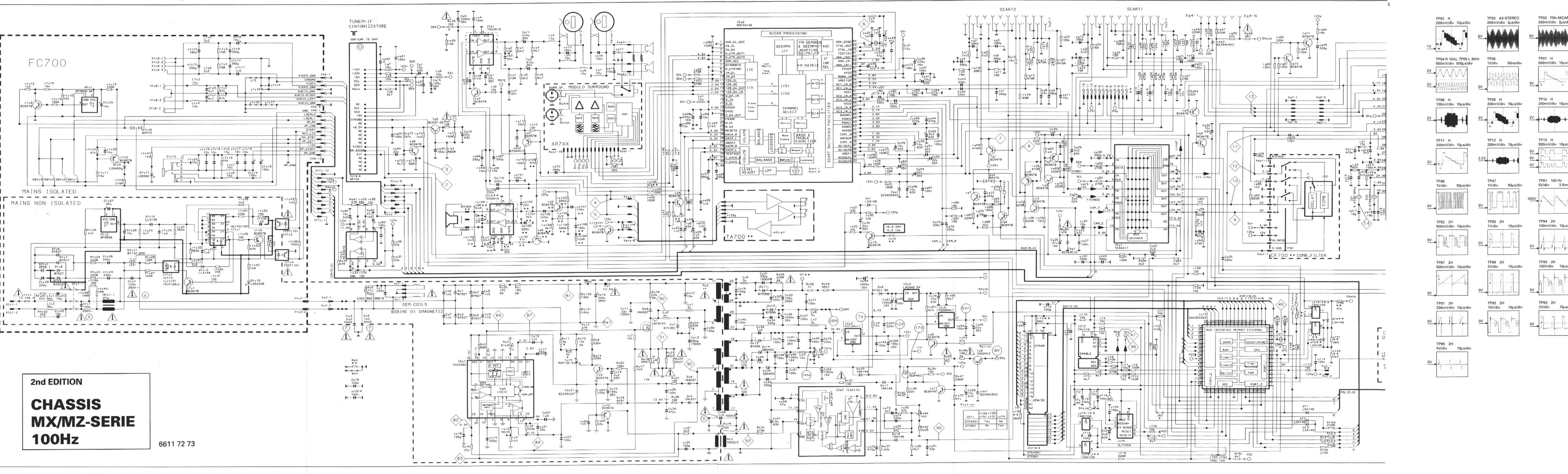


FEATURE BOX DB700/710/711

6611 72 75

	R84	R86	R88	R87
DB700	OH	*	OR	*
DB710	*	OR	OR	*
DB711	*	OR	*	OR

* NOT USED
** Version Component



FC700

MAINS ISOLATED
MAINS NON ISOLATED

TUNER+IF
SINTONIZZATORE

AR7XX

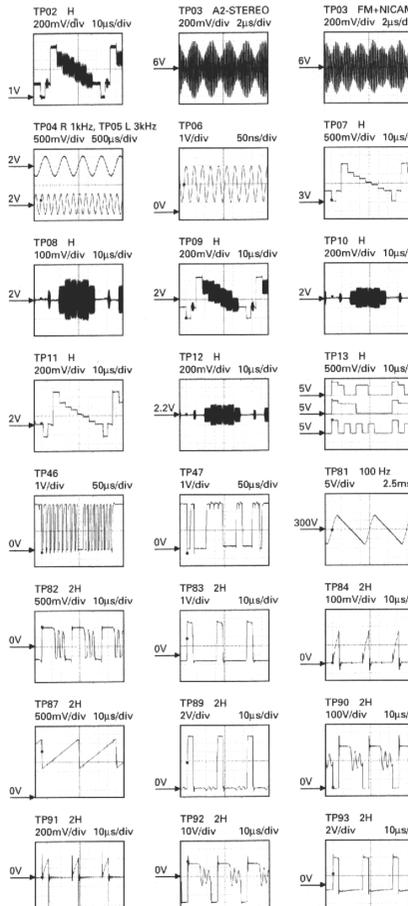
TA700

NIMC PROCESSING

SCART2

SCART1

Xq4-1
Xq4-6

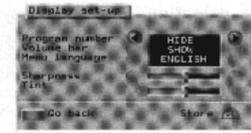


2nd EDITION
**CHASSIS
MX/MZ-SERIE
100Hz**

6611 72 73

Changing the menu language

1. Press the yellow button to select the Vision menu.
2. Press the red button to select the Display set-up menu.
3. Change the menu language with cursor buttons.
4. Press the OK button to store the changes.
5. Press the TV button to exit.



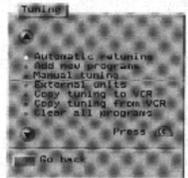
Manual tuning

1. Select the programme number you want to tune.
2. Press the MENU button.
3. Select "Tuning" and press the OK button.
4. Select "Manual tuning" and press the OK button.
5. Press the red button (Channel search).
6. Press the OK button to store.
7. Press the TV button to exit.



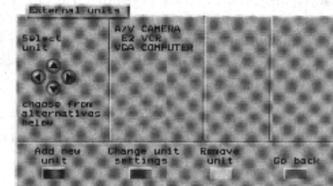
APSi (Automatic Programming System)

1. Press the MENU button.
2. Select "Tuning" and press the OK button.
3. Select "Automatic retuning" and press the OK button.
4. To retune the channels, press the red button.
5. Press the TV button to exit.



Selecting VGA input

1. Press the MENU button.
 2. Select "Tuning" and press the OK button.
 3. Select "External units" and press the OK button.
 4. Select "VGA computer" and press the TV button.
- (If "VGA computer" is not included in the list, select "Add new unit" by pressing the red button.)



Initialization of NVRAM

Initialization of NVRAM (ICf2)

- In case that the NVRAM is replaced, it must be initialized and configured.
1. Switch the TV set to stand-by mode. Press (volume minus) button on local control unit and at the same time start entering password: MENU, TV and i with the remote control. Release (volume minus) button after the MENU button is pressed. The record led will light up to indicate that service mode is enabled.
 2. Press the RED-button to pre-configure the set. Green led will flash once to indicate this.
 - 3a. At the same time the controller will check NVRAM and initialize it automatically if it was "empty". Initializing will take about 15 s. When it is completed, the green led will light up. Continue to step 4.
 - 3b. Automatic initialization did not happen if the green led does not light up steadily. In some cases the led might also light up immediately after configuration without any initializing, depending on NVRAM contents. In this case it might be enough to store the new configuration by pressing "OK". Continue to step 4.

- 3c. If automatic initialization did not happen, you can start it manually by entering the key code: BLUE (wait approx. 2 s.), 2, 5, 4 (wait approx. 2 s.) and OK. Initializing will take about 15 s.
4. Switch off the receiver by pressing the mains switch.
5. Start the receiver in TV mode by pressing the mains switch. Tune in one or more tv channels.
6. Switch off the receiver with remote control.
7. Enter service mode and make the service adjustments (see section "SERVICE ADJUSTMENTS VIA I²C BUS").
8. Switch off the receiver by pressing the mains switch.

Service adjustments

Service mode selection

1. Switch the TV set to stand-by mode.
2. Press (volume minus) button on local control unit and at the same time start entering password: MENU, TV and i with remote control. Release (volume minus) button after the MENU button is pressed. The record led will light up to indicate that service mode is enabled.
3. Switch on the receiver by pressing the TV button twice and select service mode by pressing the i button.



In service mode an adjustment menu is shown on the screen. The adjustment number and name, initializing (left) and adjustment (right) values are shown in the menu.

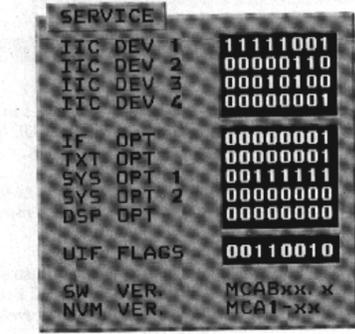
Configuration and fault diagnosis

The set must be configured after adding or removing some options. By pressing the RED button in service mode, the processor checks the configuration of the TV set and shows the settings on the screen. The configuration can be stored by pressing the OK button.

This feature can also be used in fault diagnosis. If an option bit is not '1' when it should be, the IC (or feature) is either not present or faulty.

Changing the option bytes

1. Select the configuration mode by pressing the RED button in service mode.



SW VER. = μ P software version.
NVM VER. = NVM software version.

2. Select IIC Device byte 1 - 4, Option byte 1 - 5 or uif flags byte with cursor button (up/downwards). Selected byte is shown highlighted.
3. Set the bits with number buttons (0 ... 7).
4. Store the settings by pressing the OK button.
5. Return to normal service mode by pressing the RED button.

Option byte description

Bit	Description	7	6	5	4	3	2	1	0	'1'	'0'
IIC DEV 1 11111001											
0	TV tuner	Yes	No								
1	IF Output, HEF4094	Yes	No								
3	Decoder synch. processor, TDA9143	Yes	No								
4	Deflection controller, TDA9151	Yes	No								
5	RGB processor, TDA4780	Yes	No								
6	IQTV processor	Yes	No								
7	DPLL	Yes	No								
IIC DEV 2 00000110											
0	VGA	Yes	No								
1	Main video switch, TDA6417	Yes	No								
2	Audio processor, MSP3410	Yes	No								
3	16:9 picture tube	Yes	No								
4	Comb filter	Yes	No								
5	PIP processor, SDA9188 + TDA9141	Yes	No								
6	PIP tuner	Yes	No								
7	SCART 3 installed	Yes	No								
IIC DEV 3 00010100											
0	Virtual sound (3D Sound)	Yes	No								
1	Dolby processor	Yes	No								
2	SDA30C264 processor	Yes	No								
3	Subwoofer	Yes	No								
4	Megatext, SDA5273/75	Yes	No								
5	External text memory	Yes	No								
6	Level 2.5 Megatext	Yes	No								
7	One field memory (DB711 Module)	Yes	No								
IIC DEV 4 00000001											
0	Nicam enabled	Yes	No								
1	Control lead (Xata) to AR7xx module	Yes	No								
IF OPT 00000001											
0	B/G system	Yes	No								
1	I system	Yes	No								
2	D/K system	Yes	No								
3	L/L' system	Yes	No								
TXT OPT 00000001											
0	Top enabled	Yes	No								
1	Flof enabled	Yes	No								
2	P26 disabled	Yes	No								
3	Text sync mode	Yes	No								
4	Automatic text subpage rolling	Yes	No								
5	EPG (nexTV) enabled	Yes	No								
6	EPG record enabled	Yes	No								
SYS OPT 1 00111111											
0	E0 (A/V connector) installed	Yes	No								
1	E0 S-video	Yes	No								
2	RGB enabled only in E1	Yes	No								
3	ACI enabled	Yes	No								
4	Micro power supply installed	Yes	No								
5	Carrier mute enabled	Yes	No								
SYS OPT 2 00000000											
0	Picture Tilt enabled	Yes	No								
1	Autostart (Hotel TV)	Yes	No								
7	Hotel TV functions enabled (manual)	Yes	No								
UIF FLAGS 00110010											
0-2	Logo bit										
	000 = no logo, go direct to APSi										
	001 = no logo, go to language menu										
	010 = Akai logo										
	011 = Nokia logo										
	100 = Finlux logo										
	101 = Salora logo										
	110 = Luxor logo										
3	TV set not used before	Yes	No								
4	Volume bar enabled	Yes	No								
5	On screen programme number enabled	Yes	No								
6	Front panel lock	Yes	No								
7	Off timer active	Yes	No								

Service adjustments via I²C-bus

Remote control buttons in service mode

When the receiver is in service mode you can select the normal TV mode by pressing the TV button and return to the service mode by pressing the i button. Number and cursor buttons are used for service adjustment. The OK button stores the settings.

Adjustment for different picture format

Make all adjustments with PAL signal unless otherwise mentioned. First make all adjustments with normal 4:3 picture format. Then make the necessary adjustments with other picture formats/signals. The required adjustments are shown in the table below.

Note! Check the configuration of the TV set before making the adjustments and make only the necessary adjustments.

Making the service adjustment

1. Give a two numbered code which determines the adjustment (e.g. 06 = width, see the following tables) with the number buttons. You can also select the adjustment with cursor buttons (up/downwards).

Picture geometry adjustments

Adjustment	Code	OSD name	classic (4:3)	wide movie	VGA 60 Hz	VGA 70 Hz	RGB	Note!
Vertical amplitude	00	V-AMPL.	X	X	X			
Vertical off-centre shift	01	V-SHIFT	X		X			
Vertical start scan	02	V-START	X		X	X		
Vertical S-correction	03	S-CORR.	X	X	X			
Vertical slope (coarse)	04	SLOPE-H	X	X	X			Adjust also with NTSC signal.
Vertical slope (fine)	05	SLOPE-L	X					Adjust also with NTSC signal.
Width	06	WIDTH	X	X	X			
Horizontal shift deflection	07	H-SHIFT	X					Not in all sets.
Horizontal phase video	08	PHASE	X	X	X	X		
Parabola	09	PARABOLA	X	X	X			
Corner	10	CORNER	X	X	X			
Trapezium	11	TRAPEZIUM	X	X				
EHT compensation	12	EHT	X	X				Set brightness and contrast to 90% and compensate the change in picture size.

VGA 60 Hz = Windows mode
VGA 70 Hz = DOS mode

Other adjustments

Adjustment	Code	OSD name	Note!
Red reference	18	R REF.	This procedure is necessary e.g. when the picture tube, CRT-module etc. has been replaced. Apply a test picture and adjust the R, G and B references. Then adjust the R, G and B gains.
Green reference	19	G REF.	
Blue reference	20	B REF.	
Red gain	15	R GAIN	
Green gain	16	G GAIN	
Blue gain	17	B GAIN	
Peak white limit	21	PWL	Normally no need to adjust.
Luma delay	14	LUMA DELAY	Separate adjustment for Video, PAL BG, PAL DK/I and Secam L.

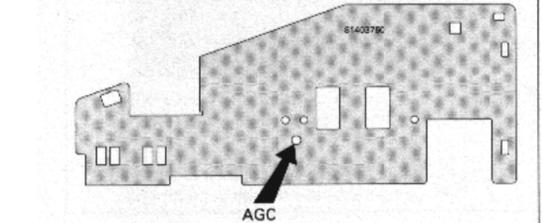
Service adjustments

O Power supply block

- Supply voltage and protection circuit**
1. Set brightness and contrast to normal level. Connect a universal voltmeter to the cathode of Do11.
 2. Adjust the U1 voltage with R045. The voltage depends on the picture tube type, refer to the section "Variable components".
 3. Check the over-current protection after making any service operations in the primary circuit of the power supply. Activate the service mode and then switch the set to stand-by mode. Short circuit the cathode of Do13 to the ground and keep the short circuit connected. When the over-current protection works correctly, the power supply will try to start 2-3 times before it stops permanently. Remove the short circuit and switch on the receiver by pressing the mains button.

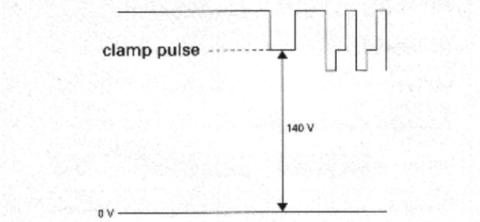
SR Tuner/IF module (Frontend)

Tuner AGC
The tuner AGC is adjusted with a potentiometer through a hole in the heat sink (see picture below). Apply a 1 mV (60 dB μ V) test signal and adjust the picture just without noise.



K Horizontal deflection block

- Horizontal linearity**
Adjust with Lk2.
- Focusing**
Set brightness and contrast to normal level. Use crosshatch pattern and adjust the picture for optimum resolution.
- (Screen grid voltage) Ug2 voltage**
1. Set brightness and colour saturation to normal level and contrast to minimum.
 2. At the end of the vertical blanking, there is a black current measurement pulse (clamp pulse) at pin 9 of ICh1, ICh2 and ICh3. Use an oscilloscope and find the output stage with the highest cut-off (i.e. the highest voltage during the black current measurement pulse).
 3. Adjust the voltage of the clamp pulse to +140 V with Ug2 (see figure).



Note! Adjust the voltage with a clamp pulse.