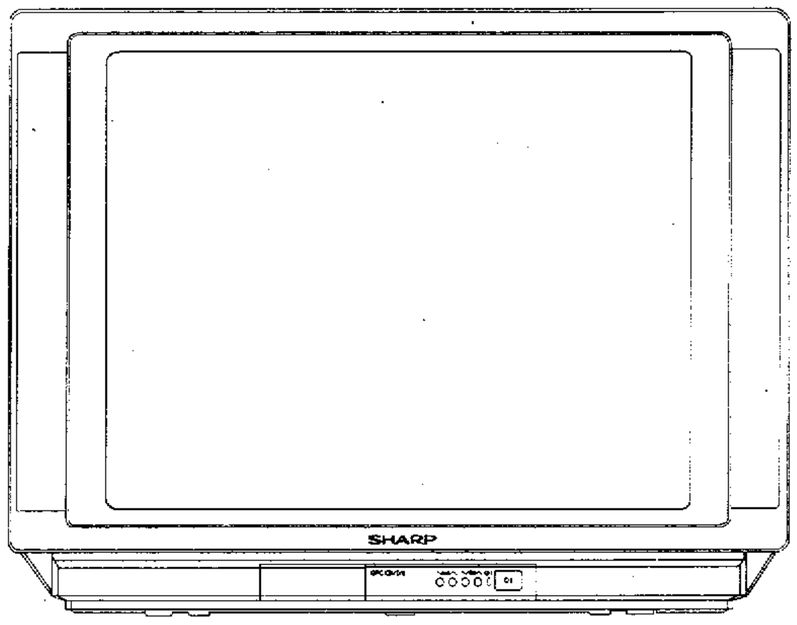
63DS-03SC
70DS-03SC

SHARP SERVICE MANUAL

SEMZ70DS03SC2

CA10 - CHASSIS



PAL SYSTEM COLOUR TELEVISION

63DS-03SC
MODELS **70DS-03SC**

In the interests of user safety (required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

70ES-04SC

In order to service model 70ES-04SC, refer to the previously issued Service Manual for model 70DS-03SC. This manual only contains the differences beween the above mentioned models.

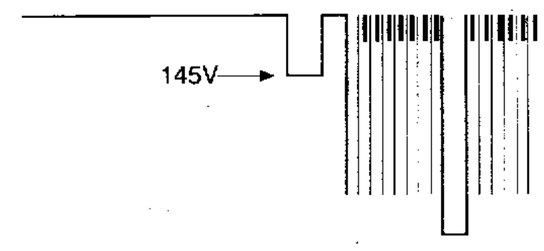
SHARP CORPORATION

SERVICE ADJUSTMENTS

All the adjustments required for this chasis will be done in Service Mode, except G2 and Focus.

• G2 ADJUSTMENT

1. Receive cross hatch pattern signal.
2. Set contrast to 80/100 and brightness to 40/100.
3. Connect the oscilloscope to the red cathode and adjust G2 to read 145V on the sensor pulse as in below drawing:



NOTE:
Osciloscope should be adjustated for vertical TV field trigger and synchronized with video signal.

• SERVICE MODE FUNCTION

This mode function is provided to assist with the settings of those adjustment that may vary from one Picture Tube to another, or between models.

In order to use the Service Mode

1. Connect Test Pattern signal to antenna terminal.
2. Press main switch to "OFF".
3. Press volume-down and channel-up buttons and main switch to "ON" simultaneously.
4. Service mode is now entered.

The required adjustments can then be made from the Remote Control Unit.
The only buttons required are the following:
Up/Down-channel for movement in adjustment options menu; Up/Down-volume are used to carry out an adjustment in said menu; ON/OFF is used to memorize a new adjustment.

To exit service mode, press main switch to off.

Adjustment menu is as follows:

— SERVICE SOFTWARE
— IF PLL ADJUSTMENT
— AGC TAKE OVER POINT
— EAST WEST WIDTH
— HORIZONTAL SHIFT
— VERTICAL LINEARITY
— VERTICAL AMPLITUDE
— VERTICAL SHIFT
— S. CORRECTION
— EAST WEST PARABOLA
— EAST WEST CORNER
— EAST WEST TRAPEZIUM
— RED GAIN
— GREEN GAIN
— BLUE GAIN
— ALTER NVM PAG
— ALTER NVM POS
— ALTER NVM VAL
— OPC VALUE
— AUTOINSTALLATION ON/OFF

• IF PLL ADJUSTMENT

a) Receiver the "COLOUR BAR" signal, CH 69 (855.25 Mhz).
b) Push POWER button on Remote Control. Setting is made automatically.
c) To exit Service Mode, press main switch to OFF.

• AGC TAKE OVER POINT

a) Receive the "COLOUR BAR" signal (Signal strength: 57 dB/μV)
b) Push CH up button. Setting is made automatically.
c) To exit Service Mode, press main switch to OFF.

GEOMETRY ADJUSTMENT PROCEDURE

Adjustment Note:

The procedure for making adjustments to vertical corrections is as follows:
-Adjust VERTICAL LINEARITY
-Adjust S. CORRECTION
-Adjust VERTICAL SHIFT
-Adjust VERTICAL AMPLITUDE

The procedure for making adjustments to horizontal corrections is as follows:
-Set E-W WIDTH to minimum
-Adjust HORIZONTAL SHIFT
-Adjust E-W PARABOLA
-Adjust E-W WIDTH
-Adjust E-W TRAPEZIUM
-Adjust E-W CORNER

• EAST - WEST WIDTH

a) Receive Philips pattern signal.
b) When volume-up button is pressed, horizontal scanning increases.
c) When volume-down button in pressed, horizontal scanning decreases.
d) Adjust the horizontal amplitude to obtain 9% overscan (fig. 1).

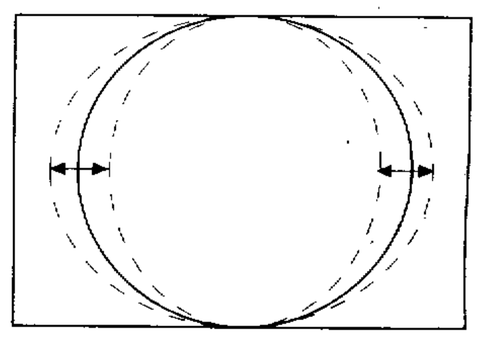


Fig. 1

• HORIZONTAL SHIFT

a) Receive Philips pattern signal.
b) When volume-up button is pressed, picture moves to the left.
c) When volume-down button is pressed, picture moves to the right.
d) Adjust the horizontal location to obtain picture centering (fig. 2).

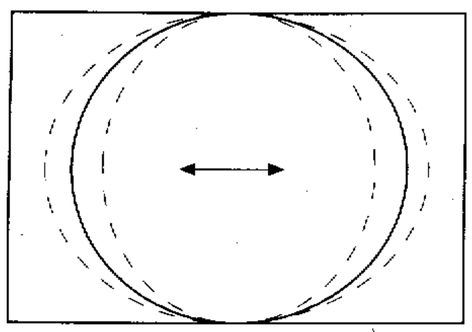


Fig. 2

• VERTICAL SLOPE

a) Receive center cross chart from pattern generator.
b) Adjust horizontal line off the cross figure to coincide with the edge of the black area in the center of C.R.T. (fig. 3).

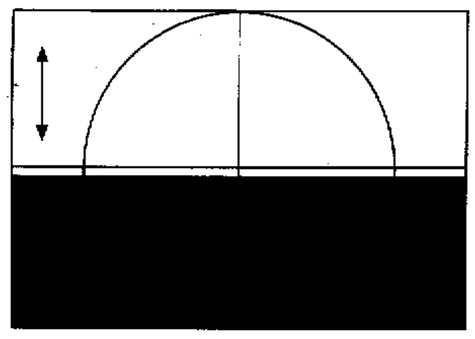


Fig. 3

• VERTICAL AMPLITUDE

a) Receive Philips pattern signal.
b) When volume-up button is pressed, vertical size picture increases.
c) When volume-down button is pressed, vertical size of picture decreases.
d) Adjust the vertical size to obtain overscan (fig. 4).

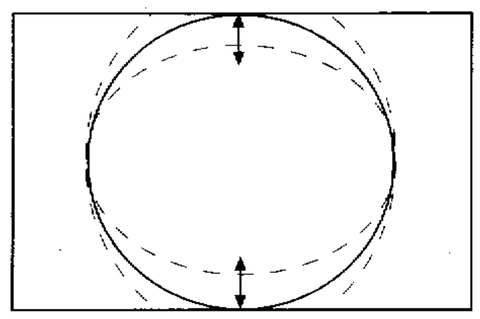


Fig. 4

• VERTICAL SHIFT

a) Receive Philips pattern signal.
b) When volume-up button is pressed, picture moves up.
c) When volume-down is pressed, picture moves down.
d) Adjust the horizontal location to obtain picture centering (fig. 5).

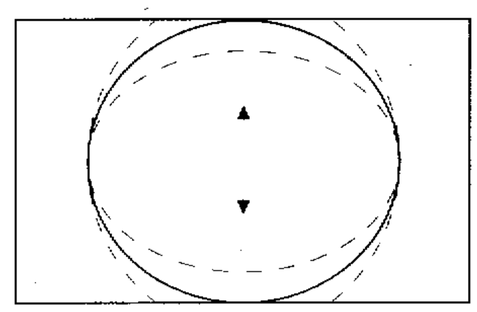


Fig. 5

• S-CORRECTION

a) Receive Philips pattern signal.
b) When volume-up button is pressed, upper and lower scanning decreases, and center scanning increases.
c) When volume-down button is pressed, upper and lower scanning increases, and center scanning decreases.
d) Adjust the S-correction to obtain a balance between upper, lower and center. (fig. 6).

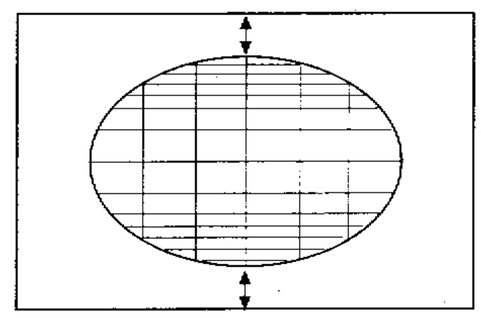


Fig. 6

• EAST - WEST PARABOLA

a) Receive Philips pattern signal.
b) When volume-up button is pressed, side pincushion changes from pincushion shape.
c) When volume-down button is pressed, side pincushion changes from barrel shape.
d) Adjust the E-W PARABOLA to obtain condition as (fig. 7).

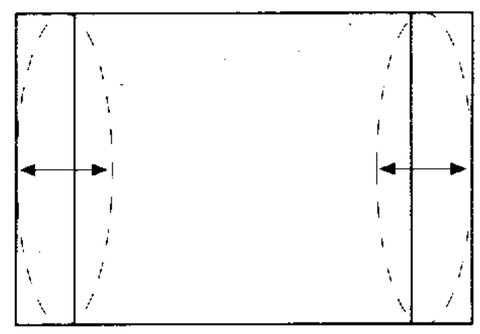


Fig. 7

• EAST - WEST CORNER

a) Receive Philips pattern signal.
b) When volume-down button is pressed, side pincushion changes from pincushion shape.
c) When volume-up button is pressed, side pincushion changes from barrel to pincushion shape.
d) Adjust the E-W CORNER to obtain condition as in (fig. 8).

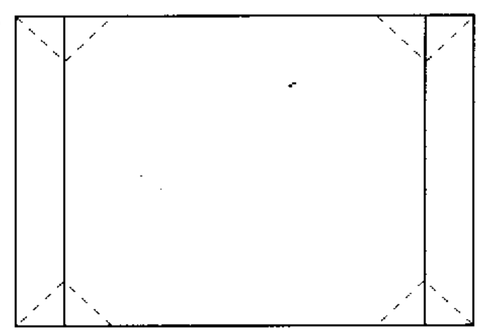


Fig. 8

• EAST - WEST TRAPEZIUM

a) Receive Philips pattern signal.
b) When volume-up button is pressed, side pincushion changes.
c) When volume-down button is pressed, side pincushion changes.
d) Adjust the E-W TRAPEZIUM to obtain condition as in (fig. 9).

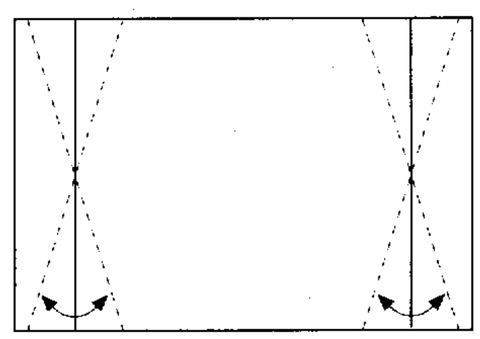


Fig. 9

COLOUR ADJUSTMENT

The following adjustments are only required when the Picture Tube is changed.

• RED GAIN / GREEN GAIN / BLUE GAIN

a) Using brightness and contrast buttons, select a luminance of ≈ 110 NITS.
b) Operate again in Service Mode and select location RED GAIN / GREEN GAIN / BLUE GAIN, to obtain colour coordinates:

$$X = 0.304 \pm 0.015$$
$$Y = 0.306 \pm 0.015$$

To increase press volume-up button and to decrease press volume-down button

RED GAIN	alter "X" coordinate
GREEN GAIN	alter "Y" coordinate
BLUE GAIN	alter "X" and "Y" coordinate

c) The changes introduced can be memorized by pressing button ⏻ on TV set.

d) Exit Service Mode and check colour coordinates "X" and "Y" at 20 and 110 NITS. It may be necessary to repeat procedure 1 and 2 of COLOUR ADJUSTMENT.

ACCESS TO NVM

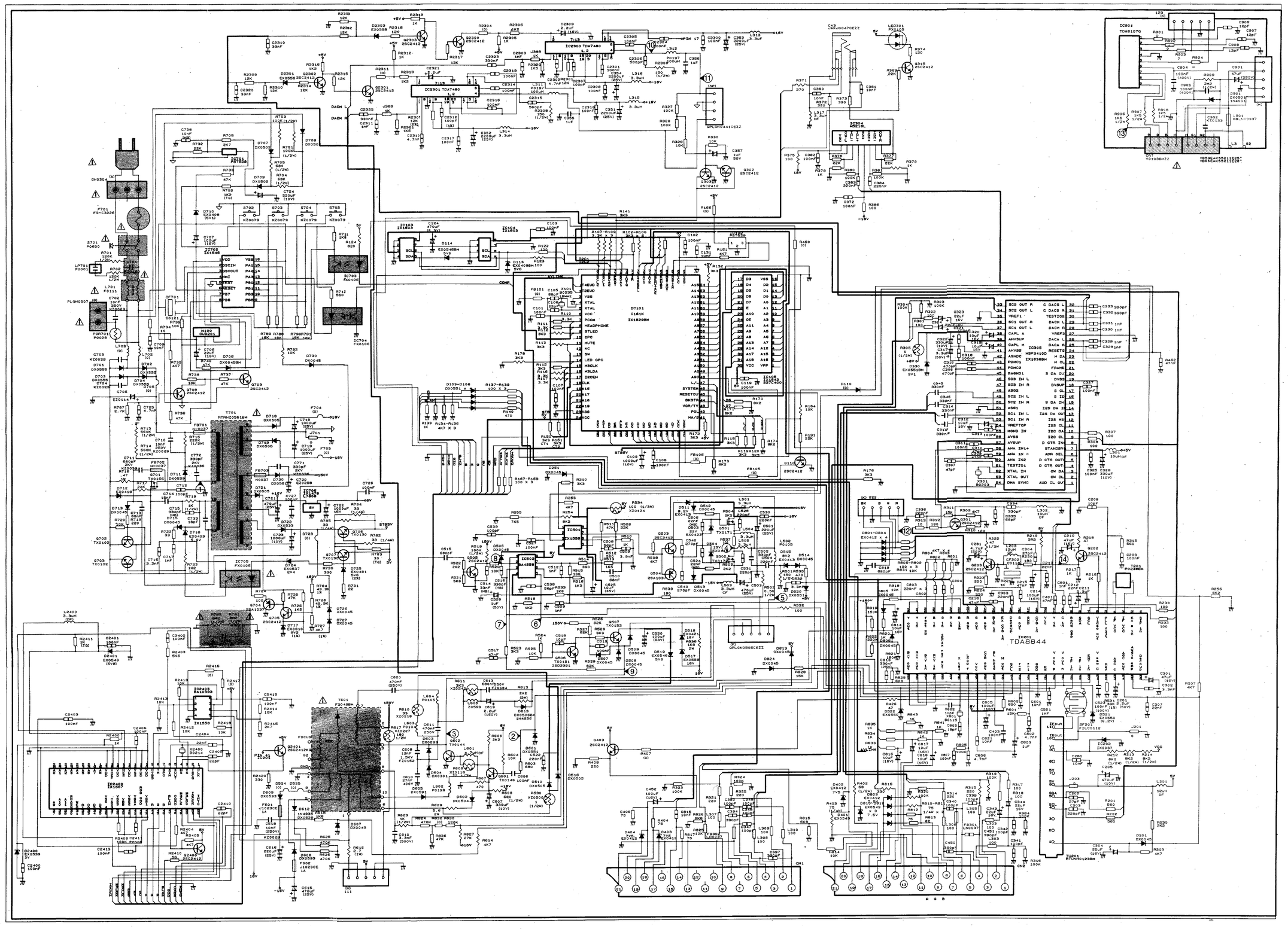
Press CH∧ to move in the following secuence:
ALTER NVM PAG → ALTER NVM POS → ALTER NVM VAL
to alter preseting adjustments, press up/down-volume buttons on ALTER NVM VAL.
⚠ CAUTION: Do not change NVM VALUE to avoid risk of serious damages to TV set.

OPC VALUE

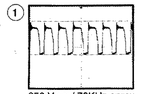
Shows reading of detected illuminated value by O.P.C. (Optical Picture Control) to check function.

AUTO INSTALLATION OFF/ON

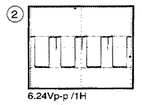
When ON is selected, the TV will perform the autoinstallation secuence as soon as service mode is removed.



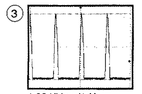
PWB-A / PWB-B



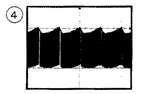
650 Vp-p / 70KHz aprox.



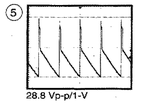
6.24Vp-p /1H



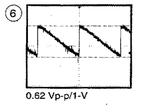
1.28 KVp-p/1-H



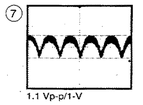
38.8 Vp-p/1-V



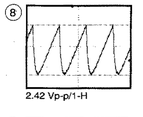
28.8 Vp-p/1-V



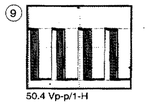
0.62 Vp-p/1-V



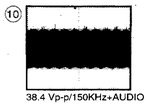
1.1 Vp-p/1-V



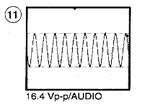
2.42 Vp-p/1-H



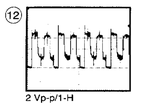
50.4 Vp-p/1-H



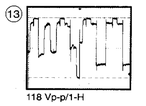
38.4 Vp-p/150KHz+AUDIO



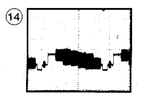
16.4 Vp-p/AUDIO



2 Vp-p/1-H



118 Vp-p/1-H



2Vp-p/1-H