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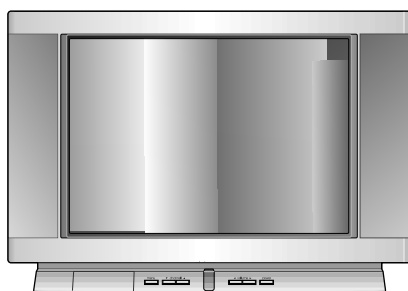
COLOR TV

SERVICE MANUAL

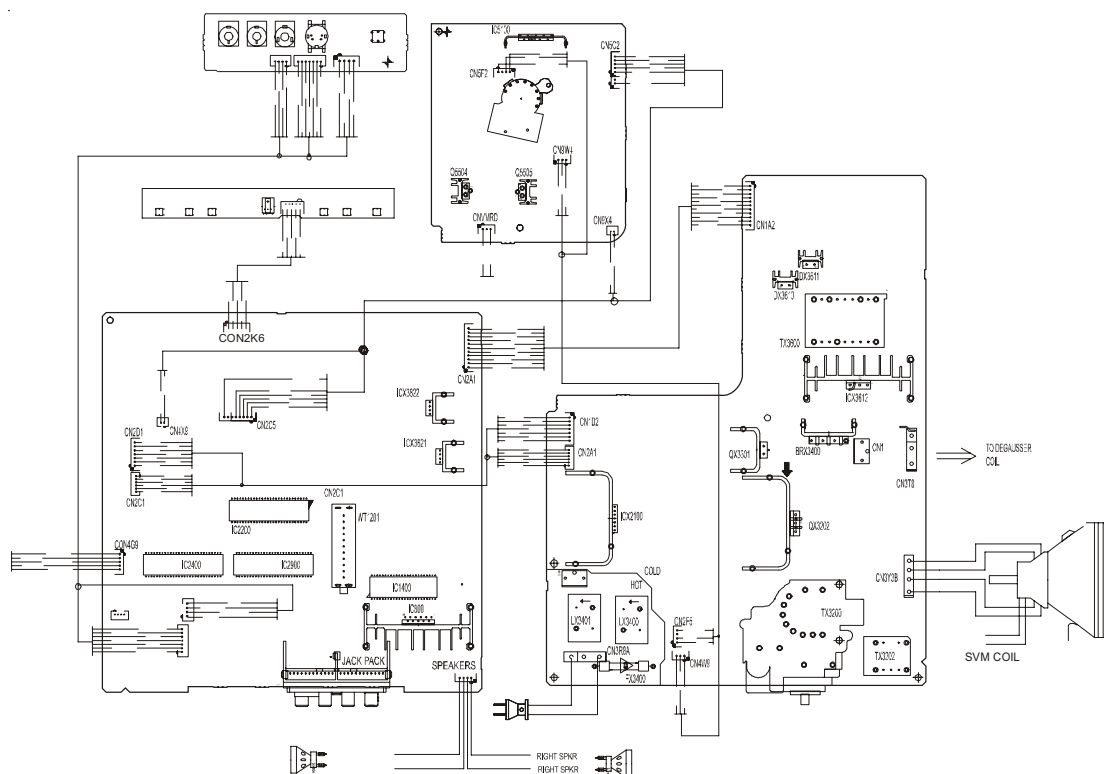
CHASSIS : FA

MODEL : RP-29FA40-M
RP-29FA40-O
RP-29FA40-P
RP-29FA40-R

CAUTION
BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



OVERVIEW



Interconnect Diagram

The FA chassis was developed for consumer market purpose. This manual covers 27v True Flat CRT only. The chassis is divided in two sections, the large signal board is containing the deflection, dynamic focus, power supply circuitry & shutdown circuit. A second board, located on the left side of the figure, is employed for processing the RF, audio, communication (main BUS), deflection, IF and video signals, this chassis does not require any other daughter board.

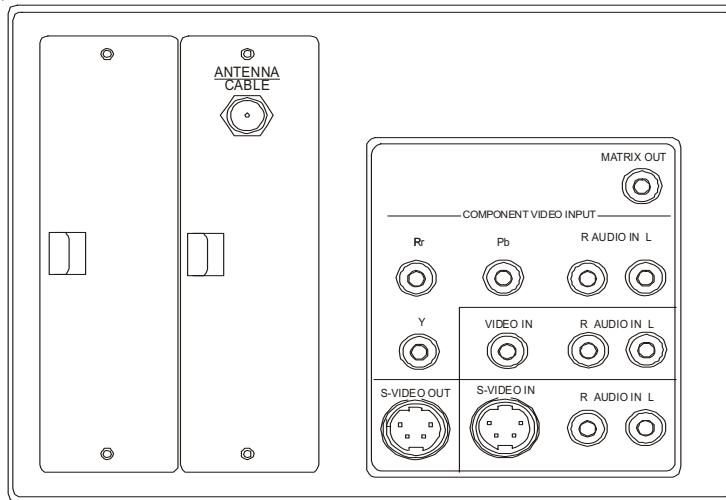
The Analog Flat chassis features a total of 9 IC's on the small signal board, for RGB signal, video switching, (HV sync signal processing included). This chassis only supports the NTSC-U (USA) video format and this is made through the IC2200, P221-01519, main video processor located on the middle of the small signal board, which is taking care of the IF, AGC, OSD switching, YUV processing, Automatic Contrast Level Control Systems, SVM support, Audio/ Video & Chroma demodulation, including Horizontal (East/West correction & X-ray protection) and Vertical deflection signals. The IF signal come from the WT1201, which is the main tuner.

A relationship between IC2200 and IC2990, P221-01438, is linked, this last one is used for switching the video signal inputs from the Front and Rear jacks. Also involved is the digital comb filter IC2400, 221-01449, which is used to separate the Y and C signals from any composite video (RF or Video In). The YUV input is processing directly through the IC2200.

The audio channels are applied to the audio processor IC1400, 221-01127. The IC1400 is also processing the TV- RF composite audio, this IC features function such audio demodulation, SAP (second audio program), and the audio processing for BASS, TREBLE and BALANCE adjustments, also includes the Surround and Soundrite features.

Once the audio is processed by IC1400, both channels are applied to the main stereo amplifier. The IC800, P221-1488, is the final audio stage and its signal is applied to the speakers.

OVERVIEW



The IC6000 is the 8 bits & 80K microcontroller and the IC6001, 221-00745-05, is the EAROM memory. The IC6000 handles the communication thru IIC BUS, I/O ports, ADC converters for the keyboard, also supplies the OSD signals for the On screen menus and the Close Caption decoding.

The main board is using three main linear regulators for providing several voltage sources, the ICX3821 [5VSW] for Tuner and IC2200, ICX3820 [5VSB] for the IC6000/1 and ICX3822 [9VSW] for most of the rest of IC's. The VSW stand for SWITCHED VOLTAGE, these regulators contain an internal power switch to turn them on/off, from a Power Control signal provided by the IC6000.

Finally the main board has a provision for an additional IC, for switching the YUV inputs. The objective of this IC2902 is for adding an extra YUV input. This circuit will be available for a future model.

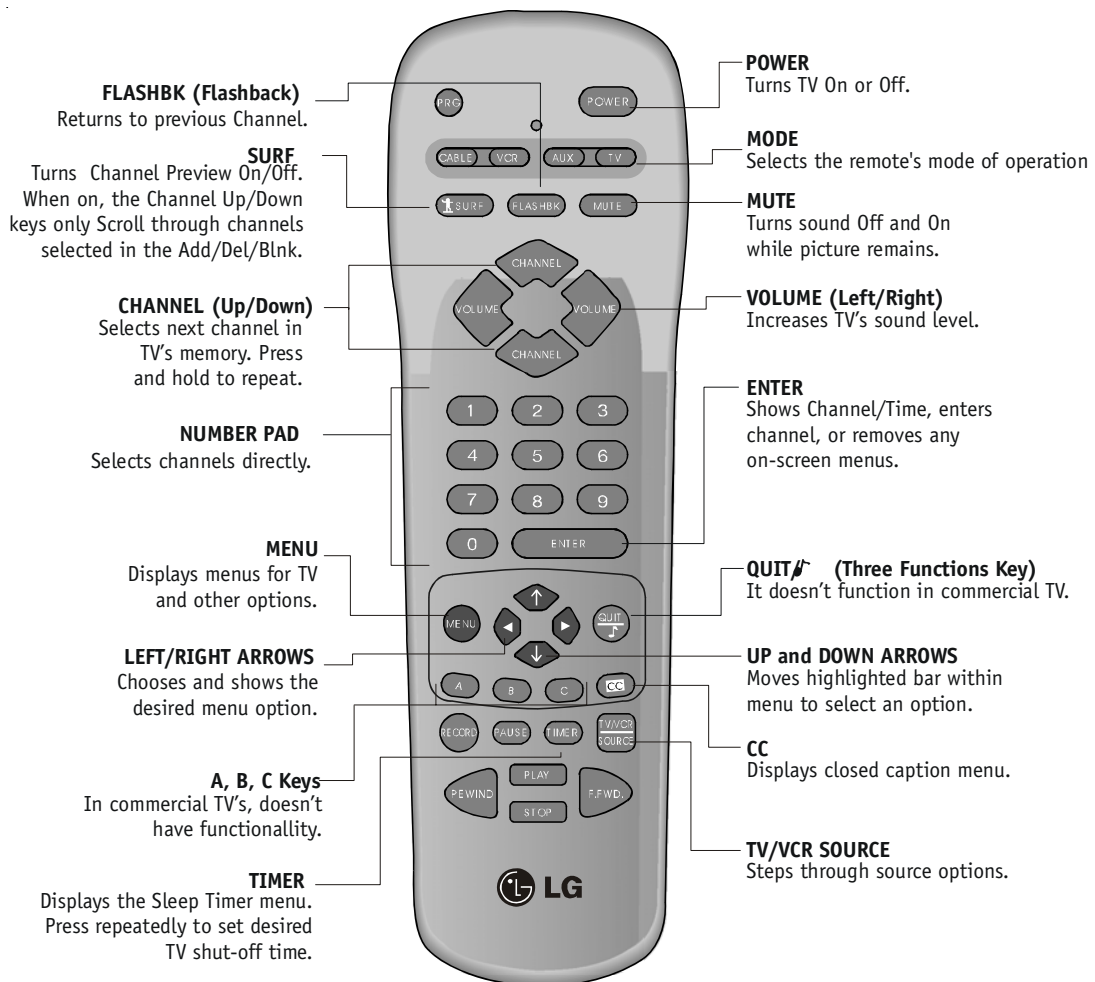
On the large signal module there are five IC's, the ICX3612 is the main power switching and PWM hybrid circuit and in conjunction with ICX3702 made the main power regulation of this chassis. The purpose of this regulator is to provide a proper protection for avoiding to shut the main power supply off and therefore the complete TV set. And of course, avoid the necessity of fuse replacement due to a short circuit on the third party TV card.

The ICX2100 is the Vertical output amplifier and is processing the small signal provided by the IC2200 on the small signal board. Also the IC3300 is processing the EAST/WEST correction for the screen geometry.

Finally The IC5100 is used to amplify the RGB small signals from the IC2200 and then display them on the CRT cathodes.

FA Chassis Model Information								
MODEL	SCR	CABINET	F. JACKS	R. JACKS	EXTRA FEATURES	REMOTE	MICRO	OP GUIDE
ALL MODELS ARE MODULE LEVEL REPAIR								
RP-29FA40-M	29	Table Top	4	13	TRUE FLAT, YUV INPUTS, AUTOVOLT	124-00233-P09	P221-01524-00	P206-04552
RP-29FA40-P	29	Table Top	4	13	TRUE FLAT, YUV INPUTS, AUTOVOLT	124-00233-P09	P221-01524-00	P206-04552
RP-29FA40-O	29	Table Top	4	13	TRUE FLAT, YUV INPUTS, AUTOVOLT	124-00233-P09	P221-01524-00	P206-04552
RP-29FA40-R	29	Table Top	4	13	TRUE FLAT, YUV INPUTS, AUTOVOLT	124-00233-P09	P221-01524-00	P206-04552

MBR3447LG MODEL REMOTE CONTROL



MBR3447LG
124-00233-P09

PROGRAMMING THE REMOTE

If you're using Zenith products, the remote is already programmed for most common codes: TV= 101, VCR= 201, CABLE=353, and AUX=401. For other brands, or if your remote fails to control your Zenith products, you'll have to program the remote.

After installing the batteries, follow these steps for each product:

1. Press and hold PRG using a blunt pointed object. Release PRG after the indicator light turns on.
2. Press the device button to be programmed (CATV, VCR, AUX, or TV).
3. Enter the 3-digit product code from chart on the next page.
4. Press and release ENTER to save the code.
5. Point the remote at product and press POWER to test the product's operation. If it does not turn on, reprogram remote using a different code.
6. Write the code on the label inside the battery compartment for future reference.

REMOTE PROGRAMMING

AUTO FIND

If none of the codes in the code table operate your equipment, use Auto Find to search for the proper code.

1. Turn on the product you want to operate.
2. Press and hold PRG using a blunt pointed object. Release PRG after the indicator light turns on.
3. Press any key to be programmed (CAT, VCR, AUX, or TV).
4. Enter "000", then press ENTER within two seconds. Auto Find is active after the indicator light flashes and remains lit.
5. Point the remote at the product.
6. Press and release POWER repeatedly, about once a second, until your product turns off. The indicator light turns off when you press POWER and on when you release it.
7. Press ENTER immediately to save the code. The indicator light flashes to indicate the code has been saved.
8. Press POWER to turn On your product.
9. Test your product. If the remote fails to operate some of the basic functions, use Auto Find again to search for a better code. (Auto Find resumes its search after the last code that was entered and saved in step 7).

NOTE: If the indicator light stays on as you press POWER, Auto Find has tried all of the codes. If the product you want to control has not turned off, your remote will not work with that product. To cancel Auto Find, press PRG at any time during Auto Find.

CABLE BOX

This remote can control the cable/converter box volume and muting (instead of the TV's) is available on your equipment.

1. Program the cable/converter box normally.
2. After programming the cable/converter box. Press and hold PRG again using a blunt pointed object. Release PRG after the indicator light turns on.
3. Press and release the device button the cable box is assigned to.
4. This time, enter the special code 3-9-9 instead of the product code.
5. Press and release ENTER to save.

VOLUME OVERRIDE

These remotes can override TV, VCR, or Video Disk Player volume functions with an amplifier's volume and muting.

1. Program the amplifier normally.
2. After programming the amplifier, Press and hold PRG again using a blunt pointed object. Release PRG after the indicator light turns on.
3. Press and release the device button whose volume control is to be replaced by the amplifier volume control. For example, pressing TV will operate the amplifier's volume while the remote is in TV mode.
4. This time, enter the special code 4-9-9 instead of the product code.
5. Press and release ENTER to save.

AUXILIARY CAPABILITY

This remote can control up to seven devices. If the remote has been programmed for four components using the TV, VCR, CABLE, and AUX keys, you may also program it for up to three additional using AUX+1, AUX+2 and AUX+3

To Program AUX+1, AUX+2 AND AUX+3

1. Locate three digit code for product in code table.
2. Press and hold PRG until indicator lights up
3. Press the AUX and 1 simultaneously to select AUX+1.
4. Enter the three-digit code and press ENTER. The indicator light should flash and then turn off to indicate the code has been accepted. If the light stays on, repeat steps 3 and 4 or try a different code.
5. Repeat steps 2-4 for AUX+2 and AUX+3.
6. Write the codes on the labels inside battery compartment for future reference. Hold down AUX and press 1,2 or 3 to access AUX+1, +2 or +3 mode.

UNIVERSAL ERASER 911

To restore the transmitter back to its initial default settings, enter the Programming Mode as usual (by holding PRG until the LED indicator lights), and press 9 1 1, followed by ENTER. The LED indicator will flash three times to indicate that the transmitter has returned to its initial default brand codes. Universal Erase will work in any mode.

PROGRAMMING CODES

TV's	
Daewoo	149
Zenith	101,121,149 152

TV/VCR	
Adventura TV/VCR	154
Daewoo TV/VCR	148
Funai TV/VCR	154
Goldstar TV/VCR	153,172
Symphonic TV/VCR	154
Zenith TV/VCR	150,153,154 172

VCR's	
Admiral	261
Akai	292,717,718, 719,720
Audio Dynamics	726
Bell + Howell	247
Broksonic	221,250,255, 729
Candle	727
Canon	704
Capeheart	728
Citizen	727
Craig	212
Curtis Mathes	259,266,725, 727
Daewoo	244,246,248, 254,703,729
Daytron	246
DBX	726
Electrohome	730
Emerson	203,221,243, 250,293,721, 722,729,730, 731,732
Fisher	211,212,213, 247,265,274
GE	216,220,266, 282,701,702, 725
Go Video	256,262,263, 700
Goldstar	253
Harman Kardon	296
Hitachi	257,270,273, 292,705,706, 707,708
JC Penney	268,726
Jensen	292
JVC	224,225,258, 268,292,299, 726
Kenwood	268,292,726, 727
Magnavox	275
Marantz	267,268,726, 727
Memorex	212,298
MGA	297,730
Mitsubishi	276,277,278, 279,280,296, 297,730
Montgomery Ward	216,219,249, 291,730
Multitech	727
NEC	267,268,269, 281,292,709, 726
Orion	250
Panasonic	245,251,259, 713,714,715, 716
Pentax	708,727
Philco	275
Pioneer	210,282,726

Portland	246,727
ProScan	216,260,266, 282,725
Quasar	259,295
Radio Shack	213,265,730
RCA	216,220,228, 240,242,249, 260,266,282, 283,284,285, 286,287,288, 708,710,711, 725
Realistic	212,213,265, 730
Saisho	722
Salora	297
Samsung	220,230
Sansui	289,292,709, 726
Sanyo	212,247,294
Scott	243,290,729
Sears	211,212,213, 265,274
Sharp	261,730
Signature 2000	216,219,249
Sony	232,723,724
Sylvania	275,297
Tatung	268,292
Teac	268
Teknika	272
Toshiba	213,274,290, 297
Vector Research	726,727
Victor	726
Video Concepts	726,727
XR - 1000	243
Yamaha	726
Zenith	201,224,225, 229

CATV	
Allegro	358,362
Allegro A-B Switch	361
Archer	325
Century	325
Citizen	325
Comtronic	326
Everquest	379
Garrard	325
GE	367
Gemini	305,331,338
General Instrument	304,305,306, 307,308,309, 310,318
Hamlin	302,303,345, 365,366
Jasco	325
Jerrold	304,307,308, 309,310,318, 360,363
Kale Vision	335
Macom	321
Magnavox	327,334
NSC	335,339,368, 369,370
Oak	311,332,342
Panasonic	313,320
Philips	325,327,347, 350,352,354, 355
Pioneer	315,343
RCA	341
Regency	329
Samsung	326,335
Scientific Atlanta	316,323,336, 337,364
Signal	326

SL Marx	326
Sprucer	313
Stargate	326,379
Standard Comp	335
Televue	326
Texscan	339,356,371
Tocom	317,318,346
Unika	325,348,362
Universal	325,358,362
Vid Tech	340
Video Way	349
Viewstar	327,354,355, 372
Zenith HT-2000	353
Zenith PM	374

SATELLITE	
Alphastar	516
Chaparral	501,502
Cheyenne	502
Dishnet	515
Drake	503
GE	510,517
General Instruments	504,505
Hitachi	519,520
Hughes Network	514
JVC	518
Macom	314
Magnavox	521
Philips	521
PrimeStar	513
ProScan	510,517
RCA DSS	373
RCA	510,517
Realistic	506
Sierra I	502
Sierra II	502
Sierra III	502
Sony	511
STS1	507
STS3	508
Toshiba	509,512
Uniden	522
United	344
Zenith Drake	312,328,330
Zenith	351,378,500

AUDIO - TAPE DECKS	
Sony	452

COMPACT DISC	
ADC	940
ADO	939
Aiwa	938
Akai	937
Denon	935
Dynatech	953
Emerson	952
Fisher	438,933,951
GE	932
Goldstar	460
Hitachi	950
Kenwood	441, 931, 948
JVC	949, 954
Luxman	930
Marantz	929,947
MCS	928
Mitsubishi	927
Nakamichi	925,926
Onkyo	923,924,946
Optimus	920,921,922
Panasonic	431,432,945
Philips	421,433,434
Pioneer	431,435,944
Quasar	432
Radio Shack	431,441
RCA	437,943
Sanyo	438,439

Sears	936
Sharp	441,442
Sherwood	449
Hitachi	950
JVC	949,954
Kenwood	441,931,948
Luxman	930
Magnavox	421,422,433, 434
Sony	420,443,444, 445,934
Soundesign	461,498,901, 902
Sylvania	433
Teac	418,419
Technics	432
Yamaha	414,941,942
Zenith CD Reco	415
Zenith	460,461,498, 901,902

TUNER/AMP	
Citizen	914
GE	916
Goldstar	460,474
Hitachi	919
JVC	908
Kenwood	484
Luxman	467
Marantz	903,913
Memorex	485
Nad	904
Nakamichi	493
Onkyo	471,906
Optimus	905
Panasonic	912
Pioneer	470,485,907
Proton	910
Quasar	912
RCA	909
Sharp	483,917,918
Sherwood	900
Sony	486,489,490, 491,492
Soundesign	461,498,901, 902
Toshiba	915
Technics	912
Victor	908
Zenith	460,461,498, 901,902

DVD Players	
JVC	965
Mitsubishi	964
Pioneer	963
Sony	962
Toshiba	961
Zenith	960

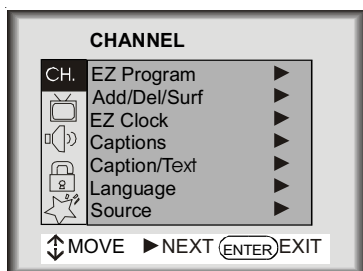
USER MENUS P221-01524-00

CHANNEL MENU

Below is the Channel Menu for the FA chassis with each of its options.

EZ PROGRAM

The EZ Program feature automatically searches for all available channels and marks them as 'Added' so that they may be accessed via the channel Up/Down key.



In the EZ Program option, the current RF input type (Off Air Antenna or Cable TV) is highlighted. Use the Up/Down Arrow keys to change the RF input type.

To start the EZ Program, press the Right Arrow key. If the Cable TV input type is selected, the EZ Program routine will determine what type of cable system is present.

Notes:

- **EZ Program clears all Surfing channels, which were added.**
- **While searching for channels, all keys except for the Power key are disabled. This prevents an incomplete EZ Program procedure.**
- **Running the Auto Program will clear the factory mode, if it was active. This happens at the end of the EZ Program.**
- **If the EZ Program line in the Setup Menu is 'red', this indicates that the module did not pass by Chassis. When 'green', this indicates that the module did not pass by Tracking. When 'blue', this indicates that the module did not pass by Programming. To clear this line to 'white', set the upper nibble of the EEPROM location \$1FFh to \$B0h.**
- **If no channels are found then the following message will appear: "Make sure that the cable/ant. is connected, and try again."**

ADD/DEL/SURF

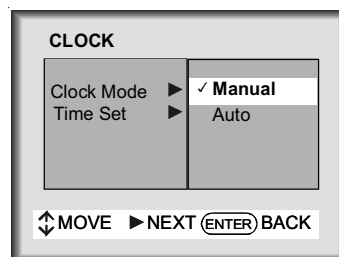
After running the Auto Program, all channels found by the Auto Program feature will be marked 'Added'. However, some of these channels may be scrambled, or undesired by the customer. The Add/Del/Surf feature allows the customer to selectively mark any channel as 'Deleted' or 'Added'.

To change the status of a channel, press the Up/Down Arrow keys.

To change the channel while adding or deleting channels, use the Channel Up/Down keys, or press the desired channel digits, followed by the ENTER key. If only one channel is present, to change the channel the customer must use the digit keypad to select a channel.

EZ CLOCK

When the EZ Clock item is selected, pressing the Right Arrow key allows entry into the clock set menu.



DAYLIGHT SAVINGS TIME

The customer also has the option of selecting the Daylight Savings Time to be On, Off or Auto using the Left/Right Arrow keys.

CAPTIONS

This feature allows the customer to select: Off, On, or EZ when Muted options.

To change the status of captions, press the Left/Right Arrow key to select either On, Off, or EZ Mute.

CAPTION/TEXT

This feature allows the customer to activate or deactivate Captions or Text.

Pressing the Left/Right Arrow keys sequentially through each of the following Caption/Text options.

Caption 1	Caption 2	Caption 3	Caption 4
Text 1	Text 2	Text 3	Text 4

USER MENUS P221-01524-00 (continued)

Notes:

- When the Text option is selected and a text box appears, if the CC key is pressed, the Caption box that allows setting to On, EZ Mute or Off will appear,
- When captions are being displayed, if one of the Volume Up/Down keys is pressed, the volume bar will not appear.
- When the Captions are not activated and the CC key is pressed, the Caption Box will appear, that allows choose On, EZ Mute or Off.

LANGUAGE

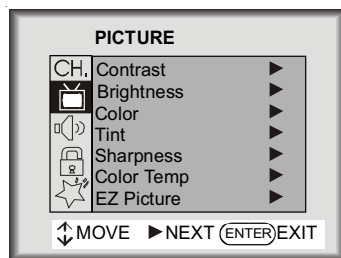
This feature allows the customer to change the menu language to English, Spanish or French by pressing the Up/Down Arrow keys.

SOURCE

This feature allows the customer to select: Antenna, Rear Video, Rear-SV, Front Video, or Comp. Video.

PICTURE MENU

All menu items are adjusted with the Left/Right Arrow keys.



CONTRAST

Contrast adjustment has 101 steps (0 to 100).

BRIGHTNESS

The brightness value sent to the video processor is (RfBrT + Customer Brightness) if the source is the RF source, or (AuxBrT + Customer Brightness) if the source is the AUX source. RfBrT and AuxBrT appears in the factory menu.

COLOR

Color adjustment has 101 steps (0 to 100). The color value sent to the video processor is according to the next equation and look up table.

TINT

Tint Adjustment has 101 steps (0 to 100). A center mark indicates step 50. The tint value sent to the video processor is (custom Tint + TintOffset)*127

SHARPNESS

Sharpness adjustment has 101 steps (0 to 100). The sharpness value is sent to the video processor as (Custom Sharpness).

COLOR TEMP

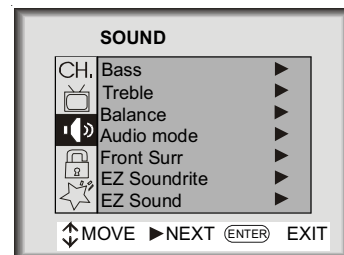
Sets the color temperature. The two settings are COOL and WARM.

EZ PICTURE

This feature allows the customer to maintain 8 separate Contrasts, Brightness, Color, Tint, Sharpness by setting "Custom, Normal, Movie, Digital, Video Game, Sports, Night Time, Weak Signal".

SOUND MENU

All menu items are adjustment with the Left/Right Arrow keys.



BASS

Bass adjustment has 101 steps (0 to 100).

TREBLE

Treble adjustment has 15 steps (0 to 14).

BALANCE

Balance adjustment has 29 steps (0 to 28).

AUDIO MODE

There are three audio modes available: Mono, Stereo, 2nd Audio/SAP.

If 2nd Audio/SAP is selected, but the current channel does not support SAP, then either Stereo or Mono will be heard.

FRONT SURR

Front Surround can be set 'ON' or 'Off', regardless of the current Audio Mode setting. However, the Front Surround effect can only be heard when the Audio Mode has been set to 'Stereo' and a Stereo signal is present. When this condition exists, there will be a short mute (200ms) while toggling the Surround 'On' to 'Off', to embellish Front Surround activation.

USER MENUS P221-01524-00 (continued)

EZ SOUNDRITE

The Sound Rite feature is used to obtain a uniform volume level, particularly while changing channels. The Sound Rite feature can be best demonstrated on a channel with no signal (snow).

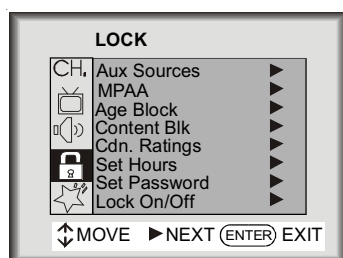
EZ SOUND

The EZ Sound Control has six selections the customer can select. The selections available are: Custom, Normal, Stadium, News, Music and Theater. The Left/Right Arrow keys may be used to select any of the choices mentioned.

LOCK MENU

As show above, with the Lock Menu on-screen, use the Up/Down arrow to highlight an option Like Content Blk, then press ENTER.

Use the Up/Down/Left/Right arrows to select and adjust or set the rating for an option. For Sex Scenes for example , use the "From TV-PG" setting. (See the Mini Glossary, Ratings Charts on this and the previous page for rating definitions).



AUX SOURCES

To Block or Unblock the sources, press the Up/Down Arrow keys.

The SOURCE key may be used to view the other source.

MPAA

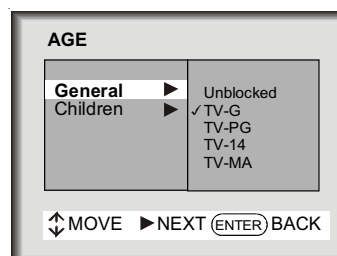
The MPAA selector allows the customer to select either to have the channel Unblocked, G and Above, PG and Above, PG-13 and Above, R and Above, NC-17 and Above, or X.

AGE BLOCK

Use the Right Arrow key to select the Age Block Menu. Once entered into the Age Block Menu, the customer has the option to block channels for general age or to block channels for children.

GENERAL BLOCK

To block channels for a general age, the customer may either select: Unblocked, TV-G and Above, TV-PG and Above, TV-14 and Above or TV-MA.

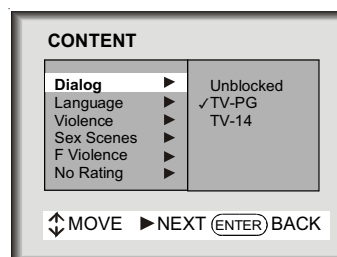


CHILDREN BLOCK

To block channels for children, select either: Unblocked, TV-Y and Above or TV-Y7.

CONTENT BLOCK

To block a television program according to its content, use the Right Arrow key to select the Content Block Menu.



DIALOG BLOCK

To block a television program with *Dialog* rating, use the Up/Down Arrow keys to select either: Unblocked, TV-PG and Above or TV-14.

LANGUAGE BLOCK

To block a television program with Language rating, use the Up/Down Arrow keys to select either: Unblocked, TV-PG and Above, TV-14 and Above, or TV-MA.

VIOLENCE BLOCK

To block a television program with Violence rating, use the Up/Down Arrow keys to select either: Unblocked, TV-PG and Above, TV-14 and Above, or TV-MA.

SEX SCENES BLOCK

To block a television program with Sex Scenes rating, use the Up/Down Arrow keys to select either: Unblocked, TV-PG and Above, TV-14 and Above, or TV-MA.

USER MENUS P221-01524-00 (continued)

F VIOLENCE BLOCK

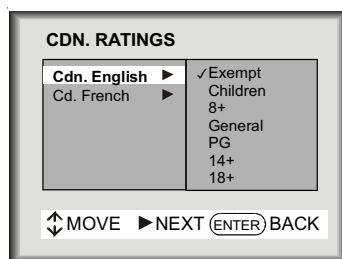
To block a television program with *F Violence* rating, use the Up/Down Arrow keys to select either: Unblocked, TV-Y7.

NO RATING BLOCK

To block a television program with No Rating, use the Up/Down Arrow keys to select either: Unblocked and Blocked.

CANADIAN RATINGS

Use the Right Arrow key to select the Content Block, and use the Left/Right Arrow keys to select the Cnd. English or Cdn. French.



SET HOURS

Use the Up/Down Arrow keys to adjust the number of hours the Parental Control feature will be active. The valid hour range is 1 through 99 hours.

SET PASSWORD

Press the Right Arrow key to allow Password entry.

TO ENTER PASSWORD

The software accepts four-digit codes only. The customer must enter a password

REPEAT PASSWORD

After a four-digit code has been entered, the software requires the customer to re-enter the same four-digit code.

PASSWORD NOT ACCEPTED!

If an invalid code is entered, or the two codes entered do not match, a blinking error message ("Not Accepted!") will appear. This error message also appears when no code is entered for the password or if only one digit is entered and no other digit has been entered.

LOCK ON/OFF

This item turns the Parental feature On or Off. The Parental Ctrl. feature can only be turned on if the hours > 0, and a password has been set. Otherwise the Lock On/Off line will display either of the following error messages: "Must Set Hours" or "Must Set Password."

RE-ENTERING PARENTAL CONTROL MENU

If the Parental Control feature has been activated, the software will not allow immediately entry into the Parental Control Menu. Instead, it will prompt for the correct password. If the correct password is entered, the Parental Control menu will be unlocked so the user can change the configuration for parental options. If an incorrect password is entered, an error message ("Not Accepted!") appears, and will not disappear until 5 seconds. This extended time provision increases the amount of time necessary for a child to "crack" the password.

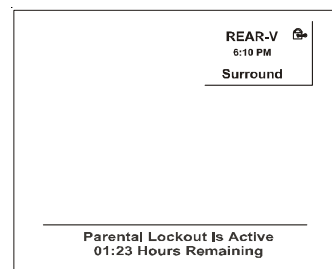
Notes:

- *The Parental Control menu will remain up for 15 seconds after the last key press.*
- *The QUIT key may be pressed to remove the PC menu.*
- *Entry into the Factory Menu will immediately turn off the PC feature*
- *The PC Hours and Password will be cleared upon exit of the Parental Ctrl menu (unless the Parental Ctrl feature has been turned on.)*

DISPLAY WHEN PARENTAL CONTROL IS ACTIVE

When the Parental Control has been activated the channel is blocked. The display on the screen shows two lines. The first line displays a message saying that the "PARENTAL LOCKOUT IS ACTIVE."

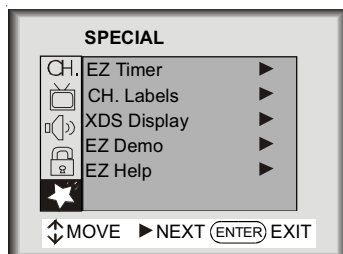
The second line displays the amount of time (in hours) left in the lockout.



USER MENUS P221-01524-00 (continued)

SPECIAL MENU

This Menu contains the EZ Timer , Ch. Labels, XDS Display, EZ Demo and EZ Help.



EZ TIMER

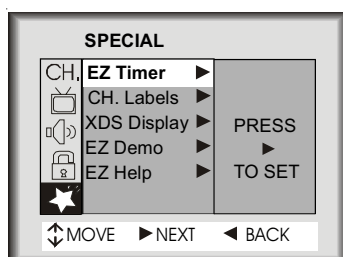
The Timer Menu contains the Sleep Timer and the On/Off Timer features.

SLEEP TIMER

Sleep Timer (via Timer Menu)

The Left/Right Arrows can be used to adjust the current sleep timer setting:

Off, 0:10, 0:20, 0:30, 1:00, 1:30, 2:00, 3:00 or 4:00



ON/OFF TIMER

This feature consists of three menu lines: "On Time", "Off Time", and "On/Off Timer". This feature allows the set to turn on and off at the times specified in "On Time" and "Off Time".

The "On Time" and "Off Time" are set identical to the Clock Set feature in the Channel Menu.

An Off Time must be specified, before turning on the "EZ Timer"—otherwise an error message ("Must Set On/Off") will be displayed on the On/Off Timer line.

The On/ Off Timer option turns the Timer On or Off.

If there is no Off Time set, then the On/Off Timer displays the above message saying: "Must Set Off Timer." Once the Off timer has been set, the customer can then set the option to either On or Off.

CHANNEL LABELS OPTION

This feature allows the customer to select a channel label for the current station. This channel label is displayed in the Channel/Time display. Initially, all channel labels are set to '—', which results in no channel being displayed in the Channel/Time display.

CHANNEL LABELS						
A&E	CMTV	ESPN	HSE	NOS	TBN	VC
ABC	CNCB	ESP2	HSN	PBS	TELE	VCR
ACTS	CNN	ET	IC	PLAY	TLC	VH-1
ADC	COM	EWTN	INSP	PTL	TMC	VISN
AMC	CSPN	FAM	JCN	QVC	TNN	VJN
BCC	CSP2	FNN	LIFE	RDS	TNT	WB
BET	CTN	FOX	MAX	REQ	TRAV	WGN
BRAV	CTV	F&V	ME/U	SC	TSN	WTBS
CA	DIS	FX	MMT	SCFI	TVA	WWOR
CBC	DISC	GALA	MTV	SHOW	TWC	YTV
CBN	E!	HBO	NBC	SIN	UPN	----
CBS	ENC	HN	NICK	TBS	USA	None

To change the current channel label, press the Up/Down Arrow key.

To change the channel while adjusting channel labels, use the Channel Up/Down keys, or press the desired channel digits, followed by 'Enter'. (If Channel Up/Down is pressed, the next or previous channel which was marked 'Added' will appear.)

Note:

- When in the channel label is selected ———, then the Auto channel label is activated, in other words, the program automatically take the channel label of the signal that is send by broadcasting through the XDS service.
- If the label None is selected, the Auto channel label is deactivated.

XDS DISPLAY

Pressing the Left/Right Arrow Keys allows the customer to select the XDS Display either On or Off.

USER MENUS P221-01524-00 (continued)

EZ DEMO

The EZ Demo is designed to show-off the icon menus and other icon displays on the sales floor. The EZ Demo feature can be turned On/Off with the Up/Down Arrow keys.

Initially, when the feature is activated, as soon as the OSD times out, the EZ Demo will start. At this point, pressing any key will temporarily disable the EZ Demo for 18 seconds, and if the EZ Demo is working and the Menu key is pressed then the Special Menu will be displayed and the EZ Demo feature will be selected allowing the customer to disable it.

Note:

- *The Auto Demo On/Off setting is not stored to the EEPROM.*

EZ HELP

The special features EZ Help option may be accessed using the Right Arrow key. The EZ Help feature provides help on certain options and also provides support for the EZ Programm, Add/Surf/Del, Degaussing, EZ Picture and EZ SoundRite features. There is a simple explanation of each options.

The EZ Help has a main screen called EZ Help. This screen gives a solution to the most common problems that a customer may encounter; i.e., To program channels.

MISC DISPLAYS

SLEEP TIMER

To press the timer key for activate the sleep timer. The user can choose to activate the timer to turn off the Television in 10, 20 or 30 minutes or 1, 1:30, 2,3 or 4 hours just by clicking on the sleep timer clock.

VOLUME DISPLAY

When the Volume key is pressed, the following display appears on the screen.



CLOSED CAPTIONS

If the CC key is pressed the following displays appears. The customer may change the settings of the Closed Captions to Off, On or EZMute



CHANNEL/TIME/AUDIO DISPLAY

Pressing the ENTER Key allows the customer to display the channel, time audio mode as well as information of the current program along with the rating of the program.



FACTORY MENU

INSTALLERS MENU

Access the Installer's Menu by using the remote control or the keyboard on the front of the set.

With the remote: Press & Hold MENU key until the Channel/Time display appears, then press 9, 8, 7, 6, and ENTER.

With 6 button keyboard: Press and hold MENU until the Channel/Time display appears. Simultaneously press the VOLUME UP and CHANNEL DOWN keys.

Notes:

- *When the factory mode is set to "1", then press '9', '8', '7', and '6', followed by 'ENTER' to access the Installer's Menu.*
- *To access the G2 re-adjustment mode, press 2 hold the Menu key until the Channel/Time display appears, then press '9', '8', '7', '6', and quit key.*

00 Fact Menu: Use the Select key to select item #00, which is the first item in the Installer's Menu. The Factory Mode item should always be left off (Zero is off). When left in this mode, only items from 0 to 27 are visible. When the factory mode is set to 1, all menu (Audio or Video settings) items will be available. Also they will appear on the screen one at a time at the top left of the screen.

When The Factory Mode is on, the Factory Menu line appears at the middle of the screen to allow for proper setting of the video.

When the Factory Mode is turned off, all TV functions are returned to normal. The symbols at the top of the channel menu icons is removed indicating that the Factory Mode is off. There are 4 ways to turn off the Factory Mode:

1. Change Installer's Menu Item "00 F Mode" to 0.
2. Run Auto Program.
3. Use the Clock Set feature to set the time.
4. Use Factory off IR code.

Notes:

- *Video Preference Settings Inhibited: In the Video Menu, the Custom Video Preference settings are inhibited while the Factory Mode is on and will NOT be stored in EEPROM. (This allows the factory to temporarily change the settings and not store them permanently.)*

01 Preset Px: Used to store the customer menu adjustments in the nonvolatile memory of the EARAM. Settings for Contrast, Brightness, Color and Tint are stored in this manner. 0 is Custom and 1 is Preset.

02 Preset Ax: Saves your custom audio settings

(Bass,treble,balance,audio mode,sound rite,front surr,speaker) in nonvolatile memory (not affected by power loss). Memory status is indicated by a 1 for "custom settings already stored", or 0 for "custom settings have not been stored."

03 Vert Pos: Sets On Scree Display vertical position. Use the ADJUST keys.

04 Horz Pos: Sets On Screen Display horizontal position. Use the ADJUST keys.

05 Band/Afc: There are 8 possible settings for this option.

06 Ac on: Allows the TV to turn ON just by applying AC power. Pressing the ON button is not necessary. This is desirable when the TV is plugged into a cable box or a power outlet controlled by a wall switch. Use adjust to select 0 or 1, where 0 is OFF and 1 is ON.

Note: When set to 1 (ON), the TV does not respond to ON/OFF commands from either the remote or the control panel, and the SLEEP TIMER is also nonfunctional.

07 Feature Level: Set to 1 to see Zenith Code, when set to 0 Private Codes are shown.

08 Trap: Turn On 3.58 MHz internal trap in Video Processor.

09 RF Band Pass Activates the Band Pass Filter for RF (Antenna) input

10 RF BRT Set Black Level for RF input (Antenna)

11 Aux BRT Set Black Level for Auxiliar input (Video: Composite & Y/C)

12Yuv BRT Set Black Level for YUV input (Component Video)

13Max Bright Set maximum internal Brightness Register

14Max Contrast Set maximum internal Contrast Register

15 Vert Size: Vertical amplitude adjustment Variable in factory menu. Range: 0-127, Initial value: 63.

16 Horz Size: Horizontal amplitude adjustment Variable in factory menu. Range: 0-63, Initial value: 31.

17 Vert Phase: Adjust the Vertical Phase, screen up - down. Range 0-5. Initial value: 0

18 Horz Phase: Adjust the Horizontal Phase, screen left-right. Range: 0-31. Initial value: 32

19 Audio Level: Adjust the composite audio level aoutput of the video processor.

20 RF AGC: Adjust the AGC delay for maximum gain with a reference level of 0 dBmV.

FACTORY MENU (continued)

- 21 Horz AFC:** Set the automatic horizontal frequency control on, should be 1.
- 22 WPL:** Activates White Peak Limiter
- 23 Tint Offset:** Set the Tint offset
- 24 Red Cut:** Set the Red Cutoff of Low Luminance White Balance adjustment
- 25 Green Cut:** Set the Green Cutoff of Low Luminance White Balance adjustment
- 26 Blue Cut:** Set the Blue Cutoff of Low Luminance White Balance adjustment
- 27 Green Gain:** Set the Green Gain of High Luminance White Balance adjustment
- 28 Blue Gain:** Set the Blue Gain of High Luminance White Balance adjustment
- 29 Air AFT:** Set the AFT when watching air signal.
- 30 A ATT:** Adjust the composite input level to the audio decoder to have the standard input level.
- 31 A VCO:** Adjust Stereo VCO and SAP VCO free running frequency.
- 32 A Filter:** Adjust the filter for Stereo, SAP and DBX.
- 33 A Spectral:** Adjust high frequency stereo separation (3KHz.)
- 34 Wide Band:** Adjust low frequency stereo separation (300Hz.)
- 35 Max Blk. Hrs:** Adjust the maximum number of hours the TV can remain Blocked (even 99 hours)
- 36 RGB Contrast:** Set OSD Contrast level
- 37 SUB Contrast:** Set internal Sub-Contrast Register
- 38 EW Correct:** East- West Correction. Range 0-63, Initial value:26
- 39 EW Top-Corr** East-West Corner Correction (top). Range 0-31, Initial value: 14
- 40 EW Bott-Corr:** East-West Corner Correction (bottom). Range 0-31, Initial value: 23
- 41 EW Trap-Corr:** East-West Trapezium Correction. Range 0-63. Initial value 30. Range 0-31, Initial value: 23
- 42 V Centering:** Vertical Centering. Range 0-63. Initial value: 30
- 43 V Linearity:** Vertical Linearity. Range 0-15. Initial value: 12
- 44 V S-Corr:** Vertical S-Correction. Range 0-15. Initial value: 11
- 45 H EHT Comp:** Horizontal Extremely High Tension Compensation. Range 0-7. Initial value: 4
- 46 V EHT Comp:** Vertical Extremely High Tension Compensation. Range 0-7. Initial value: 6
- 47 DC Rest** Set the DC Restoration level
- 48 BLK Stretch** Set the Black Stretch start point
- 49 ABL Gain** Set the Automatic Black Level Gain
- 50 SVM GAIN** Adjust the Scan Velocity Modulator gain
- 51 SVM PH** Adjust the Scan Velocity Modulator Phase
- 52 ACB SW** Activates Automatic Control Beam
- 53 SHARP PF** Sharpness peak frequency selection: 0 to 3.2 MHz and 1 to 4.0 MHz
- 54 CORING** Activates the enhancement of Sharpness from 1 to 2 MHz
- 55 B-Y ATT** Set the attenuation level of Cb of YUV signal
- 56 R-Y ATT** Set the attenuation level of Cr of YUV signal
- 57 AUTO FLESH** Activates the Flesh tone control
- 58 ABL START POINT** Set the Automatic Black Level Start Point
- 59 Y GAMMA** Set the non-linear Gamma curve for Luminance signal
- 60 ACB PULSE P** Set Automatic Control Beam Start Point
- 61 SCREEN** Not used
- 62 AKB SETUP** Mute the RGB Cathodes
- 63 AUX BAND PASS** Activates the Band Pass Filter for Auxiliat (Composite, Y/C, YUV) input
- 64 CD MATRIX** Set the relative phase and amplitude of Color response to demodulate de Chroma
- 65 YCbCr** Select the Demodulation System for Component Video YUV or YCbCr
- 66 C GAMMA** Switch the Color Gamma

SERVICING

LARGE SIGNAL

POWER SUPPLY

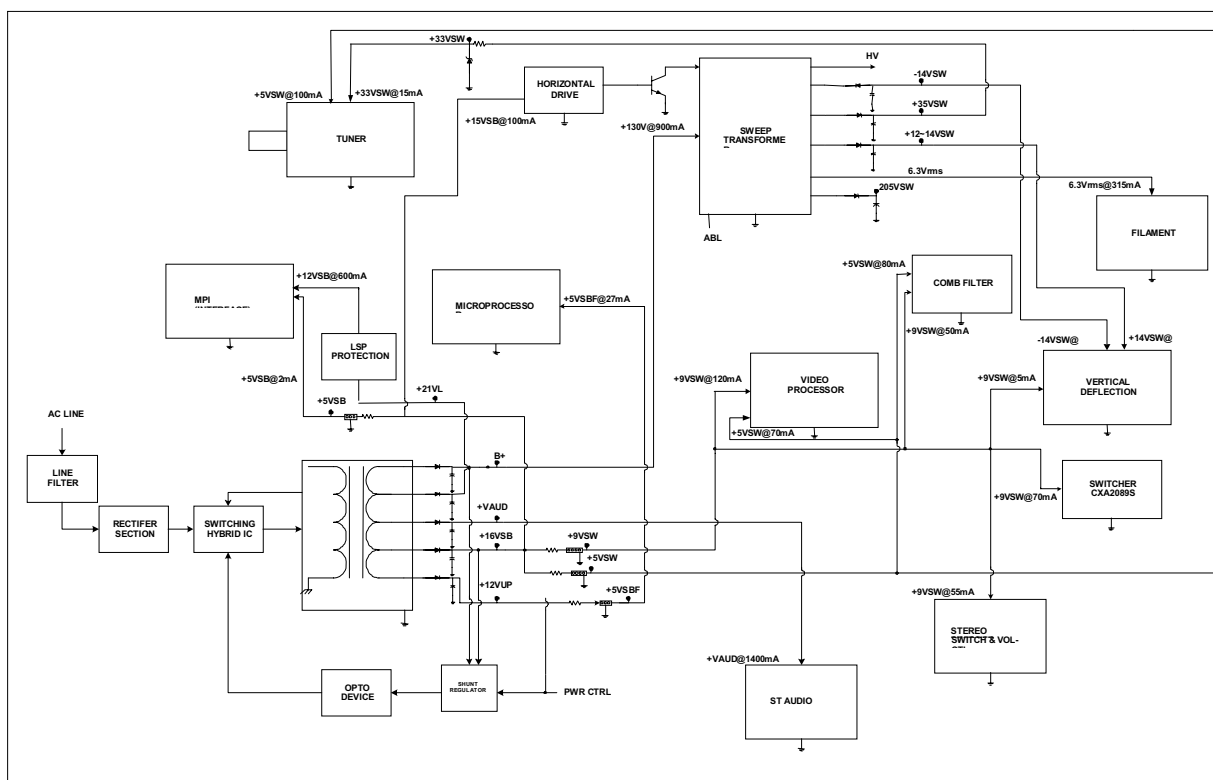
The FA is a COLD chassis of a single sided circuit board, developed for a 27". The power supply section features four IC's for voltages sources. The FA chassis has the capability to meet the Energy Star requirement for a low power consumption on stand-by mode.

- 9Volts, 1Amp ON/OFF Switch Regulator, 221-01460-07
- 5Volts, 1Amp ON/OFF Switch Regulator, 221-01460-03
- 5Volts, 0.150 Amp Switch Linear Regulator, 0IKE780500P
- Main regulator for Horizontal Deflection (B+), +15V, Switch mode regulator 223-00061-01.
- Error amplifier 221-00265-03A.

SWITCH MODE REGULATOR

The FA chassis employs a switching power supply, quasi-resonant topology type. The AC line is supplied thru the bridge rectifier BRX3400 and CX3410 circuit through the fuse FX3400 (5A @ 250 V fast blow), The AC operation range is between 90 Vrms to 135 Vrms (see TABLE 1.1) and a filter, consisting of LX3400, LX3401, CX3401, CX3403 and CX3408, which is employed before the rectifier circuit to reduce noise from the AC line and vice versa (EMI).

The voltage output of the rectifier, VDC, is supplied to the Switch Mode Regulator Power Supply, and its output should be in this range [127 VDC to 352.5 VDC]. The SMPS consisting of ICX3612, ICX3701, ICX3702 and the chopper transformer TX3600. Through 100 KOHM resistor (Rst), RX3601 and CX3604 (Cst), which is derived the VCC from CX3410. These feed the pin 3 into the internal zener diode located within ICX3612.



POWER SUPPLY BLOCK SCHEMATIC

SERVICING (continued)

PIN DESCRIPTION

PIN #	DESCRIPTION	FUNCTION
1	POWER MOSFET DRAIN	To drive the chopper xfmr, capable of switching a max of 650V.
2	GROUND (<i>HOT</i>)	MOSFET Source connection.
3	DRIVE (<i>+VCC</i>)	Positive supply voltage, 32VDC
4	FEEDBACK (<i>V_{fb}</i>)	The output voltage error is applied to this pin.
5	SYNCHRONY (<i>V_{s/s}</i>)	External sync signal & Soft star capacitor.

At the same time this voltage is also applied to an internal comparator. So the voltage of this power source must be within a set range, between a 5VDC reference (*V_{ref}*) and a 32VDC zener diode (*V_z*).

This set range is verified through the UVLO (*Under Voltage Lock Out*) circuit of the Switch Power IC.

START UP

When the VCC reaches a upper threshold voltage (15 VDC) the comparator switches to enable the ICX3612 including all internal bias circuits, control circuits, PWM modulator & Power MOSFET.

Due the demand of energy from Cst and Rst the VCC voltage starts to fall. Before to fall too low, a bootstrap winding on the power transformer (pins 13 & 16) reforces adequately the VCC power to keep the full system operation.

VOLTAGE SOURCES

There are Five secondary windings on the TX3600 and each has its own half wave rectifier.

Consequently there are Five stand-by DC voltages: **B+, 24VAUD, 21VL, 16VSB & 12VUP.**

The first is used to source the horizontal sweep circuit, HOT (Horizontal Output Transistor). The second is used for audio. The third is exclusively for the LSP source, which is always on stand-by. The four is used for video low signal processing and The fifth is used for microcontroller.

The main microprocessor IC6000 and the EAROM memory IC6001 are supplied by a five volts stand-by source, +5V SB, which is derived through ICX3820 (0IKE78500P).

The +16 VSB and +12 VUP volts stand-by are protected by fuses FX3613 and FX3614 (4A @ 125V) Very Fast Acting, the +21VL and +24 VAUD volts stand-by are protected by fuses FX3611 and FX3612 (4A @ 125V) Slow Blow. B+ as mentioned before are protected by the OCP circuit. So they do not need fuse.

The FA chassis can be turn it on with the keyboard on the front of the set or with the remote hand control. The microcontroller IC6000 receive a signal and it output a high, about 4.8V, on pin 32 which is called PWR-CTL. This pin is connected to RX3832, RX3831 and RX3540; producing the +VAUD, +9VSW, +5VSW.

DEGAUSSING

The FA chassis employs a new method of degaussing, which is performed through software. The IC6000 generate a pulse of about 1 second, time fixed, on pin 43. This pin is set to high, about 4.8 VDC, through R3900, 4.7K 5% 1/4watt. And it applies to Q3900, which drives the 12 VCD relay KX3900. So the degaussing is performed when the degauss coil is plugged to CN3T8 connector.

POWER SUPPLY ALIGNMENT PROCEDURES

ELECTRICAL ADJUSTMENT

The FA chassis SMPS does not need any manual measurement. All the output voltages are regulated through ICX3702 (221-265-03A), error amplifier. The ICX3702 keeps the regulation using a reference voltage, through a voltage divider. The voltage divider is formed by two precision RX3706 and RX3704.

The values of these resistors depends of the B+ output voltage.

NOTES:

- *When servicing make sure to use a 120 VAC- 60Hz 25 Amp isolated source.*
- *Use a full white field on the video pattern generator.*

SERVICING

DEFLECTION

HORIZONTAL

PINCUSHION CORRECTION CIRCUIT

This circuitry provides a east/west pincushion correction by providing a smaller horizontal deflection current at the upper and lower portions of the flat screen, thru the dual OP-AMP IC3300 . In addition, the overall horizontal width is adjusted using this circuit.

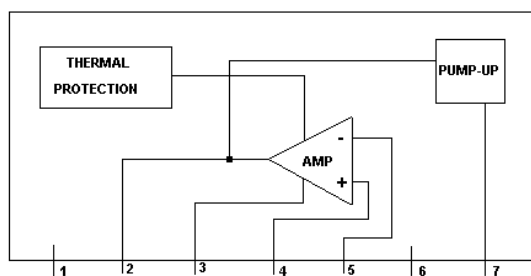
SHUTDOWN CIRCUIT

This shutdown circuit operates by means of a sample of HV taken from pin 3 of the sweep transformer TX3200. This sample of voltage is rectified, filtered and then compared with a reference voltage (fixed by ZDX3002) by the transistor QX3001. When the HV reaches the maximum permitted voltage, the transistor QX3001 enters in conduction mode; like consequence the transistor QX3002 also enters in conduction too, switching a DC voltage on pin 32 of IC2200.

When IC2200 receives this DC voltage, the X-ray protection is activated and the TV set is shutting off.

VERTICAL

The FA chassis uses a 221-01410 on ICX2100, which contains; On-chip Thermal Protection, Pump-Up Stage and Power Amplifier. The vertical drives comes from pins 13 & 14 from the video processor IC2200, which are a negative and positive vertical Ramps. The Output to the yoke is on PIN 2 of ICX2100 . Dual power supply is needed for this IC (+/- 14Vdc), Applied on pins 6 & 1 respectively.

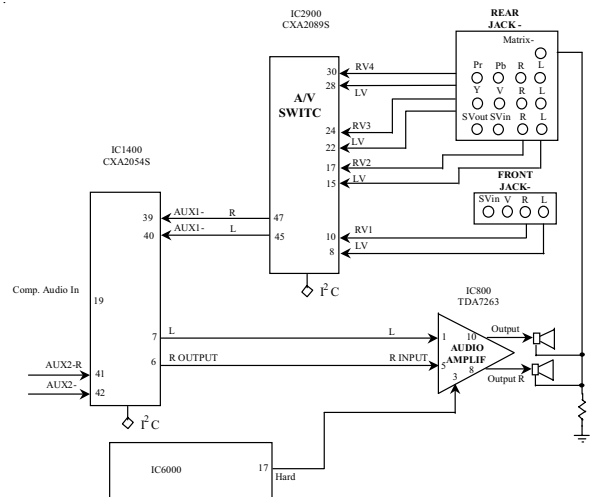


SMALL SIGNAL

AUDIO & VIDEO PROCESSING

The FA chassis has a stereo amplifier, IC800 P221-1488, which is the final audio stage. This chassis does not have phone output, however it has Matrix Output. The Matrix output is used to connect a center speaker, in serial with the two stereo speakers. This feature is used to connect an additional 8 Ohm 10W speaker.

The stereo amplifier provides an power output of 10W x 2. The IC1400, 221-01127 is the audio processor and provides the Bass, Treble, Balance, front surround and soundrite features, this IC is controlled thru the IIC bus.



VIDEO PROCESSING

The IC2200, P221-01519 or TB1253AN/N is a TV Signal Processor IC, which contains PIF,SIF, Video, Chroma and deflection signal processors for NTSC systems. Also, it has V and EW geometric correction Outputs.

Features

- IF Stage.
- Inter-carrier input.
- Digital AFT
- Tank coil less PIF VCO
- Adjustment Free
- Video Stage
- Built-in AV Switch
- Video monitor Output for CCD MCU
- Built in chroma trap
- Black stretcher, DL Aperture Control
- Scan Velocity Modulation output.

SERVICING (continued)

During the introduction of FA chassis the TA1253AN version was introduced, which is an upgrade from the N version, the following is a comparison of both processors:

ITEM	TB1253N Data	TB1253AN Specifications
PIF block		
PIF horizontal noise	-	< Improve>
AFT defeat (" IF lock" detection)	-	-
920 KHz beat	38dB	45dB
Y block		
C-TRAP fo shift	+100KHz	below +20KHz
Y linearity	OK Below Y 100%	OK Below Y 130%
Y white --> black ringing		
CHROMA block		
TINT control center shift	10 degree	below 3degree
TEXT block		
CR input D range	0.62 Vp-p	0.86 Vp-p
Color Gain	1	2 dB UP
Auto flesh control range	(wide)	(narrow)
DEF block		
H output re-start frequency	14.7 KHz	15.7KHz
H output stop timing	Asynchronous	Stop when low lwwwl
H AFC sensitivity	1.9 Hz/mV	2.5 Hz/mV
H VCO temperature drift	-	< Improve >
V-S correction	+/-20%	20%/-12%
V wide BLK1 specification	EVEN: 9/8.5H, ODD 8.5/8H	EVEN: 9/9.5H, ODD 8.5/9H
	(upper/lower)	(upper/lower)
V centering variable range	+/-25%	+/-22%
"H lock" detection	"Lock-in" by Hsync 16 counts	"Lock-out" by no Hsync 56 counts
V skew performance	-	-
Read Bus "V lock", "VP"	"Vlock"	"VP"

The IC2200 receives the video signal from the A/V switch IC2990, P221-01438, which is switching the video signals from the Front and Rear jacks. Also involved is the digital comb filter IC2400, 221-01449. The YUV input is processing directly through the IC2200. The ABL circuit employed has been adjusted to allow to the IC2200 a maximum permissible Cathode current of 1.8 mA.



VIII. *Leaves* (Green, smooth, shiny) ...

V/C: J.B. Tarrant (Barnes CV#1000)

CV : I/P Input (P Video)

Y/C loop : Matrix Output

$$V/C \rightarrow CV \rightarrow LDT \rightarrow L/E \rightarrow LCV \rightarrow M' \rightarrow N$$

4.8-pin DIP package with 0-DC Vcc

It drives 3 V/C.I.P. and 3 CV.I.P. input, plus V/C output

3 CV cross trough Comb filter and come back like Y/C

SERVICING (continued)

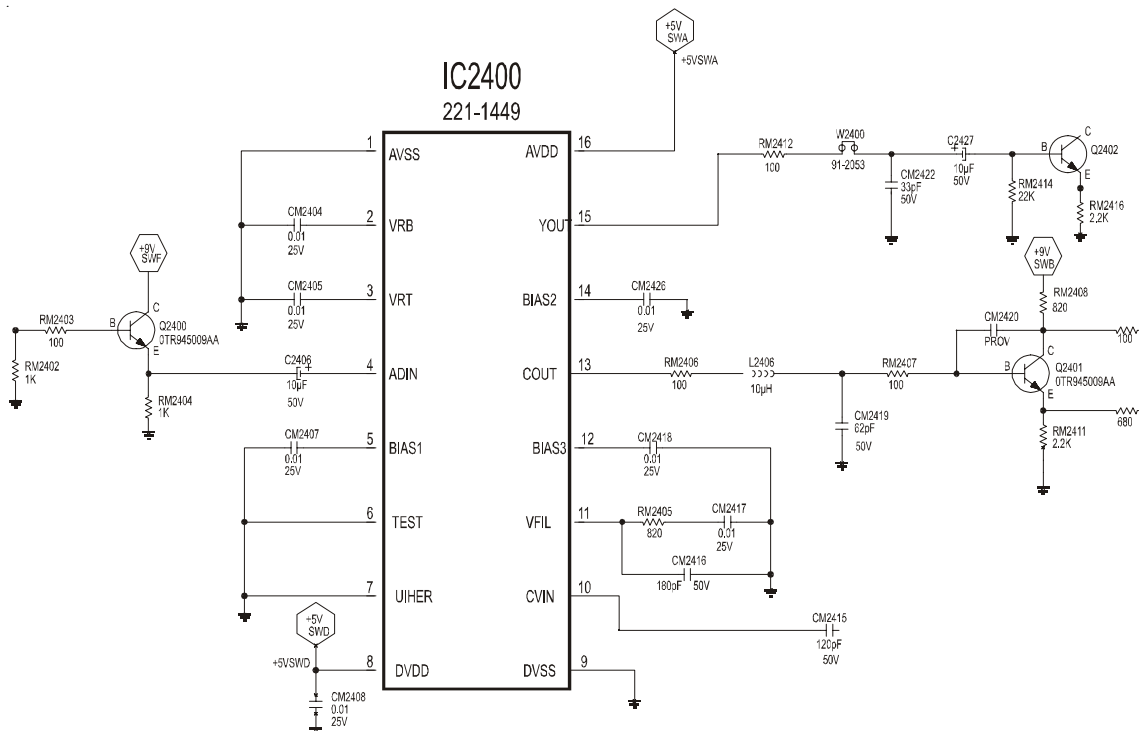
DIGITAL COMB FILTER

The IC2400 is the digital comb filter for NTSC-U format it is a 1H, 2L Digital comb filter. It separates luminance (Y) and chrominance (C) signals from NTSC system composite video signal by using 2 horizontal (H) lines and delaying 1 horizontal line on memory. This logical comb filter reduce color dot interference and realizes high performance Y/C separation.

COMB FILTER CRITICAL SIGNAL

On the Pin 10 (Fsc) color sub carrier signal tuned to 3.58 Mhz for chrominance and luminance separation. If this signal is not present the next problems could be happened:

- Color flicker
- Chroma beat
- Luminance signal noise



VIDEO OUTPUT

The RGB signals are applied to the IC5100, which is the video RGB output. IC5100 is triple Amplifier with fix gain equal to 51, operating at 9 Mhz of Bandwidth with small signal. It uses one +Vcc equal or less of 200 DC Volts. AKB option is not used for this model. Using LR array the output is connected to its respective Cathode

SCAN VELOCITY MODULATOR

This signal comes from directly from Video Processor IC2200.

Three stages for signal are:

- 1: Class A NPN Amplifier
- 2: Complementary symmetry Driver
- 3: Complementary symmetry output Amp

Impedance coupling network connects to SVM coil in CRT assembly.

YUV SWITCH PROVISION

FA chassis also has a provision to support an additional YUV input thru IC2902, 74HC4053AP, but this is only a provision. This IC is a 6x3 DEMUX controlled by control signal sent by IC6000, MICOM. The outputs point to rear jack's YUV (Normally Closed inputs).

SERVICING

ADJUSTMENT PROCEDURE

SCOPE:

After change CPT or chassis make next arrangements.

1. – Initial Upload.

Menu	Register name	Value
Customer	Customer Contrast	0
Customer	Customer Brightness	50
Factory	RF Brightness	41
Factory	Aux Brightness	41
Factory	YUV Brightness	41
Factory	Max Contrast	110
Factory	Max Brightness	36
Factory	Sub Contrast	6
Customer	Color Temp	Cool
Factory	Red Cutoff	0
Factory	Green Cutoff	0
Factory	Blue Cutoff	0
Factory	Green Gain	63
Factory	Blue Gain	60
Customer	Color Temp	Warm
Factory	Red Cutoff	0
Factory	Green Cutoff	0
Factory	Blue Cutoff	0
Factory	Green Gain	63
Factory	Blue Gain	51

WHITE BALANCE ADJUSTMENT

- Set any video source without signal (channel label will remain)
- Set Chromatics as **Normal**
- Set Customer Brightness at **85**
- Observe what color is most noticeable: Red, Green or Blue
- Push <9,8,7,6,MENU> to enter at Factory menu; change the value "FACT MENU" (register #0) from 0 to 1 to get at all registers.
- Charge into the Factory registers from 24 to 28 the respective values looking into the tables of **Cool & Warm**.

Cool Color Temp values:

"x" = 0.282 +/- 0.008, "y" = 0.288 +/- 0.008, "T" = 10,000 °K +/- 1000

CPT Response	#24 Red Cutoff	#25 Green Cutoff	#26 Blue Cutoff	#27 Green Gain	#28 Blue Gain
Red	0	30	14	63	60
Green	30	0	21	64	60
Blue	37	38	0	62	60

WARM Color Temp values:

"x" = 0.295 +/- 0.008, "y" = 0.305 +/- 0.008, "T" = 8,000 °K +/- 1000

CPT Response	#24 Red Cutoff	#25 Green Cutoff	#26 Blue Cutoff	#27 Green Gain	#28 Blue Gain
Red	0	31	14	63	53
Green	33	0	21	62	50
Blue	42	39	0	63	53

G2 (SCREEN) ADJUSTMENT

- Set Chromatics as Normal
- Set Customer Contrast at 0
- Set Customer Brightness at 15
- Set any channel without RF signal
- Push <MENU> key at remote control until it display channel label
- Push <9,8,7,6,QUIT> to display Horizontal Line (it will remain by 3 minutes)
- Turn G2 control at Sweep (FBT) in clock wise to make noticeable the line and after turn counter clock wise to make it lightly visible.
- Push <QUIT> to exit
- Set again Normal Chromatic and available channel

RF SUB-BRIGHTNESS ADJUSTMENT

- Set LG 10 Step pattern.

0	1	2	3	4	5	6	7	8	9	<= Grey Scale
										<= Color Bars

- Change values of Factory registers #10 and #11 (RF & AUX BRT respectively) to 31 and register #12 YUV BRT to 21. Retouch register #10 to have 3rd **step half illuminated. Set RF and AUX equal and YUV lower 10 units.**
- Push <9,8,7,6,MENU> to enter at Factory menu; change the value "FACT MENU" (register # 0) from 1 to 0 to disable the Factory Menu.
- Set again Normal Chromatic and available video source

TINT ADJUSTMENT

- Customer Tint register is fixed for all EZ pictures, therefore Tint adjustment is not required.

SERVICING (continued)

EZ PICTURE VALUES FOR VIDEO PROCESSOR

- a) If it necessary to review the values of Chromatics for each EZ Picture, next tables have entire description.
- b) Check the Video Processor IC type: TB1253N uses Tint Offset register at 5; and TB1253AN uses Tint Offset register at 0.

Video Processor IC: TB1253N							
Tint offset will be " 5 "							
<u>RF, CV & Y/C Sources</u>							
Controls	Normal	Movie	Digital	Video Game	Sport	Night Time	Weak Signal
Contrast	100	70	100	67	80	27	67
Brightness	50	57	60	57	35	70	54
Color	65	60	65	55	57	62	59
Tint	0	0	0	2R	4G	0	0
Sharpness	85	85	100	77	80	80	40
Color Temp	Cool	Warm	Cool	Cool	Cool	Warm	Cool
<u>YUV Source</u>							
Controls	Normal	Movie	Digital	Video Game	Sport	Night Time	Weak Signal
Contrast	100	70	100	67	80	27	67
Brightness	50	57	60	57	35	70	54
Color	65	60	65	55	60	59	64
Tint	0	0	0	2R	4G	0	0
Sharpness	85	85	100	77	80	80	40
Color Temp	Cool	Warm	Cool	Cool	Cool	Warm	Cool
EZ picture values for Video Processor IC: TB1253AN							
Tint offset will be " 0 "							
<u>RF, CV & Y/C Sources</u>							
Controls	Normal	Movie	Digital	Video Game	Sport	Night Time	Weak Signal
Contrast	100	70	100	67	80	27	67
Brightness	50	57	60	57	35	70	54
Color	50	50	53	45	46	50	51
Tint	0	0	0	2R	4G	0	0
Sharpness	85	85	100	77	80	80	40
Color Temp	Cool	Warm	Cool	Cool	Cool	Warm	Cool
<u>YUV Source</u>							
Controls	Normal	Movie	Digital	Video Game	Sport	Night Time	Weak Signal
Contrast	100	70	100	67	80	27	67
Brightness	50	57	60	57	35	70	54
Color	47	47	50	42	46	44	49
Tint	0	0	0	2R	4G	0	0
Sharpness	85	85	100	77	80	80	40
Color Temp	Cool	Warm	Cool	Cool	Cool	Warm	Cool

SERVICING

IF AND AUDIO SERVICING

AGC DELAY

With a strong noise-free antenna signal, adjust with left select key the RF AGC (#20) to a lower setting until the signal gets noisier. Increase the setting again (with right select key) for a noise-free picture.

AUDIO LEVEL ADJUSTMENT

- Apply a RF signal with good video and audio at 100Hz at 100% modulation.
- Access item #19 AUDIO LEVEL on the service menu.
- Place a high impedance meter on pin #19 of IC1400 or the positive side of capacitor C1427. Adjust with left/right select keys the AUDIO LEVEL register to 250 mVrms.

MTS DECODER ALIGNMENT.

The purpose of this procedure is adjusting registers of SONY audio decoder and sound processor CXA2054S (IC1400).

Initial conditions:

- Alignment should be accomplished at least ten minutes after the TV set have been turned on.
- TV sound must be set for flat response (EZ sound in Normal).
- Audio mode must be set for Stereo.
- Use 8 ohm resistive loads instead of the speakers.
- Open RM1416 and RM1417 in order to disconnect the RF audio signal.
- Connect a Multiplex Modulator to negative of capacitor C1427.

Five register of the audio processor should be adjusted. Bits TEST-DA and TEST1 should be set according with the current adjust.

Inside of the service menu:

- To see TEST-DA and TEST1 registers enter the "B" key of the remote control (TESTDA= "0" and TEST1 = "0" are conditions for normal operation), then ten bits registers will display in the bottom of the screen, upper of tree rows (see the figure 1). The first one is TESTDA register and the second one is TEST1 register.
- To change the state of TESTDA and TEST1 push the "QUIT" key of the remote control.

TEST-DA	TEST1	POWER ON RESET	STEREO	SAP	NOISE	FILADJ	-----	-----	-----
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Figure 1 Monitoring bits registers

ATT ADJUSTMENT

- Set the chassis for RF input.
- Set bits TEST-DA = "0" and TEST1 = "0".
- Input a 100 Hz signal at 25 KHz deviation (100 % mod.), 75 us off to pin 19 of IC1400.
- Adjust with right/left select keys the A ATT register (item #30) for 490 mVrms (± 10 mVrms) in TVOUT-L output, pin 44 of IC1400.

STEREO, SAP VCO ADJUSTMENT

- Set bits TEST-DA = "1" and TEST1 = "0".
- Monitor the TVOUT-R output frequency (pin 43 of IC1400) in a no input state.
- Adjust with right/left select keys the A VCO register (item #31) of IC1400 so that frequency is as close to 62.936 KHz (± 0.5 KHz) as possible.

STEREO, SAP DBX FILTER ADJUSTMENT

- Set bits TEST-DA = "0" and TEST1 = "1".
- Input 9.4 KHz, 600mVrms to COMP-IN pin 19 of IC1400.
- While monitoring the STATUS FLAG (FILADJ bit, see figure 2) of IC1400, adjust with right/left select keys the A FILTER register (item #32). Align with the center of the FILADJ = 1 (Adjustment OK) condition range (see figure 2).

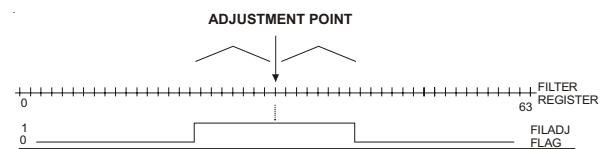


Figure 2 A FILTER adjustment.

SEPARATION ADJUSTMENT

- Set bits TEST-DA = "0" and TEST1 = "0".
- Set volume at maximum.
- Set a stereo signal, 300 Hz at 12.9 KHz deviation (30 % mod.), left channel only, dbx ON at pin 19 of IC1400.
- Adjust with right/left select keys the WBAND register (item#34) to reduce right speaker output at the minimum.
- Set the frequency only of SIF signal to 3 KHz.
- Adjust with right/left select keys the SPECTRAL register (item #35) to reduce right speaker output at the minimum.

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
CAPACITOR		
C1202	022-08309-12A	CAPACITOR ;100 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C1204	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1209	022-08309-15A	CAPACITOR ;470 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C1210	022-08312-01A	CAPACITOR ;0.22 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1213	022-08309-12A	CAPACITOR ;100 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C1216	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1217	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1218	022-08312-03A	CAPACITOR ;0.47 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1233	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1235	022-08309-15A	CAPACITOR ;470 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C1236	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1238	022-08257-12A	CAPACITOR ;1000 PFD 10% 50V ;CERAMIC DISC
C1413	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1414	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1415	022-07669-15A	CAPACITOR ;10 MFD 10% 50V ;ELECTROLYTIC, 1 SECT
C1416	022-08188-05A	CAPACITOR ;10 MFD 20% 25V ;NONPLZD ELECTROLYTIC
C1417	022-07669-14A	CAPACITOR ;3.3 MFD 10% 50V ;ELECTROLYTIC, 1 SECT
C1418	022-08049-20A	CAPACITOR ;0.047 MFD 10% 50V ;POLYESTER
C1419	022-08257-17A	CAPACITOR ;2700 PFD 10% 50V ;CERAMIC DISC
C1420	022-08188-05A	CAPACITOR ;10 MFD 20% 25V ;NONPLZD ELECTROLYTIC
C1421	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1422	022-08188-05A	CAPACITOR ;10 MFD 20% 25V ;NONPLZD ELECTROLYTIC
C1423	022-08309-12A	CAPACITOR ;100 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C1425	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1426	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1427	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1428	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C1429	022-08049-13A	CAPACITOR ;0.012 MFD 10% 50V ;POLYESTER
C1430	022-08257-21A	CAPACITOR ;5600 PFD 10% 50V ;CERAMIC DISC
C1431	022-08188-05A	CAPACITOR ;10 MFD 20% 25V ;NONPLZD ELECTROLYTIC
C2	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2104	022-08049-24A	CAPACITOR ;0.10 MFD 10% 50V ;POLYESTER
C2109	022-08049-24A	CAPACITOR ;0.10 MFD 10% 50V ;POLYESTER
C2111	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2112	022-07786C	CAPACITOR ;1000 PFD 10% 500V ;CERAMIC DISC
C2202	022-08312-01A	CAPACITOR ;0.22 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2206	022-08309-12A	CAPACITOR ;100 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2211	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2215	022-08312-03A	CAPACITOR ;0.47 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2217	022-08312-09A	CAPACITOR ;22 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2219	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2224	022-08312-05A	CAPACITOR ;2.2 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2226	022-08310-11A	CAPACITOR ;47 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C2227	022-08227-19A	CAPACITOR ;0.47 MFD 5% 50V ;POLYESTER
C2229	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2236	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2406	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2409	022-08309-11A	CAPACITOR ;47 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2410	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2412	022-08309-11A	CAPACITOR ;47 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2413	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2414	022-08309-11A	CAPACITOR ;47 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2424	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2427	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2901	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2902	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2904	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2908	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2911	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2914	022-08309-15A	CAPACITOR ;470 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2915	022-07958-38	CAPACITOR ;390 PFD 5% 100V ;CERAMIC CHIP

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
C2926	022-08309-13A	CAPACITOR ;220 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2927	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2928	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2961	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2963	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2964	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C2969	022-08309-12A	CAPACITOR ;100 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C2975	022-08257-12A	CAPACITOR ;1000 PFD 10% 50V ;CERAMIC DISC
C3200	022-08242-26A	CAPACITOR ;47 PFD 10% 50V ;CERAMIC DISC
C3202	022-08257-08A	CAPACITOR ;470 PFD 10% 50V ;CERAMIC DISC
C3207	022-08049-16A	CAPACITOR ;0.022 MFD 10% 50V ;POLYESTER
C3220	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
C3222	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
C3227	022-07877-12	CAPACITOR ;0.1 MFD 10% 250V ;POLYESTER
C3300	022-08310-16	CAPACITOR ;1000 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C3301	022-08257-08A	CAPACITOR ;470 PFD 10% 50V ;CERAMIC DISC
C5104	022-07877-12	CAPACITOR ;0.1 MFD 10% 250V ;POLYESTER
C5106	022-08318-04A	CAPACITOR ;1 MFD 20% 350V ;ELECTROLYTIC, 1 SECT
C5109	022-07523-01B	CAPACITOR ;0.01 MFD +80 % & -20 % 2000V ;CERAMIC DISC
C5111	022-08317-08	CAPACITOR ;10 MFD 20% 250V ;ELECTROLYTIC, 1 SECT
C5112	022-07523-01B	CAPACITOR ;0.01 MFD +80 % & -20 % 2000V ;CERAMIC DISC
C5114	022-08309-13A	CAPACITOR ;220 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C5115	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C5500	022-07877-12	CAPACITOR ;0.1 MFD 10% 250V ;POLYESTER
C5501	022-08317-08	CAPACITOR ;10 MFD 20% 250V ;ELECTROLYTIC, 1 SECT
C5502	022-07877-12	CAPACITOR ;0.1 MFD 10% 250V ;POLYESTER
C5503	022-08228-11A	CAPACITOR ;0.1 MFD 10% 50V ;POLYESTER
C5504	022-08228-11A	CAPACITOR ;0.1 MFD 10% 50V ;POLYESTER
C5505	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C5507	022-08049-16A	CAPACITOR ;0.022 MFD 10% 50V ;POLYESTER
C5508	022-08247-22A	CAPACITOR ;33 PFD 5% 50V ;CERAMIC DISC
C5509	022-08228-11A	CAPACITOR ;0.1 MFD 10% 50V ;POLYESTER
C5510	022-08242-34A	CAPACITOR ;100 PFD 10% 50V ;CERAMIC DISC
C5511	022-08242-34A	CAPACITOR ;100 PFD 10% 50V ;CERAMIC DISC
C5512	022-08049-16A	CAPACITOR ;0.022 MFD 10% 50V ;POLYESTER
C5513	022-08049-16A	CAPACITOR ;0.022 MFD 10% 50V ;POLYESTER
C5514	022-08309-11A	CAPACITOR ;47 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C5515	022-08309-11A	CAPACITOR ;47 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C5516	022-08306-22A	CAPACITOR ;33 PFD 10% 500V ;CERAMIC DISC
C5517	022-08315-08	CAPACITOR ;10 MFD 20% 160V ;ELECTROLYTIC, 1 SECT
C6019	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C6022	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C6026	022-08049-24A	CAPACITOR ;0.10 MFD 10% 50V ;POLYESTER
C6030	022-08309-13A	CAPACITOR ;220 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
C6034	022-08312-05A	CAPACITOR ;2.2 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C6035	022-08049-24A	CAPACITOR ;0.10 MFD 10% 50V ;POLYESTER
C6077	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C800	022-08312-16	CAPACITOR ;1000 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C801	022-08228-11A	CAPACITOR ;0.1 MFD 10% 50V ;POLYESTER
C803	022-08310-11A	CAPACITOR ;47 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C811	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C812	022-08310-11A	CAPACITOR ;47 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C813	022-08228-11A	CAPACITOR ;0.1 MFD 10% 50V ;POLYESTER
C814	022-08311-16	CAPACITOR ;1000 MFD 20% 35V ;ELECTROLYTIC, 1 SECT
C821	022-08312-04A	CAPACITOR ;1 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
C822	022-08310-11A	CAPACITOR ;47 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
C823	022-08228-11A	CAPACITOR ;0.1 MFD 10% 50V ;POLYESTER
C824	022-08311-16	CAPACITOR ;1000 MFD 20% 35V ;ELECTROLYTIC, 1 SECT
CM1201	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM1203	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM1207	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM1208	022-08352-38A	CAPACITOR ;120 PFD 5% 50V ;CERAMIC CHIP, LDLESS

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
CM1211	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1212	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1214	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1215	022-08352-24A	CAPACITOR ;33 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM1224	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1225	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM1226	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1227	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1230	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1231	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1234	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM1236	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1411	022-08370-22A	CAPACITOR ;15,000 PFD 10% 16V ;CERAMIC CHIP, LDLESS
CM1412	022-08370-24A	CAPACITOR ;22,000 PFD 10% 16V ;CERAMIC CHIP, LDLESS
CM1424	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM1432	022-08366-18A	CAPACITOR ;6,800 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1433	022-08366-18A	CAPACITOR ;6,800 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM1434	022-08370-22A	CAPACITOR ;15,000 PFD 10% 16V ;CERAMIC CHIP, LDLESS
CM2200	022-08352-17A	CAPACITOR ;16 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2201	022-08366-12A	CAPACITOR ;2,200 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM2203	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2204	022-08352-36A	CAPACITOR ;100 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2205	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2208	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2209	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2210	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2212	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2216	022-08352-40A	CAPACITOR ;150 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2218	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2223	022-08370-24A	CAPACITOR ;22,000 PFD 10% 16V ;CERAMIC CHIP, LDLESS
CM2225	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2230	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2231	022-08352-22A	CAPACITOR ;27 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2232	022-08366A	CAPACITOR ;220 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM2233	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2234	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2235	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2237	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2240	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2241	022-08370-24A	CAPACITOR ;22,000 PFD 10% 16V ;CERAMIC CHIP, LDLESS
CM2242	022-08352-44A	CAPACITOR ;220 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2401	022-08352-14A	CAPACITOR ;12 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2402	022-08352-22A	CAPACITOR ;27 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2403	022-08352-22A	CAPACITOR ;27 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2404	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2405	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2407	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2408	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2411	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2415	022-08352-38A	CAPACITOR ;120 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2416	022-08352-42A	CAPACITOR ;180 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2417	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2418	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2419	022-08352-31A	CAPACITOR ;62 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2421	022-08366-16A	CAPACITOR ;4,700 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM2422	022-08352-24A	CAPACITOR ;33 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2423	022-08352-18A	CAPACITOR ;18 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2426	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2800	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2801	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2802	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2803	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2804	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
CM2805	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2806	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2807	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2808	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2809	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2905	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM2909	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2912	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2916	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2917	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2929	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM2930	022-08352-14A	CAPACITOR ;12 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM2965	022-08376-32A	CAPACITOR ;100,000 PFD +80% & -20% 16V ;CERAMIC CHIP, LDLESS
CM2970	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM6000	022-08352-38A	CAPACITOR ;120 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6001	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6002	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6003	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6004	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6005	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM6006	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM6007	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6008	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6009	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6010	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6011	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6012	022-08352-42A	CAPACITOR ;180 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6013	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6014	022-08366-04A	CAPACITOR ;470 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6015	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6016	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6017	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6018	022-08366-04A	CAPACITOR ;470 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6020	022-08366A	CAPACITOR ;220 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6021	022-08366A	CAPACITOR ;220 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6023	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6024	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6027	022-08352-19A	CAPACITOR ;20 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6028	022-08352-19A	CAPACITOR ;20 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6029	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM6031	022-08352-22A	CAPACITOR ;27 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6032	022-08352-22A	CAPACITOR ;27 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6033	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM6037	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6038	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6039	022-08366-16A	CAPACITOR ;4,700 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6040	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6041	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6042	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6043	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6044	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6045	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6046	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6047	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6048	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6049	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6050	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6051	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6052	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6053	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6054	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6055	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
CM6056	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6057	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6058	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6059	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6060	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6061	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6062	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6063	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6064	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6070	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6075	022-08352-42A	CAPACITOR ;180 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6076	022-08368-20A	CAPACITOR ;10,000 PFD 10% 25V ;CERAMIC CHIP, LDLESS
CM6079	022-08366-08A	CAPACITOR ;1,000 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM6080	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6081	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM6082	022-08352-28A	CAPACITOR ;47 PFD 5% 50V ;CERAMIC CHIP, LDLESS
CM810	022-08366-13A	CAPACITOR ;2,700 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CM820	022-08366-13A	CAPACITOR ;2,700 PFD 10% 50V ;CERAMIC CHIP, LDLESS
CX2100	022-08311-14	CAPACITOR ;330 MFD 20% 35V ;ELECTROLYTIC, 1 SECT
CX2101	022-08311-14	CAPACITOR ;330 MFD 20% 35V ;ELECTROLYTIC, 1 SECT
CX2102	022-08311-13	CAPACITOR ;220 MFD 20% 35V ;ELECTROLYTIC, 1 SECT
CX2103	022-08312-07A	CAPACITOR ;4.7 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX2105	022-08227-15A	CAPACITOR ;0.22 MFD 5% 50V ;POLYESTER
CX2113	022-08227-04A	CAPACITOR ;0.022 MFD 5% 50V ;POLYESTER
CX3000	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3001	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3002	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
CX3003	022-08312-08A	CAPACITOR ;10 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3203	181-013M	CAPACITOR;MPP 400V 0.22UF J;
CX3204	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
CX3205	022-08229-27	CAPACITOR ;0.013 MFD 3% 1600VDC ;POLYPROPYLENE
CX3206	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3208	022-07786-17C	CAPACITOR ;2200 PFD 10% 500V ;CERAMIC DISC
CX3209	022-07786-17C	CAPACITOR ;2200 PFD 10% 500V ;CERAMIC DISC
CX3211	022-08386-01	CAPACITOR ;270 PFD 10% 2000V ;CERAMIC DISC
CX3212	022-08386-08	CAPACITOR ;1000 PFD 10% 2000V ;CERAMIC DISC
CX3213	022-08227-04A	CAPACITOR ;0.022 MFD 5% 50V ;POLYESTER
CX3214	022-08317-08	CAPACITOR ;10 MFD 20% 250V ;ELECTROLYTIC, 1 SECT
CX3215	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
CX3216	022-08159	CAPACITOR ;0.68 MFD 10% 200V ;POLYESTER
CX3217	022-08386-08	CAPACITOR ;1000 PFD 10% 2000V ;CERAMIC DISC
CX3218	022-08386-05	CAPACITOR ;560 PFD 10% 2000V ;CERAMIC DISC
CX3221	022-08227-07A	CAPACITOR ;0.047 MFD 5% 50V ;POLYESTER
CX3224	022-08312-11A	CAPACITOR ;47 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3225	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
CX3226	022-08227-11A	CAPACITOR ;0.1 MFD 5% 50V ;POLYESTER
CX3228	022-07786-10C	CAPACITOR ;470 PFD 10% 500V ;CERAMIC DISC
CX3229	022-08317-08	CAPACITOR ;10 MFD 20% 250V ;ELECTROLYTIC, 1 SECT
CX3230	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3235	181-013G	CAPACITOR;MPP 200V 0.5UF J;
CX3236	181-013N	CAPACITOR;MPP 400V 0.27UF J;
CX3302	022-08057-01	CAPACITOR ;4.7 MFD 20% 50V ;NONPLZD ELECTROLYTIC
CX3303	022-08116-03	CAPACITOR ;0.018 MFD 5% 630V ;POLYPROPYLENE
CX3304	022-08116-01	CAPACITOR ;0.012 MFD 5% 630V ;POLYPROPYLENE
CX3400	181-120K	CAPACITOR;ACT 4KV E 222M FL10;
CX3401	022-07867-13	CAPACITOR ;0.47 MFD 20% 250VAC ;POLYESTER
CX3403	022-07867-10B	CAPACITOR ;0.1 MFD 20% 250VAC ;POLYESTER
CX3404	022-07811A	CAPACITOR ;1000 PFD 10% 1000V ;CERAMIC DISC
CX3405	022-07811A	CAPACITOR ;1000 PFD 10% 1000V ;CERAMIC DISC
CX3406	022-07811A	CAPACITOR ;1000 PFD 10% 1000V ;CERAMIC DISC
CX3407	022-07811A	CAPACITOR ;1000 PFD 10% 1000V ;CERAMIC DISC
CX3408	022-07867-10B	CAPACITOR ;0.1 MFD 20% 250VAC ;POLYESTER

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
CX3410	181-001T	CAPACITOR,AL.ELECTROLYTI;CE 400V 470UF M LUG(85);
CX3600	022-08386-10	CAPACITOR ;1500 PFD 10% 2000V ;CERAMIC DISC
CX3601	022-07811-01A	CAPACITOR ;0.00047 MFD 10% 1000V ;CERAMIC DISC
CX3602	022-08043-02	CAPACITOR ;0.01 MFD 10% 630V ;POLYESTER
CX3603	022-08312-12A	CAPACITOR ;100 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3604	022-08312-11A	CAPACITOR ;47 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3606	022-08242-34A	CAPACITOR ;100 PFD 10% 50V ;CERAMIC DISC
CX3608	022-08227-07A	CAPACITOR ;0.047 MFD 5% 50V ;POLYESTER
CX3610	022-07811-01A	CAPACITOR ;0.00047 MFD 10% 1000V ;CERAMIC DISC
CX3611	022-07811-01A	CAPACITOR ;0.00047 MFD 10% 1000V ;CERAMIC DISC
CX3613	022-07811-01A	CAPACITOR ;0.00047 MFD 10% 1000V ;CERAMIC DISC
CX3614	022-07811-01A	CAPACITOR ;0.00047 MFD 10% 1000V ;CERAMIC DISC
CX3620	022-08444-07	CAPACITOR ;220 MFD 20% 200V ;ELECTROLYTIC, 1 SECT
CX3621	022-08539	CAPACITOR ;1000 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3623	022-08310-17	CAPACITOR ;2200 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3624	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3701	022-08242-34A	CAPACITOR ;100 PFD 10% 50V ;CERAMIC DISC
CX3702	022-08227-07A	CAPACITOR ;0.047 MFD 5% 50V ;POLYESTER
CX3800	022-08444-07	CAPACITOR ;220 MFD 20% 200V ;ELECTROLYTIC, 1 SECT
CX3801	022-08539	CAPACITOR ;1000 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3803	022-08310-16	CAPACITOR ;1000 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3804	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3810	022-08312-12A	CAPACITOR ;100 MFD 20% 50V ;ELECTROLYTIC, 1 SECT
CX3820	022-08310-13A	CAPACITOR ;220 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3821	022-08310-12A	CAPACITOR ;100 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3822	022-08310-13A	CAPACITOR ;220 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3830	022-08310-13A	CAPACITOR ;220 MFD 20% 25V ;ELECTROLYTIC, 1 SECT
CX3831	022-08309-15A	CAPACITOR ;470 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
CX3832	022-08309-12A	CAPACITOR ;100 MFD 20% 16V ;ELECTROLYTIC, 1 SECT
COIL & TRANSFORMER		
L1205	020-03907-12A	COIL ;10 MICROHENRY ;RCF, FIXED
L1206	020-04277-22A	COIL ;10 MICROHENRY ;RCF, FIXED
L1207	020-03907-24A	COIL ;100 MICROHENRY ;RCF, FIXED
L1208	020-04277-23A	COIL ;12 MICROHENRY ;RCF, FIXED
L1209	020-03907-12A	COIL ;10 MICROHENRY ;RCF, FIXED
L1221	020-04277-09A	COIL ;0.82 MICROHENRY ;RCF, FIXED
L1231	020-03907-12A	COIL ;10 MICROHENRY ;RCF, FIXED
L2200	020-04277-28A	COIL ;33 MICROHENRY ;RCF, FIXED
L2201	020-04277-22A	COIL ;10 MICROHENRY ;RCF, FIXED
L2202	020-04277-22A	COIL ;10 MICROHENRY ;RCF, FIXED
L2203	020-04277-28A	COIL ;33 MICROHENRY ;RCF, FIXED
L2204	0LA0471K119	INDUCTOR,AXIAL LEAD;4.7UH K 2.3*3.4 TP;
L2400	020-04277-42A	COIL ;18 MICROHENRY ;RCF, FIXED
L2401	020-03907-24A	COIL ;100 MICROHENRY ;RCF, FIXED
L2402	020-04129-32	COIL ;100 MICROHENRY ;RCF, FIXED
L2403	020-03907-24A	COIL ;100 MICROHENRY ;RCF, FIXED
L2404	020-04277-42A	COIL ;18 MICROHENRY ;RCF, FIXED
L2405	020-04277-39A	COIL ;10 MICROHENRY ;RCF, FIXED
L2406	020-04277-22A	COIL ;10 MICROHENRY ;RCF, FIXED
L2900	020-04277-39A	COIL ;10 MICROHENRY ;RCF, FIXED
L2901	020-04277-42A	COIL ;18 MICROHENRY ;RCF, FIXED
L2903	020-04277-42A	COIL ;18 MICROHENRY ;RCF, FIXED
L2907	020-04462-20A	COIL ;47 MICROHENRY ;RCF, FIXED
L5104	020-04462-18A	COIL ;33 MICROHENRY ;RCF, FIXED
L5119	0LA0471K119	INDUCTOR,AXIAL LEAD;4.7UH K 2.3*3.4 TP;
L5122	0LA0471K119	INDUCTOR,AXIAL LEAD;4.7UH K 2.3*3.4 TP;
L5128	0LA0471K119	INDUCTOR,AXIAL LEAD;4.7UH K 2.3*3.4 TP;
L6001	0LA0471K119	INDUCTOR,AXIAL LEAD;4.7UH K 2.3*3.4 TP;
L6002	020-04277-70A	COIL ;1.8 MICROHENRY ;RCF, FIXED
L6003	0LA0101K119	INDUCTOR,AXIAL LEAD;1.0UH K 2.3*3.4 TP;
L6004	0LA0101K119	INDUCTOR,AXIAL LEAD;1.0UH K 2.3*3.4 TP;
L6005	0LA0101K119	INDUCTOR,AXIAL LEAD;1.0UH K 2.3*3.4 TP;

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
L6007	0LA0471K119	INDUCTOR,AXIAL LEAD;4.7UH K 2.3*3.4 TP;
LX3200	020-04073-01	COIL ;RCF ;LINEARITY
LX3202	150-W01D	COIL;CHOKE;WIDTH 3600UH;
LX3203	150-W01A	COIL;WIDTH 24UH;
LX3300	020-04533-01	COIL ;RCF, FIXED ;BALANCE
LX3400	150-F06L	COIL;LINE FILTER SQE2930 10MH;
LX3401	150-F06L	COIL;LINE FILTER SQE2930 10MH;
LX3800	020-04405-46	COIL ;47 MICROHENRY ;RCF, FIXED
LX3801	020-04405-46	COIL ;47 MICROHENRY ;RCF, FIXED
LX3803	020-04462-18A	COIL ;33 MICROHENRY ;RCF, FIXED
LX3804	020-04462-18A	COIL ;33 MICROHENRY ;RCF, FIXED
CONNECTOR		
CN1A2	050-02848	CONNECTOR AND ;CABLE ASSEMBLY ;2 UP 11 CONTACT
CN1AC	P058-00672	CONNECTOR ;LOCKING HEADER ;
CN1C2	058-00586-06	PLUG ;MULTIPRONG, NATURAL COLOR ;6 POSITION
CN1D2	050-02844-P02	CONNECTOR&CABLE;ASSY, 7 CONTACT, 2 UP ;
CN2A1	058-00526-11	PLUG ;0.098P 11 CONTACT ;
CN2C1	058-00586-06	PLUG ;MULTIPRONG, NATURAL COLOR ;6 POSITION
CN2C5	050-02838-P06	CONNECTOR AND ;CABLE ASSEMBLY ;
CN2D1	058-00526-07	PLUG ;0.098P 7 CONTACT ;
CN2F5/CN5F2	050-02806-03	CONNECTOR&CABLE;ASSY, 2.5MM, 4 CONTACT, 2 UP ;
CN2FR4	058-00586-04	PLUG ;MULTIPRONG, NATURAL COLOR ;4 POSITION
CN2K6/CN6K2	050-02826	CONNECTOR&CABLE;ASSY, 2.5 MM, 5 CONTACT, 2 UP ;
CN3R8A	P058-00668-02	PLUG ;MULTIPRONG ;2 POSITION
CN3T8	P058-00668-02	PLUG ;MULTIPRONG ;2 POSITION
CN4E9	058-00586-07	PLUG ;MULTIPRONG, NATURAL COLOR ;7 POSITION
CN4E9/CN9E4	050-02857-P04	CONNECTOR AND ;CABLE ASSEMBLY, SHIELDED ;7 CIRCUIT
CN4FR2	058-00586-04	PLUG ;MULTIPRONG, NATURAL COLOR ;4 POSITION
CN4FR2/CN2FR4	050-02854-02	CONNECTOR AND ;CABLE ASSEMBLY, SHIELDED ;4 CIRCUIT
CN4W9/CN9W4	050-02805-01	CONNECTOR&CABLE;ASSY, 2.5MM, 3 CONTACT, 2 UP ;
CN4X9	058-00586-02	PLUG ;MULTIPRONG, NATURAL COLOR ;2 POSITION
CN5C2	058-00526-05	PLUG ;0.098P 5 CONTACT ;
CN6K2	058-00542-05	PLUG ;2.5 MM, 5 POSITION ;
CN9E4	058-00586-07	PLUG ;MULTIPRONG, NATURAL COLOR ;7 POSITION
CN9X4	058-00586-02	PLUG ;MULTIPRONG, NATURAL COLOR ;2 POSITION
CNAC1	P058-00672	CONNECTOR ;LOCKING HEADER ;
CON2K6	P058-00671-05	PLUG ;2.5MM 0.025 SQUARE VERTICAL POST ;HEADER ASSEMBLY
CON4G9	P058-00671-05	PLUG ;2.5MM 0.025 SQUARE VERTICAL POST ;HEADER ASSEMBLY
CON9S4	058-00526-04	PLUG ;0.098P 4 CONTACT ;
J11	078-03404-01	CONNECTOR ;DIN, 4 POSITION ;
J12	078-03403	CONNECTOR ;PHONO WITH SWITCH ;
J13	078-03402-01	CONNECTOR ;PHONO ;WHITE
J14	078-03402	CONNECTOR ;PHONO ;RED
FERRITE CORE		
L5100	F-47318	FERRITE BEAD ;AND WIRE ASSEMBLY ;
L5500	P149-00705-06	CORE, FERRITE ;BEAD ;
L5501	P149-00705-06	CORE, FERRITE ;BEAD ;
L5502	P149-00705-06	CORE, FERRITE ;BEAD ;
LX3201	P149-00705-06	CORE, FERRITE ;BEAD ;
LX3301	P149-00705-01	CORE, FERRITE ;BEAD ;
LX3600	P149-00705-06	CORE, FERRITE ;BEAD ;
LX3610	P149-00705-06	CORE, FERRITE ;BEAD ;
LX3611	P149-00705-06	CORE, FERRITE ;BEAD ;
LX3613	P149-00705-02	CORE, FERRITE ;BEAD ;
LX3614	P149-00705-06	CORE, FERRITE ;BEAD ;
W133	P149-00705-06	CORE, FERRITE ;BEAD ;
DIODE		
D2101	103-00347-03A	DIODE ;LOW VOLTAGE GENERAL ;SILICON
D2200	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
D2201	103-00347-03A	DIODE ;LOW VOLTAGE GENERAL ;SILICON
D3200	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
D3900	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
D5106	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
D5107	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
D5500	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
D5501	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
D5502	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
D6001	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
D6002	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
D6003	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
DX3000	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
DX3001	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3201	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3203	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3204	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3205	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3206	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3210	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
DX3300	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3301	ODD410000AC	DIODE,RECTIFIER;RU4DS,LF-L1 SANKEN;
DX3302	103-00347-03A	DIODE ;LOW VOLTAGE GENERAL ;SILICON
DX3600	103-00369-09A	DIODE ;LOW VOLTAGE GENERAL ;SILICON
DX3601	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3602	103-00344-06A	DIODE ;LOW VOLTAGE GENERAL ;
DX3603	103-00461A	DIODE ;ULTRA FAST SWITCHING ;HIGH CONDUCTANCE
DX3610	PF-54685	DIODE AND HEATSINK; ASSEMBLY
DX3611	PF-54685	DIODE AND HEATSINK; ASSEMBLY
DX3613	103-00560-07	DIODE ;FAST RECOVERY RECTIFIER ;600 PIV
DX3614	103-00339-04A	DIODE ;LOW VOLTAGE GENERAL ;SILICON
ZD1201	103-00279-15A	DIODE ;ZENER ;7.5V 0.5W
ZD1202	103-00279-21A	DIODE ;ZENER ;12V 0.5W
ZD1231	103-00279-36A	DIODE ;ZENER ;33V 0.5W
ZD2100	103-00336-10A	DIODE ;ZENER ;5.1V 0.5W
ZD2200	103-00279-15A	DIODE ;ZENER ;7.5V 0.5W
ZD2201	103-00279-21A	DIODE ;ZENER ;12V 0.5W
ZD2202	103-00279-21A	DIODE ;ZENER ;12V 0.5W
ZD2204	103-00279-21A	DIODE ;ZENER ;12V 0.5W
ZD2205	103-00279-15A	DIODE ;ZENER ;7.5V 0.5W
ZD2900	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2901	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2902	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2903	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2904	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2905	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2907	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2908	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2909	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD2911	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZD6002	103-00279-18A	DIODE ;ZENER ;9.1V 0.5W
ZDX3002	103-00472A	DIODE ;ZENER ;12V 0.5W
ZDX3600	103-00279-15A	DIODE ;ZENER ;7.5V 0.5W
ZDX3602	103-00279-11A	DIODE ;ZENER ;5.6V 0.5 W
ZDX3603	103-00279-06A	DIODE ;ZENER ;3.6V 0.5W
ZDX3801	103-00279-36A	DIODE ;ZENER ;33V 0.5W
FUSE & JACK		
FX3400	136-00114-24A	FUSE ;NORMAL LAG ;5 AMP 250V
FX3611	136-00167-11A	FUSE ;TIME DELAY ;4 AMP 125V
FX3613	P136-00168-11	FUSE ;VERY FAST-ACTING ;4.0MA
FX3614	P136-00168-09	FUSE ;VERY FAST-ACTING ;3.0MA
JP1	PA-19418-03	JACK ASSEMBLY ;9 PHONO/2 Y-C ;
IC		
BRX3400	PF-54718	IC AND HEATSINK ;ASSEMBLY ;
IC1400	OISO205400A	IC,SONY;CXA2054S 48P,SDIP BK US;
IC2200	P221-01519	INTEGRATED CKT ;NTSC IF + VCD PROCESSOR

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
IC2400	221-01449	INTEGRATED CKT ;DIGITAL COMB FILTER ;
IC2900	221-01438	INTEGRATED CKT ;AUDIO VIDEO SWITCH ;
IC3300	221-00494	INTEGRATED CKT ;DUAL DIFF INPUT W/SINGLE-ENDED SUPP;LINEAR, OP-AMP
IC5100	PF-54716	IC AND HEATSINK ;ASSEMBLY ;
IC6000	P221-01524	INTEGRATED CKT ;8-BIT MICROCOMPUTER ;
IC6001	221-00745-05	INTEGRATED CKT ;8K BIT SERIAL EEPROM ;
IC6002	221-01177A	INTEGRATED CKT ;SYSTEM RESET ;
ICX2100	PF-54657	IC AND HEATSINK ;ASSEMBLY ;
ICX3601	01L1817000G	IC,LITEON;LTV817M-VB 4P,DIP BK PHOTO COU
ICX3612	PF-54656	IC AND HEATSINK;ASSEMBLY ;
ICX3701	01L1817000G	IC,LITEON;LTV817M-VB 4P,DIP BK PHOTO COU
ICX3702	221-00265-03A	INTEGRATED CKT ;ADJUSTABLE SHUNT REGULATOR ;
ICX3820	01KE780500P	IC,KEC;KIA78L05BP(AT) 3P 5V,150MA;
ICX3821	PF-54709	IC AND HEATSINK ;ASSEMBLY ;
ICX3822	PF-54655	IC AND HEATSINK;ASSEMBLY ;
RESISTOR		
CM2972	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
JM2900	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
JM2901	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
JM2902	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
JM2903	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
JM2904	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
R10	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R11	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R12	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R1201	063-10235-74	RESISTOR ;FILM ;1.2K OHM 5% 1/4W
R1213	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R1241	063-10236-10	RESISTOR ;FILM ;39K OHM 5% 1/4W
R1254	063-10236-10	RESISTOR ;FILM ;39K OHM 5% 1/4W
R13	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R14	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R1420	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R1421	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R15	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R16	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R2	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2100	063-10243-69	RESISTOR ;FILM ;750 OHM 5% 1/2W
R2101	063-10938-20	RESISTOR ;FILM ;15.8K OHM 1% 1/4W
R2102	063-10236-38	RESISTOR ;FILM ;560K OHM 5% 1/4W
R2104	063-10937-13	RESISTOR ;FILM ;9.76K OHM 1% 1/4W
R2122	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R2203	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R2212	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2216	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2220	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2221	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2232	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
R2233	063-10235-58	RESISTOR ;FILM ;270 OHM 5% 1/4W
R2234	063-10235-58	RESISTOR ;FILM ;270 OHM 5% 1/4W
R2235	063-10235-88	RESISTOR ;FILM ;4.7K OHM 5% 1/4W
R2238	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R2239	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
R2243	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
R2246	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
R2247	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2259	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2260	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R2800	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2801	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2802	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2803	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2804	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2805	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
R2808	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2809	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R2902	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R2905	063-10235-58	RESISTOR ;FILM ;270 OHM 5% 1/4W
R2908	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2909	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2910	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2911	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2912	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2913	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2914	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R2916	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2917	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2918	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2919	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2920	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2921	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2923	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R2924	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2926	063-10235-50	RESISTOR ;FILM ;120 OHM 5% 1/4W
R2927	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2928	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2929	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2930	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2931	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2932	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R2933	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R2937	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2938	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R2986	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R3	063-10235-60	RESISTOR ;FILM ;330 OHM 5% 1/4W
R3200	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
R3201	063-10235-40	RESISTOR ;FILM ;47 OHM 5% 1/4W
R3219	063-10243-72	RESISTOR ;FILM ;1K OHM 5% 1/2W
R3250	063-10235-83	RESISTOR ;FILM ;3K OHM 5% 1/4W
R3251	063-10235-69	RESISTOR ;FILM ;750 OHM 5% 1/4W
R3300	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R3301	063-10235-90	RESISTOR ;FILM ;5.6K OHM 5% 1/4W
R3302	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R3303	063-10235-82	RESISTOR ;FILM ;2.7K OHM 5% 1/4W
R3304	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R3305	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R3306	063-10235-82	RESISTOR ;FILM ;2.7K OHM 5% 1/4W
R3307	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R3308	063-10236-28	RESISTOR ;FILM ;220K OHM 5% 1/4W
R3309	063-10235-88	RESISTOR ;FILM ;4.7K OHM 5% 1/4W
R3310	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R3311	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R3312	063-10236-32	RESISTOR ;FILM ;330K OHM 5% 1/4W
R3315	063-10236-32	RESISTOR ;FILM ;330K OHM 5% 1/4W
R3316	063-10565-48	RESISTOR ;FILM ;100 OHM 5% 1/2W
R3610	063-10235-80	RESISTOR ;FILM ;2.2K OHM 5% 1/4W
R3611	063-10235-80	RESISTOR ;FILM ;2.2K OHM 5% 1/4W
R3900	063-10235-88	RESISTOR ;FILM ;4.7K OHM 5% 1/4W
R4	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R5	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R5118	063-10565-48	RESISTOR ;FILM ;100 OHM 5% 1/2W
R5121	063-10243-76	RESISTOR ;FILM ;1.5K OHM 5% 1/2W
R5124	063-10243-76	RESISTOR ;FILM ;1.5K OHM 5% 1/2W
R5125	063-10243-72	RESISTOR ;FILM ;1K OHM 5% 1/2W
R5126	063-10243-76	RESISTOR ;FILM ;1.5K OHM 5% 1/2W

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
R5129	063-10244-22	RESISTOR ;FILM ;120K OHM 5% 1/2W
R5130	063-10243-72	RESISTOR ;FILM ;1K OHM 5% 1/2W
R5131	063-10244-36	RESISTOR ;FILM ;470K OHM 5% 1/2W
R5132	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R5133	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R5139	063-10236-20	RESISTOR ;FILM ;100K OHM 5% 1/4W
R5140	063-10236-20	RESISTOR ;FILM ;100K OHM 5% 1/4W
R5500	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R5501	063-11160-64B	RESISTOR ;FILM ;470 OHM 5% 2W
R5502	063-11110-24	RESISTOR ;FILM ;10 OHM 5% 1/2W
R5505	063-10243-80	RESISTOR ;FILM ;2.2K OHM 5% 1/2W
R5506	063-10236-02	RESISTOR ;FILM ;18K OHM 5% 1/4W
R5507	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R5508	063-10235-45	RESISTOR ;FILM ;75 OHM 5% 1/4W
R5509	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
R5510	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R5511	063-11110-24	RESISTOR ;FILM ;10 OHM 5% 1/2W
R5512	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
R5513	063-10235-68	RESISTOR ;FILM ;680 OHM 5% 1/4W
R5514	063-10236-12	RESISTOR ;FILM ;47K OHM 5% 1/4W
R5516	063-10236-12	RESISTOR ;FILM ;47K OHM 5% 1/4W
R5517	063-10235-68	RESISTOR ;FILM ;680 OHM 5% 1/4W
R5518	063-10235-39	RESISTOR ;FILM ;43 OHM 5% 1/4W
R5519	063-10235-10	RESISTOR ;FILM ;2.7 OHM 5% 1/4W
R5520	063-10235-10	RESISTOR ;FILM ;2.7 OHM 5% 1/4W
R5521	063-10235-39	RESISTOR ;FILM ;43 OHM 5% 1/4W
R5522	063-11160-60B	RESISTOR ;FILM ;330 OHM 5% 2W
R6	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
R6003	063-10236-12	RESISTOR ;FILM ;47K OHM 5% 1/4W
R6005	063-10236-12	RESISTOR ;FILM ;47K OHM 5% 1/4W
R6009	063-10235-80	RESISTOR ;FILM ;2.2K OHM 5% 1/4W
R6012	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R6014	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R6016	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R6017	063-10235-80	RESISTOR ;FILM ;2.2K OHM 5% 1/4W
R6031	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6033	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6035	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6037	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6039	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6051	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6052	063-10235-56	RESISTOR ;FILM ;220 OHM 5% 1/4W
R6055	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R6057	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R6062	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R7	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R8	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
R813	063-10235-12	RESISTOR ;FILM ;3.3 OHM 5% 1/4W
R823	063-10235-12	RESISTOR ;FILM ;3.3 OHM 5% 1/4W
R830	063-11160-35B	RESISTOR ;FILM ;30 OHM 5% 2W
R831	063-11160-35B	RESISTOR ;FILM ;30 OHM 5% 2W
R832	063-11160-35B	RESISTOR ;FILM ;30 OHM 5% 2W
R833	063-11160-35B	RESISTOR ;FILM ;30 OHM 5% 2W
R9	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
RM1212	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM1216	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM1217	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM1218	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM1219	063-11059-47A	RESISTOR ;THICK FILM CHIP ;820 OHM 5% 1/10W
RM1228	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W
RM1229	063-11059-29A	RESISTOR ;THICK FILM CHIP ;150 OHM 5% 1/10W
RM1230	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
RM1231	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM1232	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM1233	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM1234	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM1235	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM1236	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RM1237	063-11059-39A	RESISTOR ;THICK FILM CHIP ;390 OHM 5% 1/10W
RM1238	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM1239	063-11059-09A	RESISTOR ;THICK FILM CHIP ;22 OHM 5% 1/10W
RM1240	063-11059-13A	RESISTOR ;THICK FILM CHIP ;33 OHM 5% 1/10W
RM1242	063-11060-01A	RESISTOR ;THICK FILM CHIP ;150K OHM 5% 1/10W
RM1251	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM1411	063-11060-21A	RESISTOR ;THICK FILM CHIP ;1 MEG OHM 5% 1/10W
RM1412	063-11059-63A	RESISTOR ;THICK FILM CHIP ;3.9K OHM 5% 1/10W
RM1413	063-11059-60A	RESISTOR ;THICK FILM CHIP ;3K OHM 5% 1/10W
RM1414	063-11059-61A	RESISTOR ;THICK FILM CHIP ;3.3K OHM 5% 1/10W
RM1415	063-11244-76A	RESISTOR ;THICK FILM CHIP ;61.9K OHM 1% 1/10W
RM1416	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM1417	063-11059-63A	RESISTOR ;THICK FILM CHIP ;3.9K OHM 5% 1/10W
RM1418	063-11059-97A	RESISTOR ;THICK FILM CHIP ;100K OHM 5% 1/10W
RM1419	063-11060-21A	RESISTOR ;THICK FILM CHIP ;1 MEG OHM 5% 1/10W
RM2200	063-11059-84A	RESISTOR ;THICK FILM CHIP ;30K OHM 5% 1/10W
RM2201	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
RM2204	063-11059-57A	RESISTOR ;THICK FILM CHIP ;2.2K OHM 5% 1/10W
RM2205	063-11059-91A	RESISTOR ;THICK FILM CHIP ;56K OHM 5% 1/10W
RM2206	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2207	063-11059-17A	RESISTOR ;THICK FILM CHIP ;47 OHM 5% 1/10W
RM2208	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM2209	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RM2210	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RM2211	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RM2213	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2214	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2215	063-11059-27A	RESISTOR ;THICK FILM CHIP ;120 OHM 5% 1/10W
RM2217	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM2218	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM2219	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM2222	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2223	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2224	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2229	063-11059-77A	RESISTOR ;THICK FILM CHIP ;15K OHM 5% 1/10W
RM2231	063-11059-77A	RESISTOR ;THICK FILM CHIP ;15K OHM 5% 1/10W
RM2236	063-11059-63A	RESISTOR ;THICK FILM CHIP ;3.9K OHM 5% 1/10W
RM2241	063-11059-77A	RESISTOR ;THICK FILM CHIP ;15K OHM 5% 1/10W
RM2242	063-11059-59A	RESISTOR ;THICK FILM CHIP ;2.7K OHM 5% 1/10W
RM2244	063-11059-01A	RESISTOR ;THICK FILM CHIP ;10 OHM 5% 1/10W
RM2245	063-11059-61A	RESISTOR ;THICK FILM CHIP ;3.3K OHM 5% 1/10W
RM2249	063-11059-97A	RESISTOR ;THICK FILM CHIP ;100K OHM 5% 1/10W
RM2250	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2251	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2252	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2253	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2255	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2257	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W
RM2258	063-11059-29A	RESISTOR ;THICK FILM CHIP ;150 OHM 5% 1/10W
RM2261	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2265	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2266	063-11059-39A	RESISTOR ;THICK FILM CHIP ;390 OHM 5% 1/10W
RM2400	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RM2401	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2402	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2403	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2404	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
RM2405	063-11059-47A	RESISTOR ;THICK FILM CHIP ;820 OHM 5% 1/10W
RM2406	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2407	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2408	063-11059-47A	RESISTOR ;THICK FILM CHIP ;820 OHM 5% 1/10W
RM2409	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2410	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2411	063-11059-57A	RESISTOR ;THICK FILM CHIP ;2.2K OHM 5% 1/10W
RM2412	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2413	063-11059-91A	RESISTOR ;THICK FILM CHIP ;56K OHM 5% 1/10W
RM2414	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2415	063-11059-61A	RESISTOR ;THICK FILM CHIP ;3.3K OHM 5% 1/10W
RM2416	063-11059-57A	RESISTOR ;THICK FILM CHIP ;2.2K OHM 5% 1/10W
RM2417	063-11059-89A	RESISTOR ;THICK FILM CHIP ;47K OHM 5% 1/10W
RM2418	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2419	063-11059-51A	RESISTOR ;THICK FILM CHIP ;1.2K OHM 5% 1/10W
RM2420	063-11059-51A	RESISTOR ;THICK FILM CHIP ;1.2K OHM 5% 1/10W
RM2900	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2901	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2903	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM2904	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM2906	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2907	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM2922	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W
RM2925	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W
RM2936	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W
RM2940	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM2941	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM2942	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2943	063-11059-45A	RESISTOR ;THICK FILM CHIP ;680 OHM 5% 1/10W
RM2946	063-11059-33A	RESISTOR ;THICK FILM CHIP ;220 OHM 5% 1/10W
RM2947	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2963	063-11059-85A	RESISTOR ;THICK FILM CHIP ;33K OHM 5% 1/10W
RM2964	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2965	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2969	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
RM2971	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2972	063-11059-85A	RESISTOR ;THICK FILM CHIP ;33K OHM 5% 1/10W
RM2973	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2974	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2975	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM2976	063-11059-85A	RESISTOR ;THICK FILM CHIP ;33K OHM 5% 1/10W
RM2977	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM2981	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
RM2983	063-11059-25A	RESISTOR ;THICK FILM CHIP ;100 OHM 5% 1/10W
RM2984	063-11059A	RESISTOR ;THICK FILM CHIP ;0 OHM 5% 1/10W
RM6000	063-11059-31A	RESISTOR ;THICK FILM CHIP ;180 OHM 5% 1/10W
RM6001	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM6002	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM6004	063-11059-29A	RESISTOR ;THICK FILM CHIP ;150 OHM 5% 1/10W
RM6006	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM6010	063-11059-87A	RESISTOR ;THICK FILM CHIP ;39K OHM 5% 1/10W
RM6011	063-11060-13A	RESISTOR ;THICK FILM CHIP ;470K OHM 5% 1/10W
RM6013	063-11060-13A	RESISTOR ;THICK FILM CHIP ;470K OHM 5% 1/10W
RM6018	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM6019	063-11059-41A	RESISTOR ;THICK FILM CHIP ;470 OHM 5% 1/10W
RM6020	063-11060-21A	RESISTOR ;THICK FILM CHIP ;1 MEG OHM 5% 1/10W
RM6021	063-11060-21A	RESISTOR ;THICK FILM CHIP ;1 MEG OHM 5% 1/10W
RM6023	063-11060-21A	RESISTOR ;THICK FILM CHIP ;1 MEG OHM 5% 1/10W
RM6026	063-11059-83A	RESISTOR ;THICK FILM CHIP ;27K OHM 5% 1/10W
RM6032	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM6034	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
RM6036	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM6038	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM6040	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM6041	063-11059-65A	RESISTOR ;THICK FILM CHIP ;4.7K OHM 5% 1/10W
RM6050	063-11059-89A	RESISTOR ;THICK FILM CHIP ;47K OHM 5% 1/10W
RM6061	063-11059-47A	RESISTOR ;THICK FILM CHIP ;820 OHM 5% 1/10W
RM800	063-11059-81A	RESISTOR ;THICK FILM CHIP ;22K OHM 5% 1/10W
RM801	063-11059-49A	RESISTOR ;THICK FILM CHIP ;1K OHM 5% 1/10W
RM810	063-11059-67A	RESISTOR ;THICK FILM CHIP ;5.6K OHM 5% 1/10W
RM811	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM812	063-11059-17A	RESISTOR ;THICK FILM CHIP ;47 OHM 5% 1/10W
RM814	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RM820	063-11059-67A	RESISTOR ;THICK FILM CHIP ;5.6K OHM 5% 1/10W
RM821	063-11059-73A	RESISTOR ;THICK FILM CHIP ;10K OHM 5% 1/10W
RM822	063-11059-17A	RESISTOR ;THICK FILM CHIP ;47 OHM 5% 1/10W
RM824	063-11059-53A	RESISTOR ;THICK FILM CHIP ;1.5K OHM 5% 1/10W
RMX3001	063-11060-01A	RESISTOR ;THICK FILM CHIP ;150K OHM 5% 1/10W
RX2105	063-11110-08	RESISTOR ;FILM ;2.2 OHM 5% 1/2W
RX2106	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
RX2107	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
RX2108	063-10235-99	RESISTOR ;FILM ;13K OHM 5% 1/4W
RX2110	063-10235-88	RESISTOR ;FILM ;4.7K OHM 5% 1/4W
RX2111	063-11110-04	RESISTOR ;FILM ;1.5 OHM 5% 1/2W
RX2112	063-11110-04	RESISTOR ;FILM ;1.5 OHM 5% 1/2W
RX2117	063-10236-05	RESISTOR ;FILM ;24K OHM 5% 1/4W
RX2121	063-10236-03	RESISTOR ;FILM ;20K OHM 5% 1/4W
RX2226	063-10236-24	RESISTOR ;FILM ;150K OHM 5% 1/4W
RX2227	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
RX3000	063-10235-48	RESISTOR ;FILM ;100 OHM 5% 1/4W
RX3002	063-10235-94	RESISTOR ;FILM ;8.2K OHM 5% 1/4W
RX3003	063-10936-86	RESISTOR ;FILM ;5.62K OHM 1% 1/4W
RX3004	063-11283-45	RESISTOR ;FILM ;3.57K OHM 0.1% 1/4W
RX3005	063-10235-93	RESISTOR ;FILM ;7.5K OHM 5% 1/4W
RX3007	063-10236-08	RESISTOR ;FILM ;33K OHM 5% 1/4W
RX3008	063-10235-96	RESISTOR ;FILM ;10K OHM 5% 1/4W
RX3009	063-10235-92	RESISTOR ;FILM ;6.8K OHM 5% 1/4W
RX3202	063-11087-64	RESISTOR ;FILM ;470 OHM 5% 1/2W
RX3204	063-10832-69B	RESISTOR ;FILM ;750 OHM 5% 1W
RX3205	063-10565-43	RESISTOR ;FILM ;62 OHM 5% 1/2W
RX3206	063-10565-43	RESISTOR ;FILM ;62 OHM 5% 1/2W
RX3207	063-11087-66	RESISTOR ;FILM ;560 OHM 5% 1/2W
RX3208	063-11087-66	RESISTOR ;FILM ;560 OHM 5% 1/2W
RX3209	063-10565-10	RESISTOR ;FILM ;2.7 OHM 5% 1/2W
RX3210	063-10832-96B	RESISTOR ;FILM ;10K OHM 5% 1W
RX3211	063-10565-10	RESISTOR ;FILM ;2.7 OHM 5% 1/2W
RX3212	063-11214-16	RESISTOR ;FILM ;0.51 OHM 5% 1/2W
RX3213	063-11214-16	RESISTOR ;FILM ;0.51 OHM 5% 1/2W
RX3214	063-11197-40	RESISTOR ;WIREWOUND ;4.7 OHM 5% 5W
RX3216	063-10565	RESISTOR ;FILM ;1 OHM 5% 1/2W
RX3220	063-10833-22B	RESISTOR ;FILM ;0.47 OHM 5% 1W
RX3221	063-10565-10	RESISTOR ;FILM ;2.7 OHM 5% 1/2W
RX3222	063-10559-24	RESISTOR ;FILM ;10 OHM 5% 1/4W
RX3223	063-10235-64	RESISTOR ;FILM ;470 OHM 5% 1/4W
RX3317	063-10236-20	RESISTOR ;FILM ;100K OHM 5% 1/4W
RX3318	063-10236-44	RESISTOR ;FILM ;1M OHM 5% 1/4W
RX3319	063-11164-35B	RESISTOR ;FILM ;30 OHM 5% 3W
RX3400	ORKZVTA001C	RESISTOR;FIX METAL OXIDE COMPO;8.2M OHM 1/2 W 5% TA52 UL PILK;
RX3404	063-10244-36	RESISTOR ;FILM ;470K OHM 5% 1/2W
RX3600	063-10244-14	RESISTOR ;FILM ;56K OHM 5% 1/2W
RX3601	063-10244-14	RESISTOR ;FILM ;56K OHM 5% 1/2W
RX3602	063-11168-92B	RESISTOR ;FILM ;6.8K OHM 5% 5W
RX3603	063-10235-16	RESISTOR ;FILM ;4.7 OHM 5% 1/4W
RX3604	063-10243-80	RESISTOR ;FILM ;2.2K OHM 5% 1/2W

COMPONENT PARTS LIST

LOCATION	PART NUMBER	DESCRIPTION
RX3605	063-10236-12	RESISTOR ;FILM ;47K OHM 5% 1/4W
RX3607	063-10236-20	RESISTOR ;FILM ;100K OHM 5% 1/4W
RX3701	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
RX3702	063-10235-72	RESISTOR ;FILM ;1K OHM 5% 1/4W
RX3703	063-10236-32	RESISTOR ;FILM ;330K OHM 5% 1/4W
RX3704	063-11283-45	RESISTOR ;FILM ;3.57K OHM 0.1% 1/4W
RX3706	063-11285-04	RESISTOR ;FILM ;162K OHM 0.1% 1/4W
RX3800	063-10244-24	RESISTOR ;FILM ;150K OHM 5% 1/2W
RX3801	063-11161-02B	RESISTOR ;FILM ;18K OHM 5% 2W
RX3820	063-11164-24B	RESISTOR ;FILM ;10 OHM 5% 3W
RX3821	063-11197-59	RESISTOR ;WIREWOUND ;30 OHM 5% 5W
RX3822	063-11197-50	RESISTOR ;WIREWOUND ;12 OHM 5% 5W
RX3831	063-10235-88	RESISTOR ;FILM ;4.7K OHM 5% 1/4W
RX3832	063-10235-88	RESISTOR ;FILM ;4.7K OHM 5% 1/4W
THX3401	063-10930-04	RESISTOR ;THERMISTOR ;
W24	063-10235-12	RESISTOR ;FILM ;3.3 OHM 5% 1/4W
TRANSISTOR		
Q1202	121-01261A	TRANSISTOR ;NPN, SILICON ;
Q1203	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2200	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2201	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2202	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2400	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2401	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2402	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2403	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2900	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2901	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2903	OTR733009AA	TRANSISTOR;KSA733C-Y TP SANSUNG;
Q2904	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2905	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q2906	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q2907	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2921	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2924	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q2925	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q3200	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q3201	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q3300	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q3601	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q3900	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q5105	OTR322809AA	TRANSISTOR;KTC3228-0 TP(KTC2383),KE;
Q5106	OTR733009AA	TRANSISTOR;KSA733C-Y TP SANSUNG;
Q5501	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q5502	OTR733009AA	TRANSISTOR;KSA733C-Y TP SANSUNG;
Q5503	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q5504	PF-54715	TRANSISTOR AND ;HEAT SINK ASSEMBLY ;
Q5505	PF-54714	TRANSISTOR AND ;HEAT SINK ASSEMBLY ;
Q6001	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q6002	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
Q800	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
QX3001	OTR733009AA	TRANSISTOR;KSA733C-Y TP SANSUNG;
QX3002	OTR945009AA	TRANSISTOR;KSC945C-Y TP SAMSUNG;
QX3202	PF-54730	TRANSISTOR AND ;HEAT SINK ASSEMBLY ;
QX3301	PF-54356	TRANSISTOR AND ;HEATSINK ASSEMBLY ;
OTHERS		
CN3Y3B	366-043K	PIN;PLUG(4P);
CNAC1/CN1AC	P050-02892	INTERNAL AC CABLE ;WITH CONNECTORS
CNVMRD	366-921B	WAFER;WAFER IL-G 3(2.5S);
CRT1A	6620VBD001A	SOCKET (CIRC),CPT;PCS701A PARK 9P 14/360 STRAIGH;
CRY2200	224-00027A	CRYSTAL ;QUARTZ ;3.579 MHZ

COMPONENT PARTS LIST

CRY2200	224-00027A	CRYSTAL ;QUARTZ ;3.579 MHZ
LOCATION	PART NUMBER	DESCRIPTION
CRY6001	224-00074-02A	CRYSTAL ;QUARTZ ;8 MHZ
DAG1	A-19197	GROUNDING ASSY ;WIRE AND TERMINAL, WHITE ;DAG
DAG2	A-19197	GROUNDING ASSY ;WIRE AND TERMINAL, WHITE ;DAG
G2	366-043A	WAFER;ASSY,PLUG(1P)
IC800	4921V00021R	HEAT SINK ASSY;4920V00022M 60MM TDA7263;
IR1	PF-54634	IR MOUNT AND ;BRACKET ASSEMBLY ;
KX3900	195-00161	RELAY ;SPST ;12 VDC COIL
PCB	P204-03616-05A	PRINTED CIRCUIT BOARD ;LARGE SIGNAL ;FLAT COMMERCIAL
PCB	P204-03617-05	PRINTED CIRCUIT BOARD ;SMALL SIGNAL ;FLAT COMMERCIAL
SP5100	165-004A	SPARK GAP;AG20PT 152F-L3N/S-23;
SP5101	165-004A	SPARK GAP;AG20PT 152F-L3N/S-23;
SP5102	165-004A	SPARK GAP;AG20PT 152F-L3N/S-23;
SPGND	366-043A	WAFER;ASSY,PLUG(1P)
SW2	085-01832	SWITCH ;PUSH-BUTTON, NON LOCKING ;SPST
SW3	085-01832	SWITCH ;PUSH-BUTTON, NON LOCKING ;SPST
SW4	085-01832	SWITCH ;PUSH-BUTTON, NON LOCKING ;SPST
SW5	085-01832	SWITCH ;PUSH-BUTTON, NON LOCKING ;SPST
SW6	085-01832	SWITCH ;PUSH-BUTTON, NON LOCKING ;SPST
SW7	085-01832	SWITCH ;PUSH-BUTTON, NON LOCKING ;SPST
THX3903	163-051F	THERMISTOR;J503P84D140M290Q JA HWA;
TX3200	P095-04646-04	TRANSFORMER;HORIZONTAL SWEEP;27V
TX3201	095-04477-01	TRANSFORMER ;HORIZONTAL DRIVER ;
TX3202	151-E06A	TRANSFORMER;DBF,EER-2834,BULK;
TX3600	P095-04654	TRANSFORMER ;CHOPPER ;
U1203	224-00160	FILTER ;SURFACE ACOUSTIC WAVE ;
U1204	224-00139-01A	FILTER ;4.5 MHZ CERAMIC BANDPASS ;
U1205	224-00023A	CERAMIC FILTER ;4.5 MHZ TRAP ;
VRX3400	164-003D	VARISTOR;SVC 561D-14A;
WT1201	175-02770	TUNER ;VARACTOR, 181 CHANNEL, SINGLE IC ;WORLD STANDARD

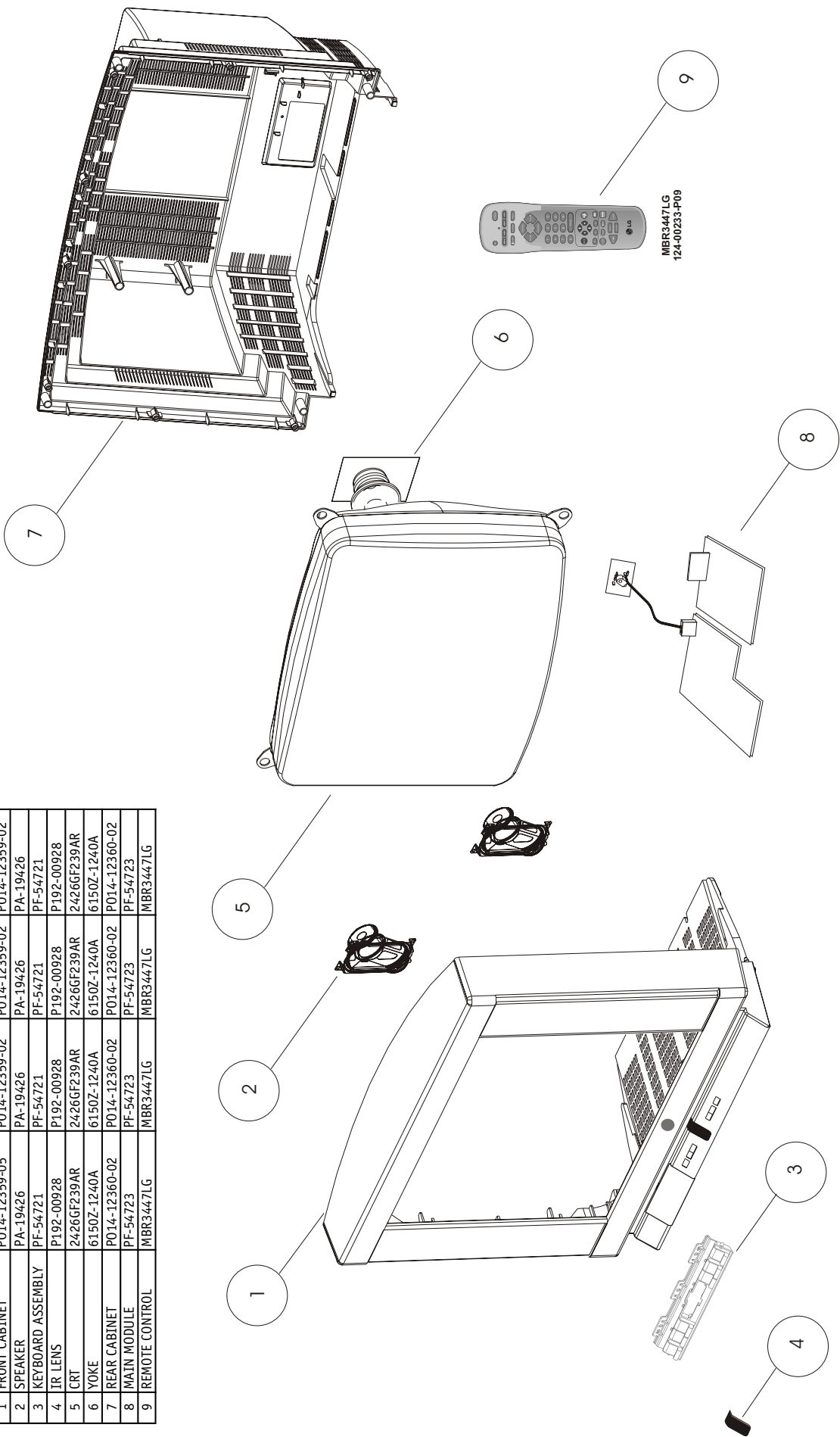
P/NO : 3828VD0097A

April, 2001

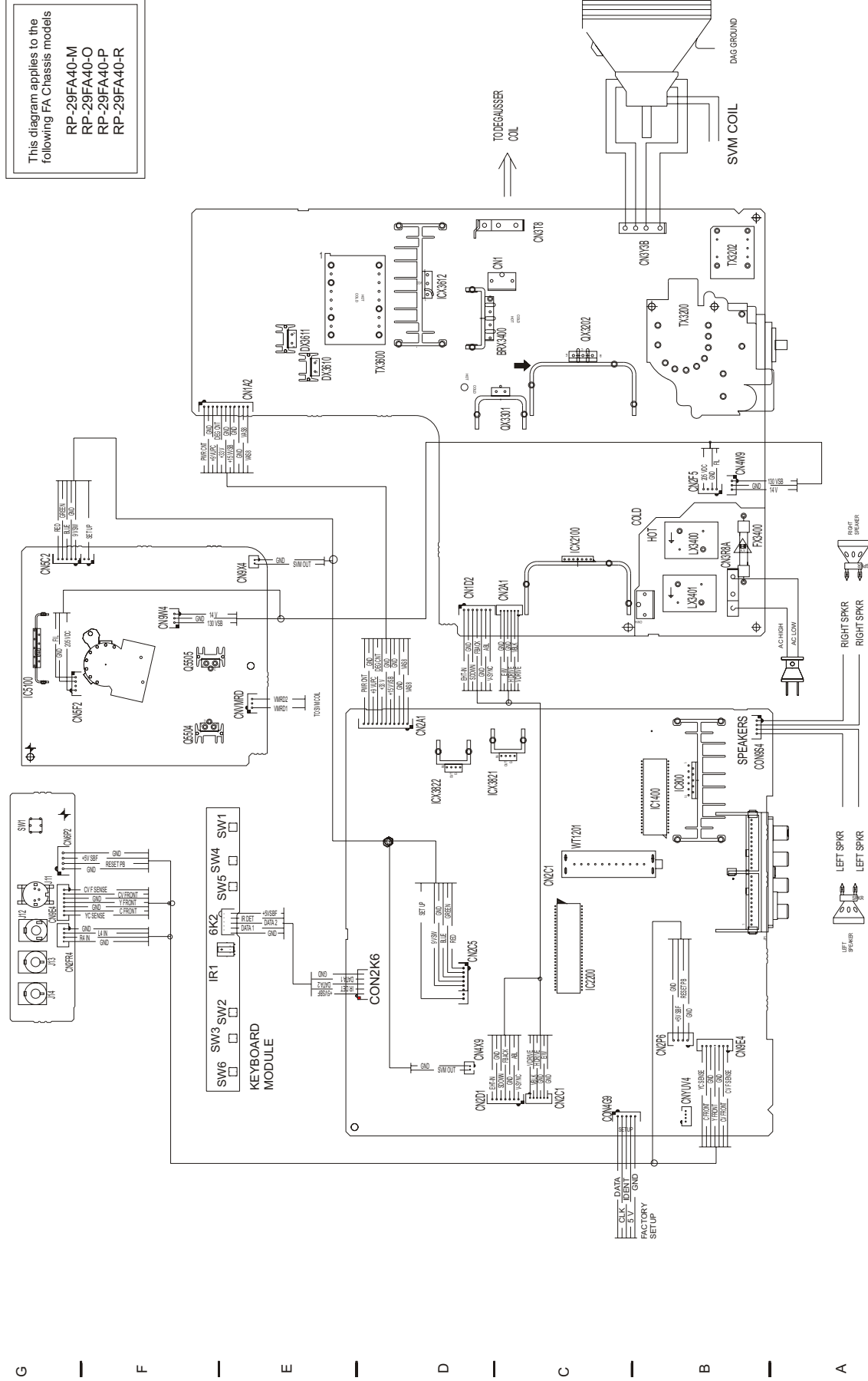


29V Table Top Set Exploded View

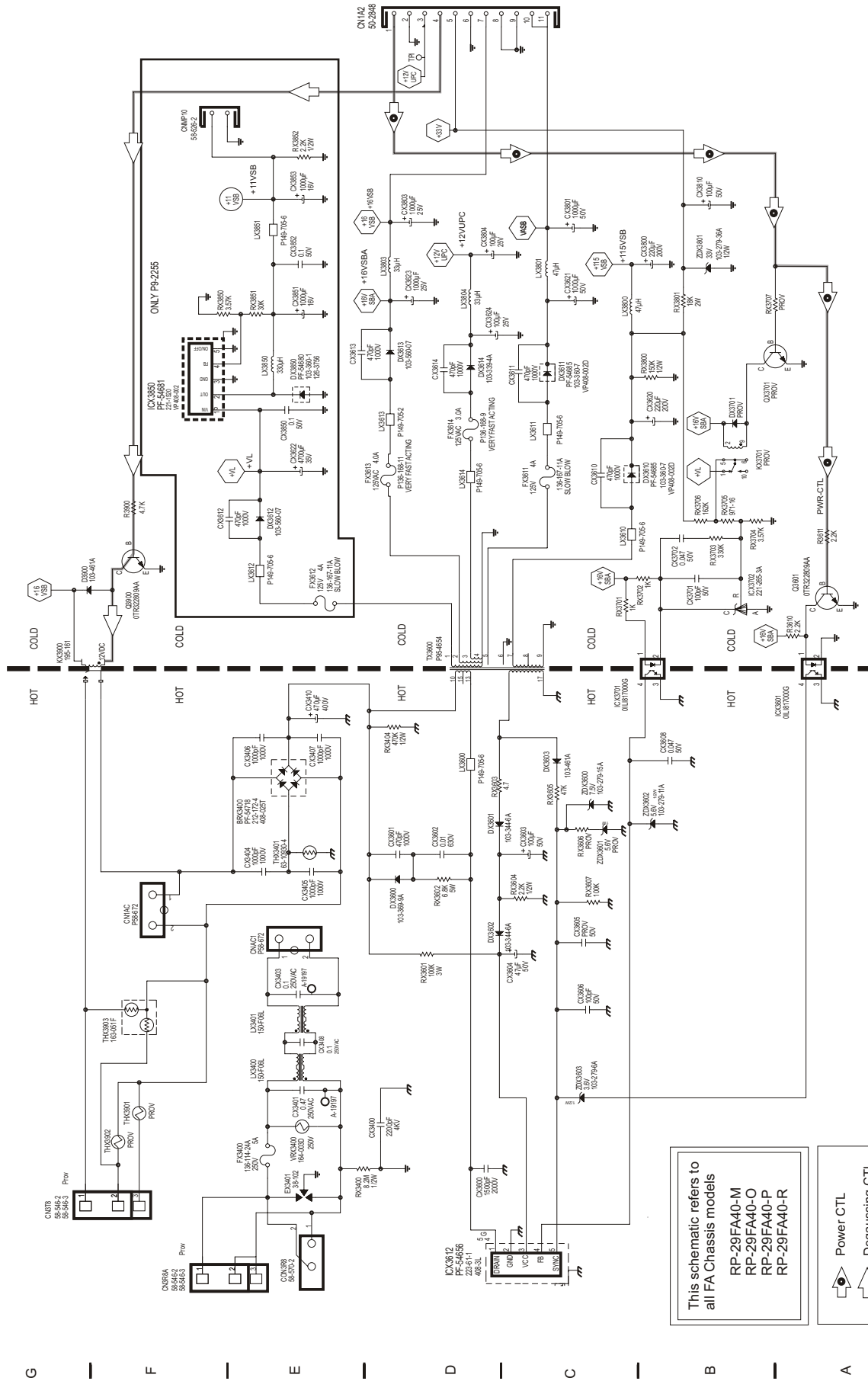
REF	DESCRIPTION	RP-29FA40-M	RP-29FA40-P	RP-29FA40-O	RP-29FA40-R
1	FRONT CABINET	P014-12359-05	P014-12359-02	P014-12359-02	P014-12359-02
2	SPEAKER	PA-19426	PA-19426	PA-19426	PA-19426
3	KEYBOARD ASSEMBLY	PF-54721	PF-54721	PF-54721	PF-54721
4	IR LENS	P192-00928	P192-00928	P192-00928	P192-00928
5	CRT	2426GF239AR	2426GF239AR	2426GF239AR	2426GF239AR
6	YOKE	6150Z-1240A	6150Z-1240A	6150Z-1240A	6150Z-1240A
7	REAR CABINET	P014-12360-02	P014-12360-02	P014-12360-02	P014-12360-02
8	MAIN MODULE	PF-54723	PF-54723	PF-54723	PF-54723
9	REMOTE CONTROL	MBR3447LG	MBR3447LG	MBR3447LG	MBR3447LG



Interconnect Diagram



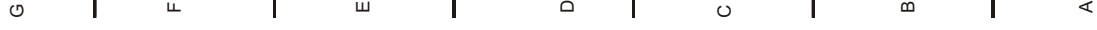
Power Supply Circuit



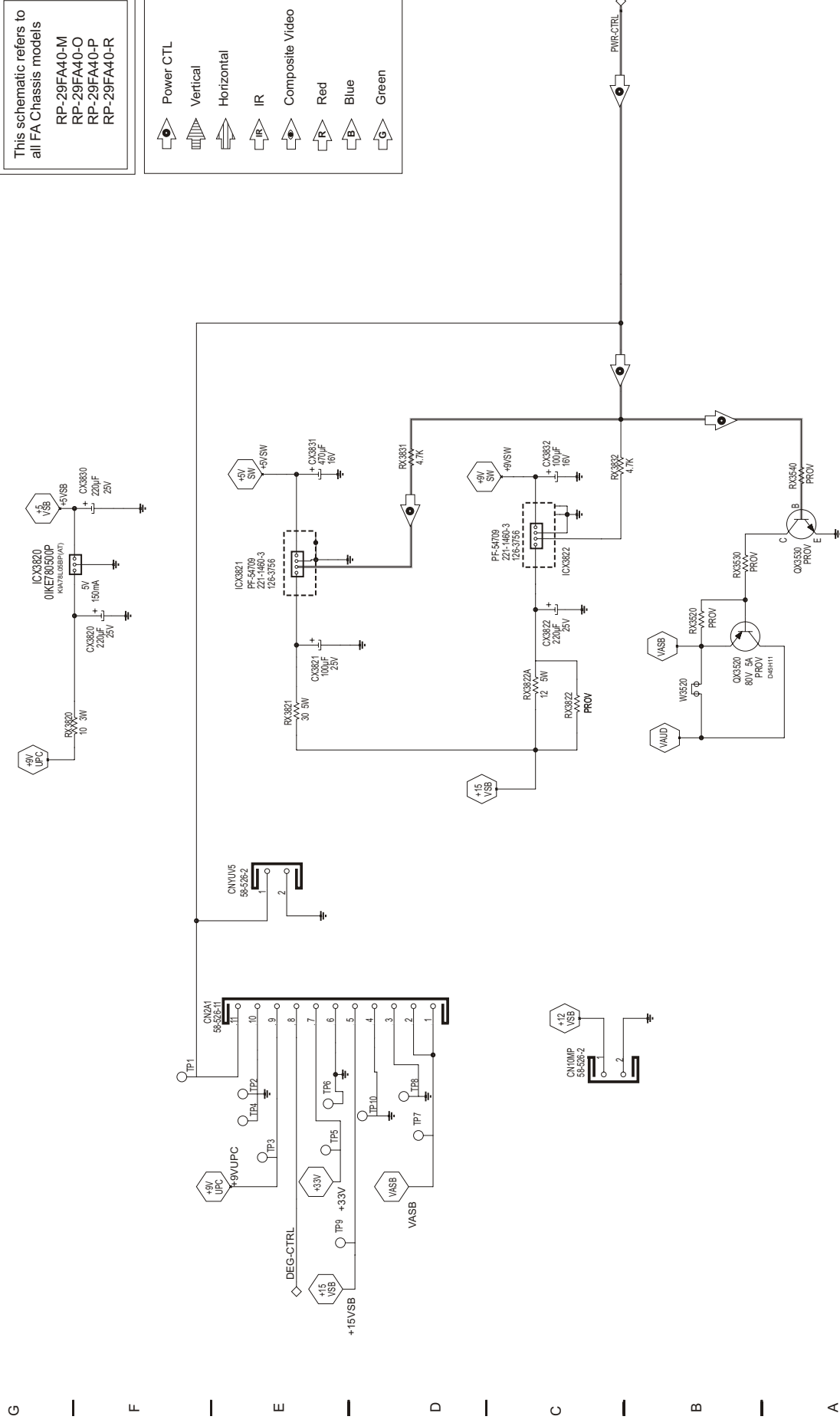


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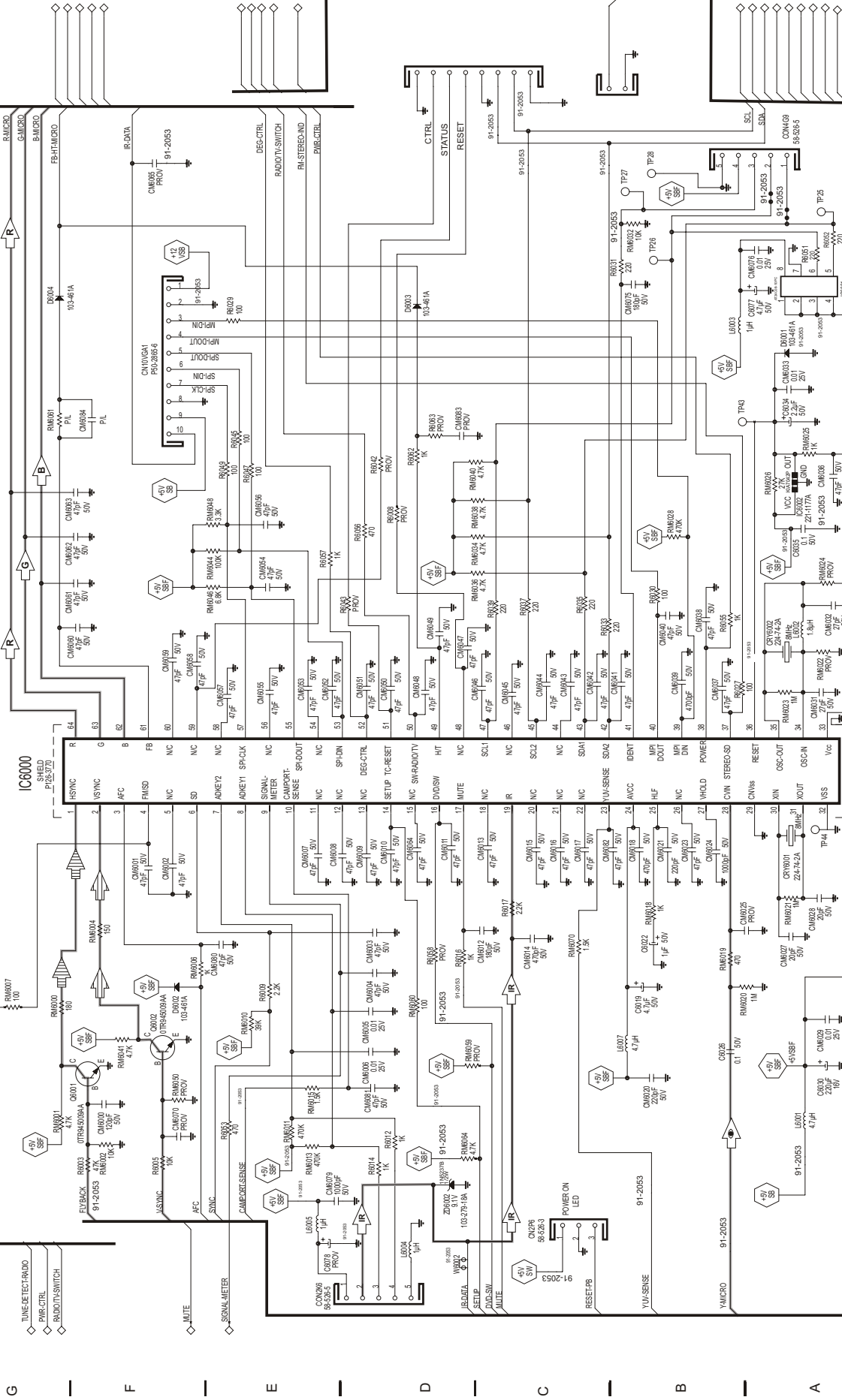
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



6-5

[illegible]

A vertical scale with numerical labels 1 through 11, increasing from bottom to top. Each label is positioned to the left of a horizontal tick mark.



ALL SYMBOLS WITH "M" ON END OF DESIGNATOR
INDICATE SURFACE MOUNTED COMPONENT

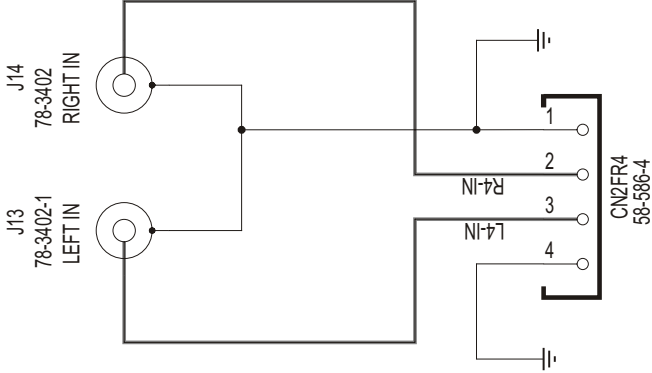
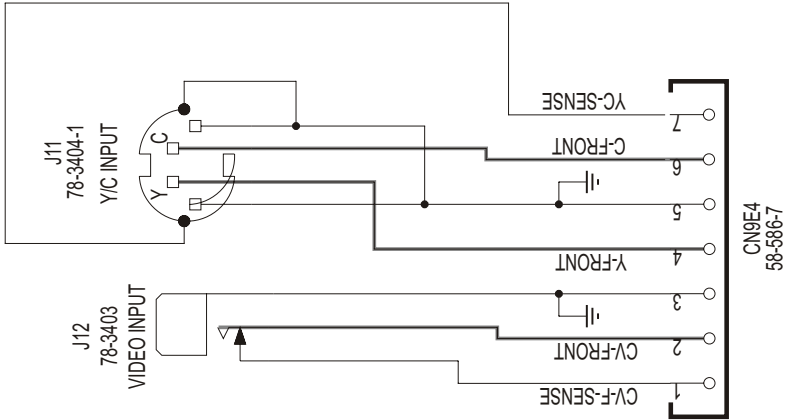


FA-SHEET 9

Front Jack Circuit



G
—
F
—
E
—
D
—
C
—
B
—
A



This schematic refers to
all FA Chassis models
RP-29FA40-M
RP-29FA40-O
RP-29FA40-P
RP-29FA40-R

- ABL
- IF
- E/W Correction
- Composite Video
- Luminance
- Chroma
- Red
- Blue
- Green
- Green
- V Sync
- H Sync

CRITICAL SAFETY COMPONENTS ARE IDENTIFIED BY THE LETTER "X" IN THEIR
COMPONENT DESIGNATORS. REPLACE ONLY WITH PART NUMBERS SPECIFIED.

1		2		3		4		5		6		7		8		9		10		11
---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	---	--	----	--	----



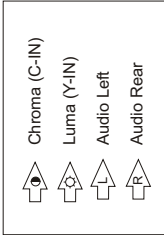
Edge Connectors Circuit



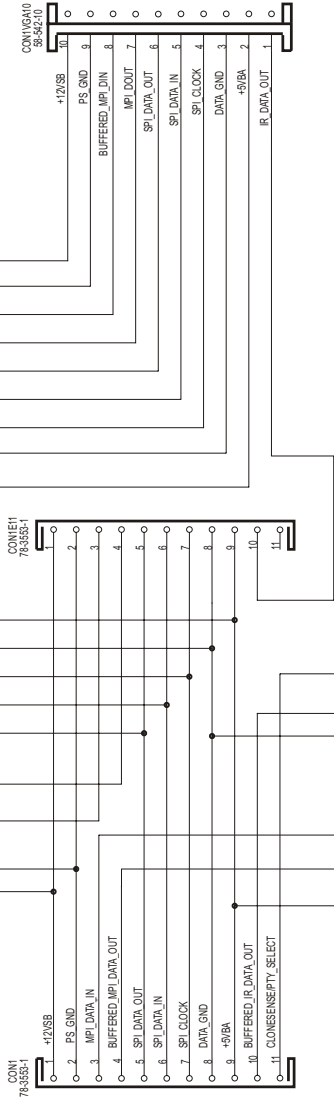
G

This schematic refers to
all FA Chassis models
RP-29FA40-M
RP-29FA40-O
RP-29FA40-P
RP-29FA40-R

F

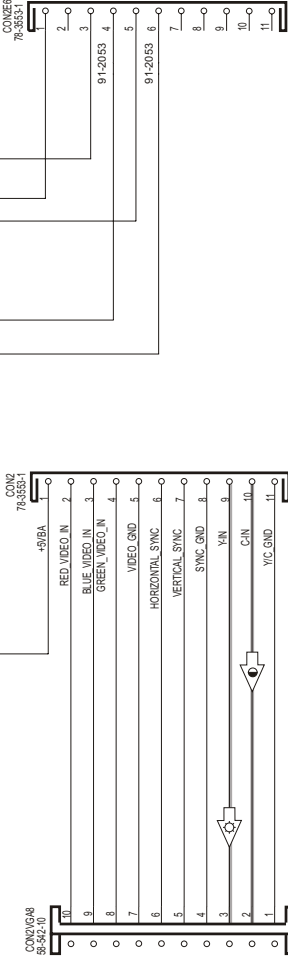


E



D

C



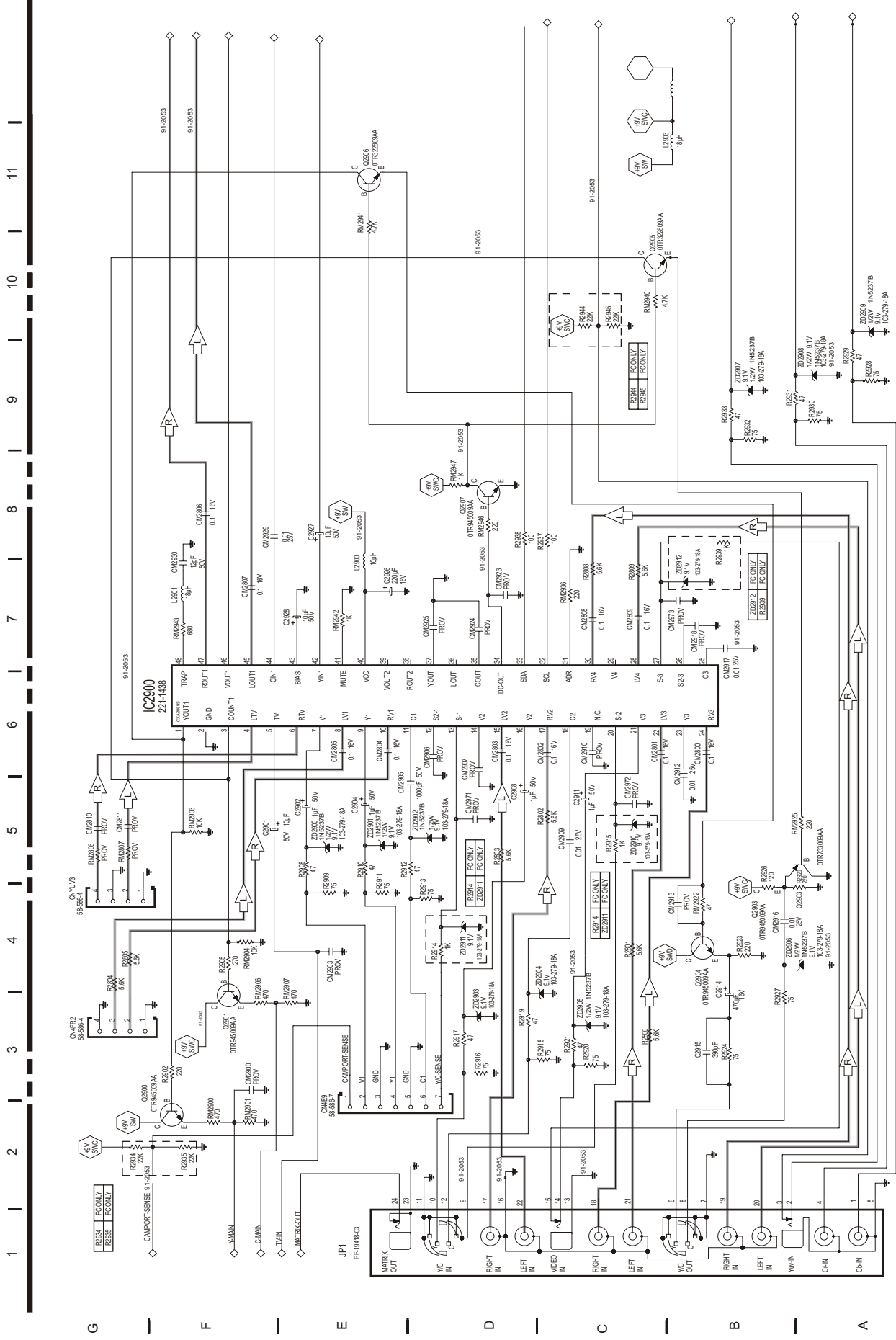
B

A

CRITICAL SAFETY COMPONENTS ARE IDENTIFIED BY THE LETTER "X" IN THEIR
COMPONENT DESIGNATORS. REPLACE ONLY WITH PART NUMBERS SPECIFIED.

ALL SYMBOLS WITH "W" ON END OF DESIGNATOR
INDICATE SURFACE MOUNTED COMPONENT

Audio/Video Switch



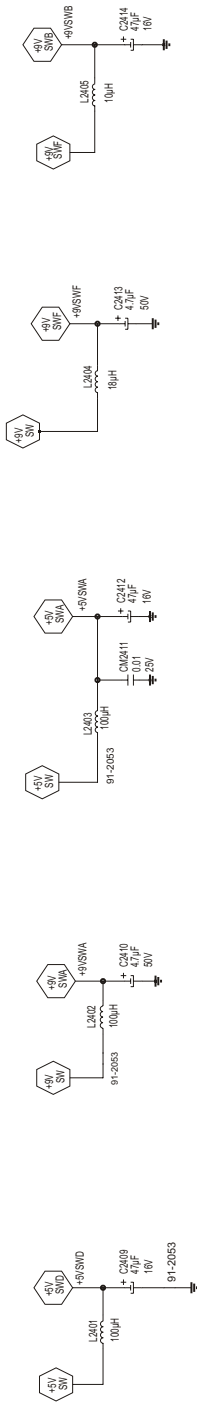
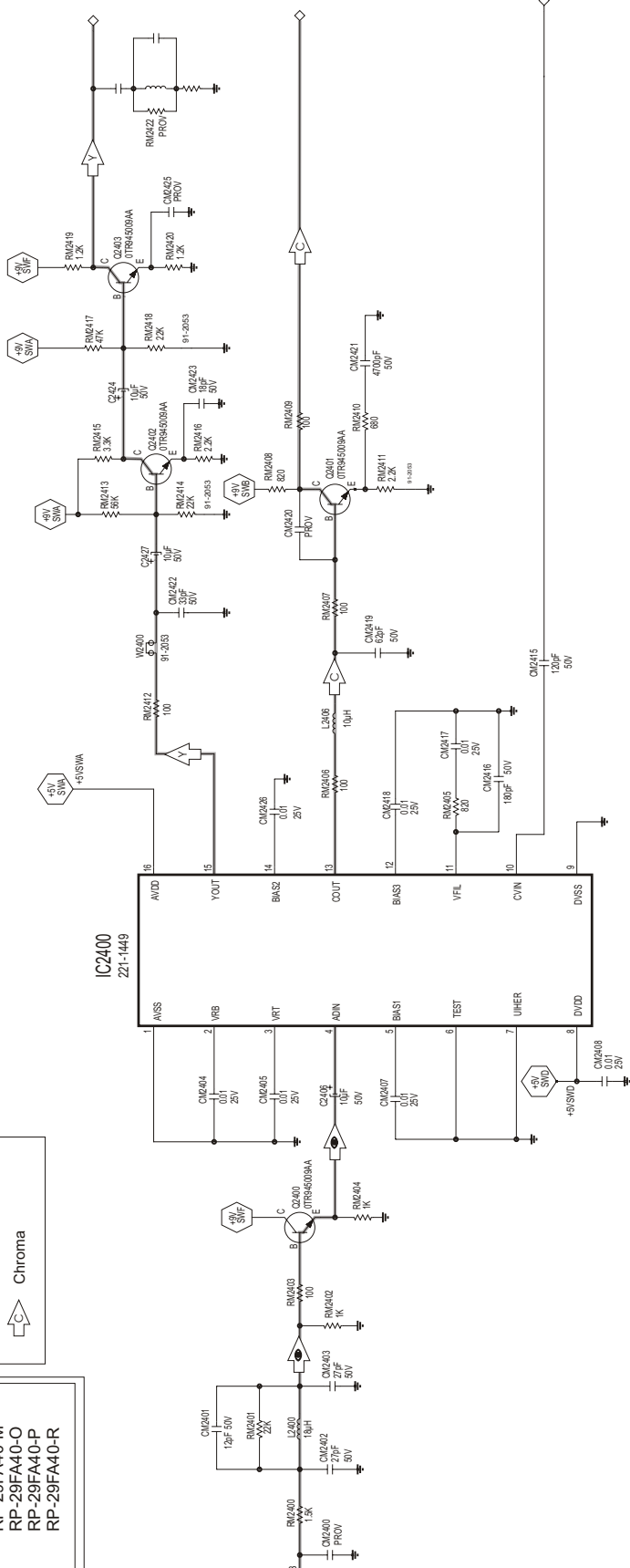
CRITICAL SAFETY COMPONENTS ARE IDENTIFIED BY THE LETTER "X" IN THEIR COMPONENT DESIGNATORS. REPLACE ONLY WITH PART NUMBERS SPECIFIED.

ALL SYMBOLS WITH "W" ON END OF DESIGNATOR INDICATE SURFACE MOUNTED COMPONENT

Comb Filter Circuit

This schematic refers to
all FA Chassis models
RP-29FA40-M
RP-29FA40-O
RP-29FA40-P
RP-29FA40-R

- Composite Video
- Luminance
- Chroma

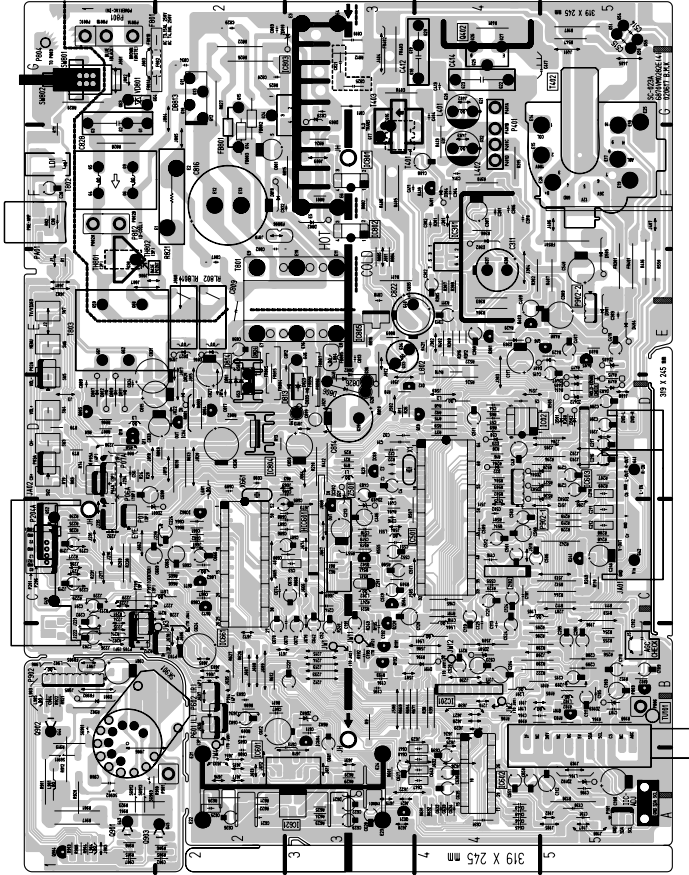


CRITICAL SAFETY COMPONENTS ARE IDENTIFIED BY THE LETTER "X" IN THEIR COMPONENT DESIGNATORS. REPLACE ONLY WITH PART NUMBERS SPECIFIED.

ALL SYMBOLS WITH "M" ON END OF DESIGNATOR INDICATE SURFACE MOUNTED COMPONENT

TABLERO DE CIRCUITO IMPRESO

MAIN & CPT



GUÍA PARA UBICAR LOS COMPONENTES

C1	D3	C208	B6	C608	A2	FR815	D2	R00A	D1	R70	D1	R250	B6	R011	A1	S0011	A1
C4	D3	C207	F4	C603	F3	FR82	B1	R01A	G4	R73	D1	R260	D6	R013	D2	S0013	A2
C7A	D3	C205	B5	C604	A4	CR34	C2	R01C	F4	R75	D1	R270	E4	R020	A2	S002	B1
C8B	F1	C204	F4	C605	A4	CR35	E3	R020	F4	R78	D1	R280	E4	R022	A2	S003	E4
C21	D4	C207	F4	C609	A1	CR41	D1	R021	B1	R80	D1	R290	E4	R024	A3	S005	D1
C42	D4	C210	F4	C642	C3	CR42	C3	R022	B1	R82	F1	R300	E4	R026	A3	S007	E1
C50	D4	C213	B4	C645	C3	CR43	C3	R023	B1	R83	D1	R310	E4	R028	A3	S009	E1
C53	D3	C214	B4	C646	A4	CR44	B1	R024	B1	R84	D1	R320	E4	R030	A3	S011	A1
C55	D3	C215	B4	C647	A4	CR45	A1	R025	B1	R85	D1	R330	E4	R032	A3	S013	A1
C56	D1	C216	B4	C648	A4	CR46	A4	R026	B1	R86	D1	R340	E4	R034	A3	S015	A1
C100	B6	C217	B4	C649	A4	CR47	A4	R027	B1	R87	D1	R350	E4	R036	A3	S017	A1
C101	B6	C218	B4	C650	A4	CR48	A4	R028	B1	R88	D1	R360	E4	R038	A3	S019	A1
C102	B6	C219	B4	C651	A4	CR49	A4	R029	B1	R89	D1	R370	E4	R040	A3	S021	A1
C103	B6	C220	B4	C652	A4	CR50	A4	R030	B1	R90	D1	R380	E4	R042	A3	S023	A1
C104	B6	C221	B4	C653	A4	CR51	A4	R031	B1	R91	D1	R390	E4	R044	A3	S025	A1
C105	B6	C222	B4	C654	A4	CR52	A4	R032	B1	R92	D1	R400	E4	R046	A3	S027	A1
C106	B6	C223	B4	C655	A4	CR53	A4	R033	B1	R93	D1	R410	E4	R048	A3	S029	A1
C107	B6	C224	B4	C656	A4	CR54	A4	R034	B1	R94	D1	R420	E4	R050	A3	S031	A1
C108	B6	C225	B4	C657	A4	CR55	A4	R035	B1	R95	D1	R430	E4	R052	A3	S033	A1
C109	B6	C226	B4	C658	A4	CR56	A4	R036	B1	R96	D1	R440	E4	R054	A3	S035	A1
C110	B6	C227	B4	C659	A4	CR57	A4	R037	B1	R97	D1	R450	E4	R056	A3	S037	A1
C111	B6	C228	B4	C660	A4	CR58	A4	R038	B1	R98	D1	R460	E4	R058	A3	S039	A1
C112	B6	C229	B4	C661	A4	CR59	A4	R039	B1	R99	D1	R470	E4	R060	A3	S041	A1
C113	C4	C230	B4	C662	A4	CR60	A4	R040	B1	R100	D1	R480	E4	R062	A3	S043	A1
C114	C4	C231	B4	C663	A4	CR61	A4	R041	B1	R101	D1	R490	E4	R064	A3	S045	A1
C115	C4	C232	B4	C664	A4	CR62	A4	R042	B1	R102	D1	R500	E4	R066	A3	S047	A1
C116	C4	C233	B4	C665	A4	CR63	A4	R043	B1	R103	D1	R510	E4	R068	A3	S049	A1
C117	C4	C234	B4	C666	A4	CR64	A4	R044	B1	R104	D1	R520	E4	R070	A3	S051	A1
C118	C4	C235	B4	C667	A4	CR65	A4	R045	B1	R105	D1	R530	E4	R072	A3	S053	A1
C119	C3	C236	B4	C668	A4	CR66	A4	R046	B1	R106	D1	R540	E4	R074	A3	S055	A1
C120	C3	C237	B4	C669	A4	CR67	A4	R047	B1	R107	D1	R550	E4	R076	A3	S057	A1
C121	C4	C238	B4	C670	A4	CR68	A4	R048	B1	R108	D1	R560	E4	R078	A3	S059	A1
C122	C4	C239	B4	C671	A4	CR69	A4	R049	B1	R109	D1	R570	E4	R080	A3	S061	A1
C123	C4	C240	B4	C672	A4	CR70	A4	R050	B1	R110	D1	R580	E4	R082	A3	S063	A1
C124	C4	C241	B4	C673	A4	CR71	A4	R051	B1	R111	D1	R590	E4	R084	A3	S065	A1
C125	C4	C242	B4	C674	A4	CR72	A4	R052	B1	R112	D1	R600	E4	R086	A3	S067	A1
C126	C4	C243	B4	C675	A4	CR73	A4	R053	B1	R113	D1	R610	E4	R088	A3	S069	A1
C127	C4	C244	B4	C676	A4	CR74	A4	R054	B1	R114	D1	R620	E4	R090	A3	S071	A1
C128	C4	C245	B4	C677	A4	CR75	A4	R055	B1	R115	D1	R630	E4	R092	A3	S073	A1
C129	C4	C246	B4	C678	A4	CR76	A4	R056	B1	R116	D1	R640	E4	R094	A3	S075	A1
C130	C4	C247	B4	C679	A4	CR77	A4	R057	B1	R117	D1	R650	E4	R096	A3	S077	A1
C131	C4	C248	B4	C680	A4	CR78	A4	R058	B1	R118	D1	R660	E4	R098	A3	S079	A1
C132	C4	C249	B4	C681	A4	CR79	A4	R059	B1	R119	D1	R670	E4	R100	A3	S081	A1
C133	C4	C250	B4	C682	A4	CR80	A4	R060	B1	R120	D1	R680	E4	R102	A3	S083	A1
C134	C4	C251	B4	C683	A4	CR81	A4	R061	B1	R121	D1	R690	E4	R104	A3	S085	A1
C135	C4	C252	B4	C684	A4	CR82	A4	R062	B1	R122	D1	R700	E4	R106	A3	S087	A1
C136	C4	C253	B4	C685	A4	CR83	A4	R063	B1	R123	D1	R710	E4	R108	A3	S089	A1
C137	C4	C254	B4	C686	A4	CR84	A4	R064	B1	R124	D1	R720	E4	R110	A3	S091	A1
C138	C4	C255	B4	C687	A4	CR85	A4	R065	B1	R125	D1	R730	E4	R112	A3	S093	A1
C139	C4	C256	B4	C688	A4	CR86	A4	R066	B1	R126	D1	R740	E4	R114	A3	S095	A1
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C142	C4	C259	B4	C691	A4	CR89	A4	R069	B1	R129	D1	R770	E4	R120	A3	S101	A1
C143	C4	C260	B4	C692	A4	CR90	A4	R070	B1	R130	D1	R780	E4	R122	A3	S103	A1
C144	C4	C261	B4	C693	A4	CR91	A4	R071	B1	R131	D1	R790	E4	R124	A3	S105	A1
C145	C4	C262	B4	C694	A4	CR92	A4	R072	B1	R132	D1	R800	E4	R126	A3	S107	A1
C146	C4	C263	B4	C695	A4	CR93	A4	R073	B1	R133	D1	R810	E4	R128	A3	S109	A1
C147	C4	C264	B4	C696	A4	CR94	A4	R074	B1	R134	D1	R820	E4	R130	A3	S111	A1
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C155	C4	C272	B4	C704	A4	CR102	A4	R082	B1	R142	D1	R900	E4	R146	A3	S127	A1
C156	C4	C273	B4	C705	A4	CR103	A4	R083	B1	R143	D1	R910	E4	R148	A3	S129	A1
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C158	C4	C275	B4	C707	A4	CR105	A4	R085	B1	R145	D1	R930	E4	R152	A3	S133	A1
C159	C4	C276	B4	C708	A4	CR106	A4	R086	B1	R146	D1	R940	E4	R154	A3	S135	A1
C160	C4	C277	B4	C709	A4	CR107	A4	R087	B1	R147	D1	R950	E4	R156	A3	S137	A1
C161	C4	C278	B4	C710	A4	CR108	A4	R088	B1	R148	D1	R960	E4	R158	A3	S139	A1
C162	C4	C279	B4	C711	A4	CR109	A4	R089	B1	R149	D1	R970	E4	R160	A3	S141	A1
C163	C4	C280	B4	C712	A4	CR110	A4	R090	B1	R150	D1	R980	E4	R162	A3	S143	A1
C164	C4	C281	B4	C713	A4	CR111	A4	R091	B1	R151	D1	R990	E4	R164	A3	S145	A1
C165	C4	C282	B4	C714	A4	CR112	A4	R092	B1	R152	D1	R1000	E4	R166	A3	S147	A1
C166	C4	C283	B4	C715	A4	CR113	A4	R093	B1	R153	D1	R1010	E4	R168	A3	S149	A1
C167	C4	C284	B4	C716	A4	CR114	A4	R094	B1	R154	D1	R1020	E4	R170	A3	S151	A1
C168	C4	C285	B4	C717	A4	CR115	A4	R095	B1	R155	D1	R1030	E4	R172	A3	S153	A1
C169	C4	C286	B4	C718	A4	CR116	A4	R096	B1	R156	D1	R1040	E4	R174	A3	S155	A1
C170	C4	C287	B4	C719	A4	CR117	A4	R097	B1	R157	D1	R1050	E4	R176	A3	S157	A1
C171	C4	C288	B4	C720	A4	CR118	A4	R098	B1	R158	D1	R1060	E4	R178	A3	S159	A1
C172	C4	C289	B4	C721	A4	CR119	A4	R099	B1	R159	D1	R1070	E4	R180	A3	S161	A1
C173	C4	C290	B4	C722	A4	CR120	A4	R100	B1	R160	D1	R1080	E4	R182	A3	S163	A1
C174	C4	C291	B4	C723	A4	CR121	A4	R101	B1	R161	D1	R1090	E4	R184	A3	S165	A1
C175	C4	C292	B4	C724	A4	CR122	A4	R102	B1	R162	D1	R1100	E4	R186	A3	S167	A1
C176	C4	C293	B4	C725	A4	CR123	A4	R103	B1	R163	D1	R1110	E4	R188	A3	S169	A1
C177	C4	C294	B4	C726	A4	CR124	A4	R104	B1	R164	D1	R1120	E4	R190	A3	S171	A1
C178	C4	C295	B4	C727	A4	CR125	A4	R105	B1	R165	D1	R1130	E4	R192	A3	S173	A1
C179	C4	C296	B4	C728	A4	CR126	A4	R106	B1	R166	D1	R1140	E4	R194	A3	S175	A1
C180	C4	C297	B4	C729	A4	CR127	A4	R107	B1	R167	D1	R1150	E4	R196	A3	S177	A1
C181	C4	C298	B4	C730	A4	CR128	A4	R108	B1	R168	D1	R1160	E4	R198	A3	S179	A1
C182	C4	C299	B4	C731	A4	CR129	A4	R109	B1	R169	D1	R1170	E4	R200	A3	S181	A1
C183	C4	C300	B4	C73													