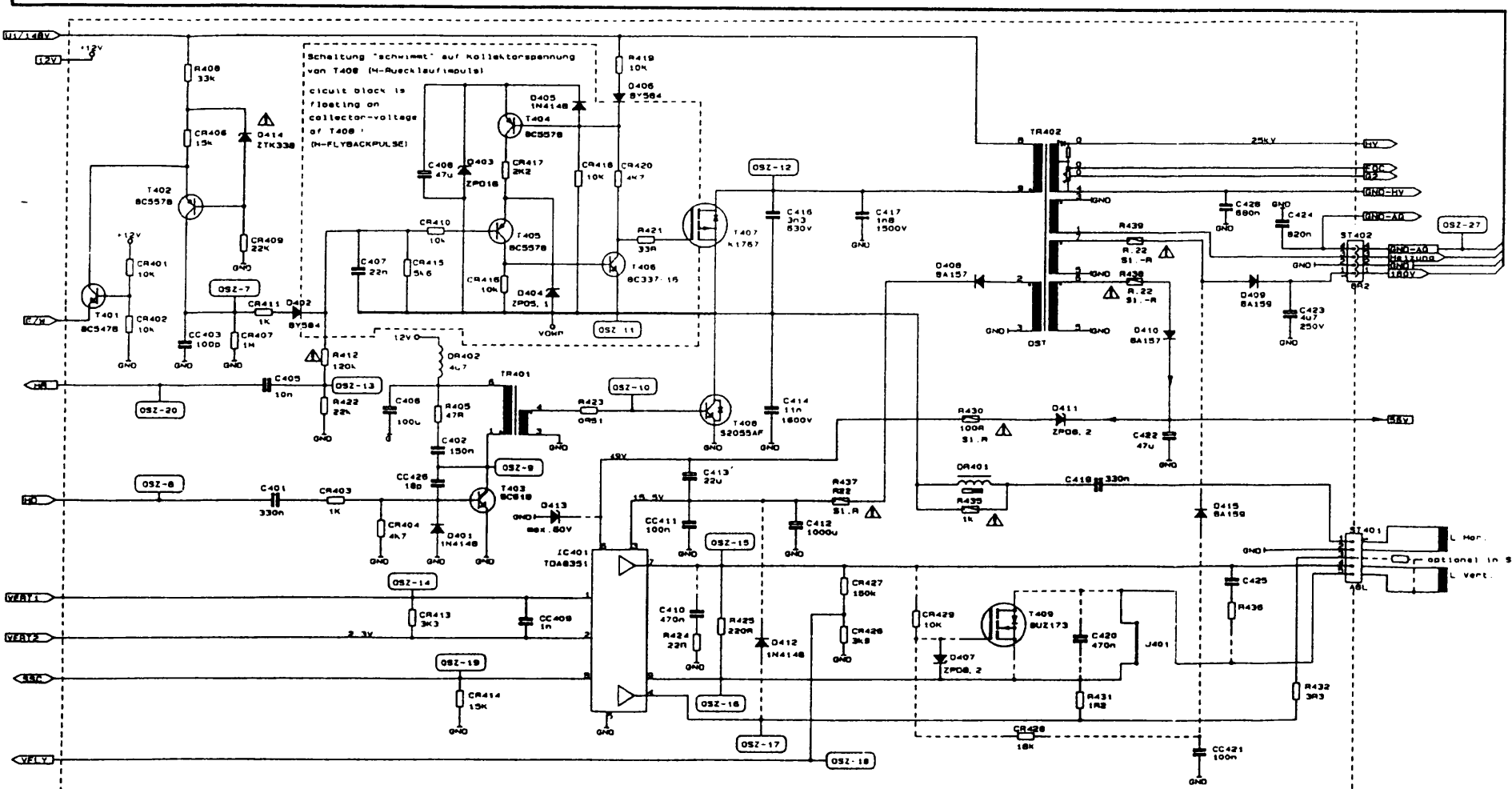
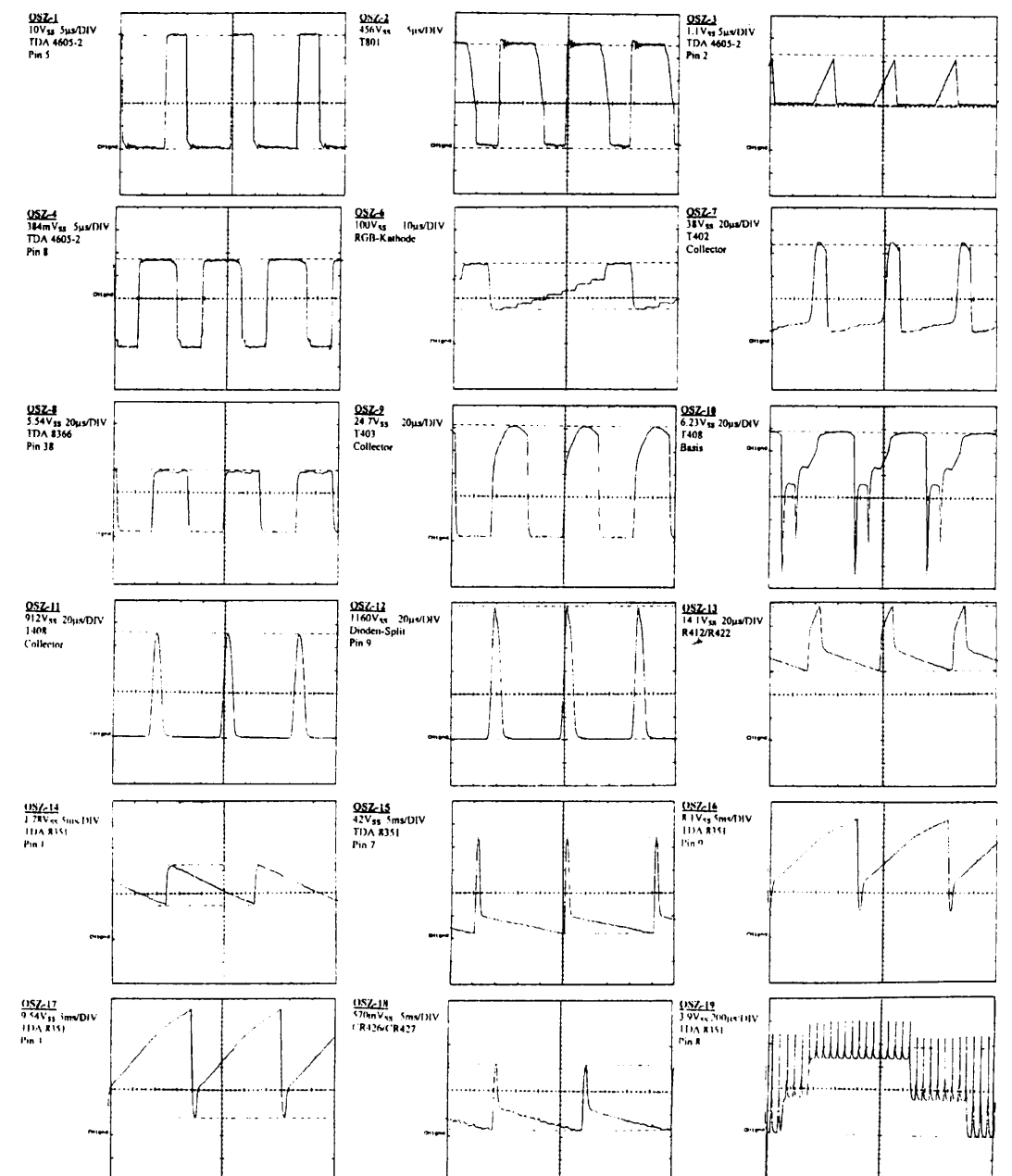
IF Multi Mono Diagram





Main Diagram

Waveforms



Signal Diagram

