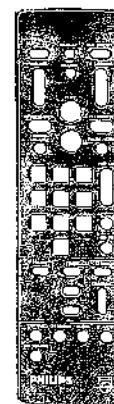


Video cassette recorder

Service
Service
Service



VR3242 is a video cassette recorder with a TV-reception part and electronic timer, suitable for recording and playing back TV-signals which meet the PAL TV-standard.
The signals are recorded on tape according to the VHS-standard.

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I.R.-Remote Control Servicecodenumber : 4822 218 30671

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.



PHILIPS

SPECIFICATIONS

Format	: VHS PAL standard
Head Configuration	: DA2-head rotary slant azimuth helical scanning
Video signal	: PAL colour or B&W signals 625 lines
Recording playing time	: 4 hours max with E240 tape
Tape width	: 12.7 mm
Tape speed	: 23.39 mm/sec
Antenna	: 75 Ω unbalanced
Tuning System	: Frequency Synthesized System
Receiving channel /57	: PAL I
/75	: PAL B/G
/95	: PAL B/G
RF converter output signal	: Ch 32 - 40
Power requirement	: 220V +/- 10% , 50Hz
Operating temperature	: 5°C to 40°C
Operating humidity	: 5 - 80 %
Storage temperature	: -20°C to 60°C

VIDEO

Input	: 1.0 Vp-p, 75 Ω
Output	: 1.0 Vp-p, 75 Ω

AUDIO 0 dB = 0.775 Vrms

Input	: Line: - 8 dBs, > 50 K Ω unbalanced
Output	: Line: - 6 dBs, < 1 K Ω unbalanced (100kohm load)

Accessories included	: RF cable
	: Operating manual
	: Infrared remote control
	: Battery

As part of our policy of continuous improvement, we reserve
the right to alter design and specifications without notice.

SECTION 1 DISASSEMBLY AND MECHANISM ADJUSTMENT

1.1 DISASSEMBLY

1.1.1 Top cover

1. Take out 4 screws A and a screw B.
2. To remove the top cover, slide in direction of arrow and lift away.

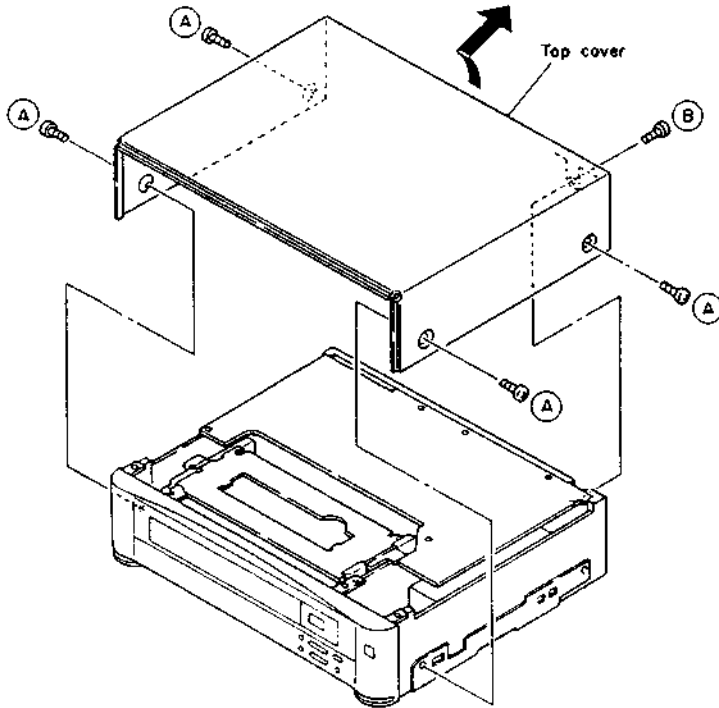


Fig. 1-1-1 Top cover

1.1.3 Bottom cover

1. Remove the top cover.
2. Take out 3 screws C.
3. Disengage 7 claws a from the bottom of the chassis.
4. Disengage the bottom cover from the bottom of the chassis.

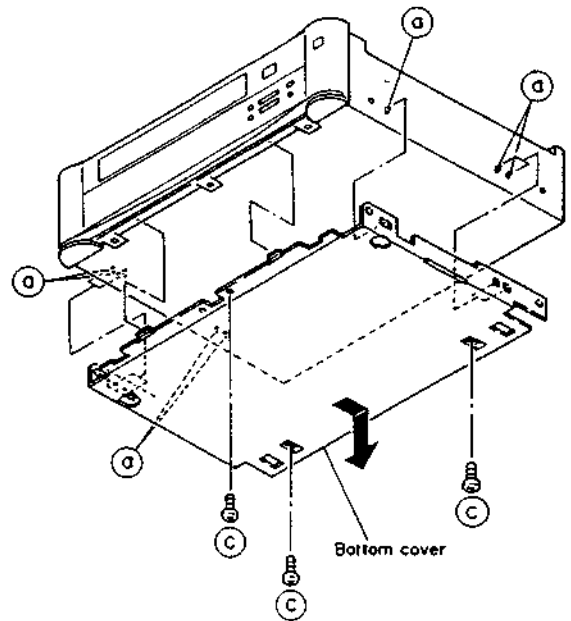


Fig. 1-1-3 Bottom cover

1.1.2 Front panel assembly

1. Remove the top cover.
2. Carefully disengage 3 tabs a of the front panel assembly from the upper side of the chassis.
3. Pull the front panel assembly forward you to disengage 3 tabs b of the front panel assembly from the bottom of the chassis, then remove the front panel assembly.

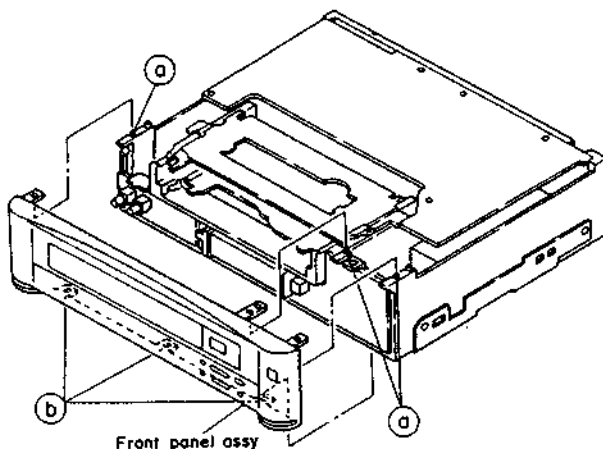


Fig. 1-1-2 Front panel assembly

1.1.4 MAIN board assembly

1. Remove the top cover.
2. Take out 4 screws C and disengage a claw a from MAIN board assembly.
3. Remove the MAIN board assembly in the direction of arrow.

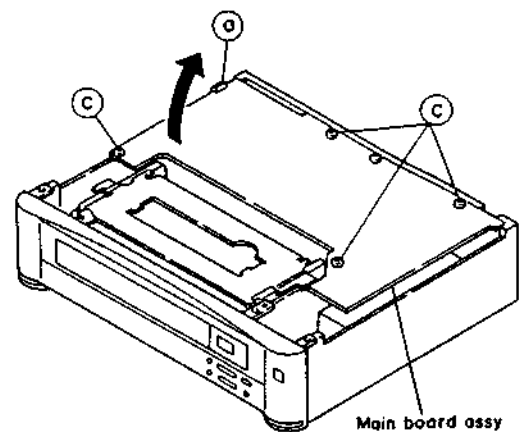


Fig. 1-1-4 MAIN board assembly

1.1.5 Drum shield

1. Remove the top cover and MAIN board assembly.
2. Take out a screw D and a screw E.
3. Remove the drum shield in direction of arrow.

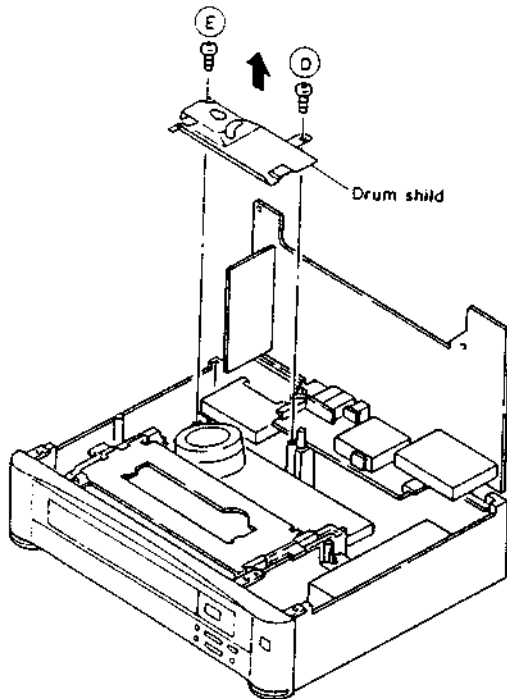


Fig.1-1-5 Drum shield

1.1.6 Cassette housing assembly

1. Remove the top cover, front panel, MAIN board assembly and drum shield.
2. Take out 4 screws F.
3. Remove the cassette housing assembly in direction of arrow.

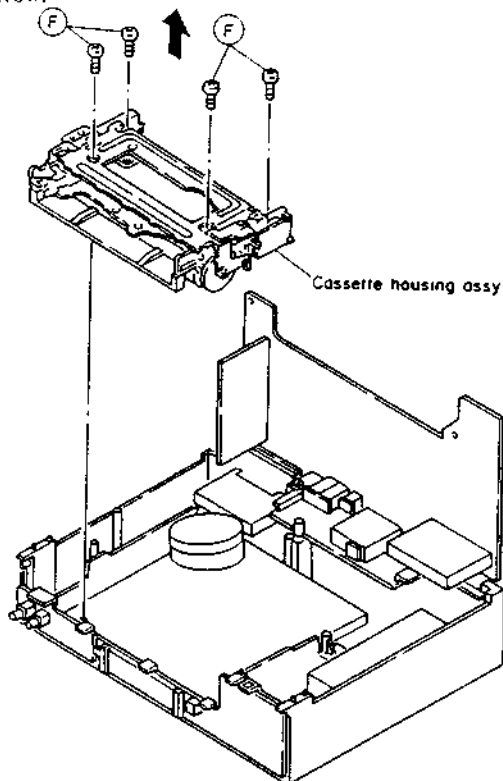


Fig.1-1-6 Cassette housing assembly

1.1.7 Cassette housing installation

Note: Observe the mechanical phase and position (see figure) when installing the cassette housing assembly. If these are incorrect, the system will not operate properly even when tape is inserted.

1. Check that the marks of the control cam and pinch roller cam are aligned. If necessary, turn the worm clutch by hand to adjust the position.

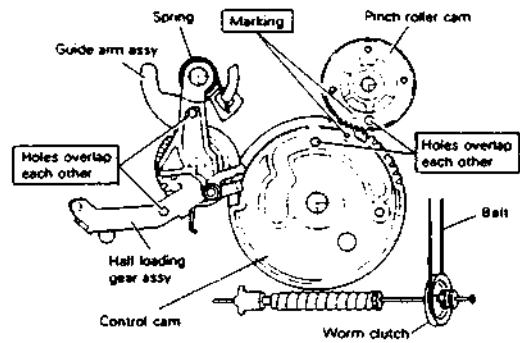


Fig.1-1-7 Control cam and pinch roller cam position

2. Confirm that the clutch of the worm clutch assembly is locked.
If necessary, engage the locked.

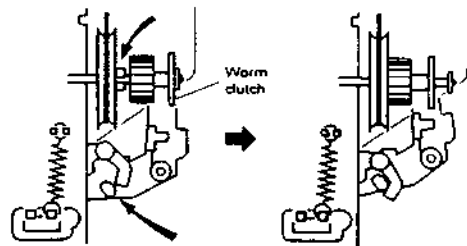


Fig.1-1-8(a) Not locked Fig.1-1-8(b) look engaged

3. Install the front panel as shown in Fig.1-1-9 and re-engage the tabs. Supply power and use a spare cassette to check for normal loading and eject operations.

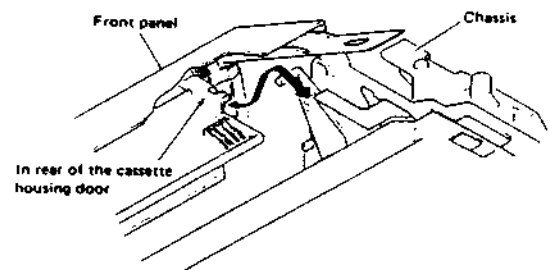


Fig.1-1-9 Cassette housing door

1.1.8 SWITCHING REGULATOR board assembly

1. Remove the top cover and MAIN board assembly.
2. Take out 2 screws C.
3. Remove the SWITCHING REGULATOR board assembly in direction of arrow.

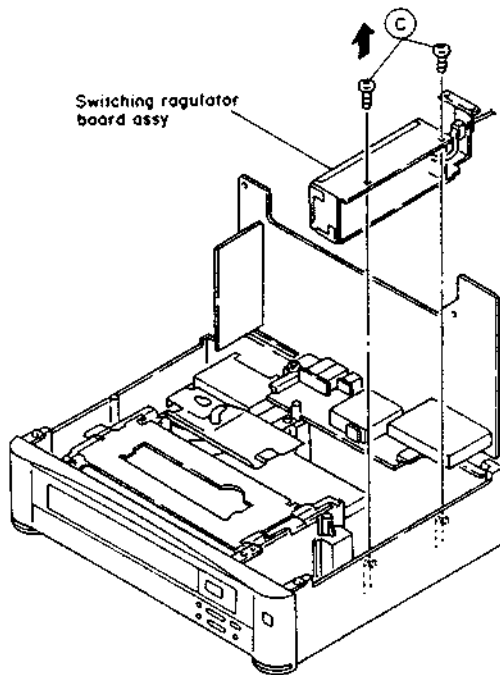


Fig.1-1-10 SWITCHING REGULATOR board assembly

1.1.10 PRE/REC board assembly

1. Remove the top cover, MAIN board assembly and drum shield.
2. Disconnect connectors CN701 and CN702 from the PRE/REC board assembly.
3. Take out 2 screws D.
4. Remove the PRE/REC board assembly in direction of arrow.

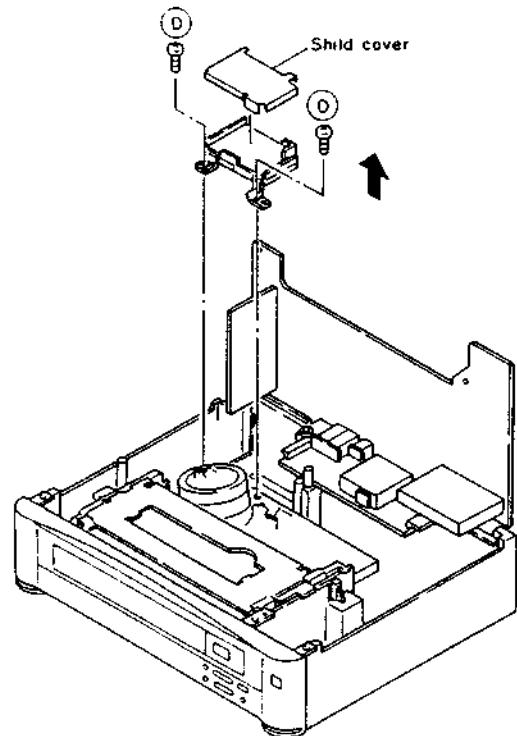


Fig.1-1-12 PRE/REC board assembly

1.1.9 TIMER/DISPLAY/SWITCH board assembly

1. Remove the top cover and front panel.
2. Disengage 3 claws a from the chassis.
3. Disengage 3 claws b, then remove the TIMER/DISPLAY/SWITCH board assembly in direction of arrow.

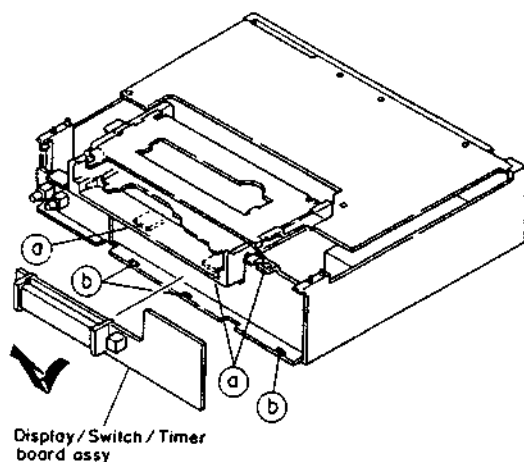


Fig.1-1-11 TIMER/DISPLAY/SWITCH board assembly

1.1.11 Main deck assembly

1. Remove the top cover, front panel, MAIN board assembly, drum shield and cassette housing assembly.
2. Take out 3 screw G and disengage 2 claws a from the chassis.
3. Remove the main deck assembly in direction of arrow.

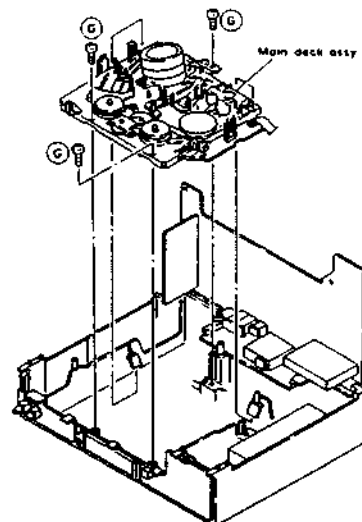


Fig.1-1-13 Main deck assembly

1.2 MECHANISM ADJUSTMENT

1.2.1 Precautions

1. Disconnect VCR from AC power before soldering.
2. Avoid imparting stress to wires when disengaging connectors.
3. Determine and correct the cause of difficulty before proceeding to adjustments. Do not disturb settings unnecessarily.
4. Use care not to damage tabs, claws, etc. during repairs.
5. Install the cassette housing assembly only then the mechanism is in the eject or stop mode position. In the eject mode, the internal holder of the housing is fully raised. This is fully lowered in the Stop mode.
6. When installing the front panel assembly, be sure to engage the housing door with the door lever of the cassette housing assembly. If this is omitted, the door will not open at eject and the cassette cannot be removed.

1.2.2 Check without cassette housing

Mechanism operations can be observed easily by removing the cassette housing assembly. Note the following.

1. Disable the photo transistor sensor(END SENSOR) on the main-deck by applying an opaque cover.
2. Connect pins 2 and 3 of Main board connector CN601.
3. Select the desired modes with the operation buttons. However, notice that without tape, setting for the reverse direction modes produces the Stop mode after a few seconds due to absence of the reel sensor output.

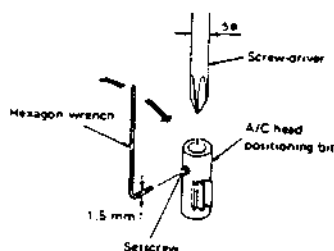


Fig.1-2-1 A/C head positioning tool

1.2.4 Test equipment

The following special tools and fixtures are required for mechanism adjustment.

1. Adjustment tape : MH-1 and MH-1L
Stairstep signal is employed for interchangeability checks and adjustments.
2. Torque gauge : PUJ48075-2
Measures tape take-up torque.
3. Back tension cassette gauge : PUJ48076-2
Measures tape tension at the supply side.
4. A/C head positioning bit : PTU94010
Shifts the head base for adjusting the control head position. The installation of a A/C head positioning bit on the screw-driver. Refer to Fig.1-2-1. Set screw-driver into the A/C head positioning bit where it does not interfere with adjusting boss (position the screw-driver point 6 +/- 2 mm from point of the A/C head positioning bit). Slightly tighten the setscrew by hexagon-wrench (1.5 mm).
5. Roller driver : PTU94002
Turns the guide roller for adjusting FM linearity.
6. Presetting unit : PTU94008
Use for SLP auto tracking preset adjustment.

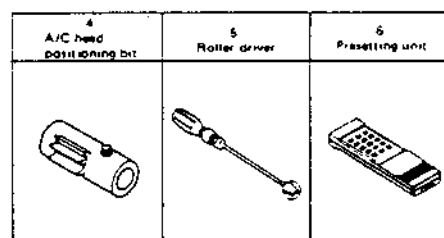
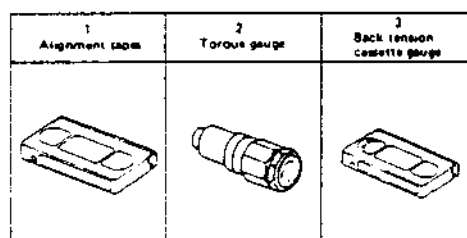


Fig.1-2-2 Test equipment

1.2.3 Manually removing cassette tape

In event of electrical system failure that prevents the tape from being unloaded, the tape can be removed manually by the following procedure. Refer to Figs. 1-3-1, 1-3-2 and 1-3-3.

1. Disconnect power cord from AC outlet.
2. Turn the loading motor by hand so that the control cam rotates clockwise. This retracts the pole base assembly to the unloading position.
3. Continue turning to where the guide arm and half loading gear assemblies shift to beneath the cassette.
4. Turn the clutch assembly at the rear of the deck to absorb slack tape within the cassette.
5. Again turn the loading motor in the same direction to raise the cassette and remove it.

1.3 UPPER DRUM AND VIDEO HEAD

1.3.1 CLEANING

1. Open the unit to gain access to the video heads.
2. Use a cassette housing without tape or a cassette with the tape cut or the procedure to operate the unit without a cassette (cover the supply sensor hole or the cassette). Access the play mode.
3. Use two (2) cleaning cloths moistened with 91% isopropyl alcohol. Hold them very gently against the rotating video heads. Refer to Fig.1-3-1.
4. It is recommended to also clean the tape tension pole and capstan at the same time.

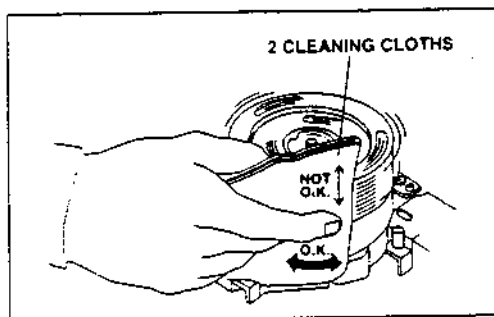


Fig. 1-3-1

CAUTION:

Never operate or turn the drum in a clockwise direction (top view).
The oil in the one way spiral groove bearing will be forced out and cause the drum motor to fail.

Note:

1. Do not rub vertically.
2. Do not apply pressure to the head.
If containment is not easily removed, continued gentle cleaning will usually remove it.
3. After cleaning the video heads, stop the drum from rotating, clean fingerprints from the drum with 91% isopropyl alcohol. Do not touch drum assembly with bare hands, use nylon gloves.

1.3.2 REPLACEMENT OF UPPER DRUM UNIT**1. REMOVAL**

Work with extreme care when removing or replacing the upper drum unit.
Do not touch the video heads during servicing.

- 1) Open the Top cover, Main board and Drum shield cover.
Then remove the Pre/Rec assy and Drum motor assy.
- 2) Take out the screw and remove the brush assembly.
See Fig. 1-3-2.

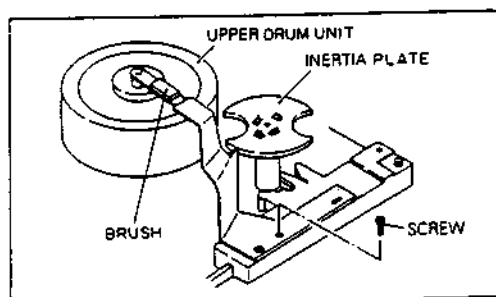


Fig. 1-3-2

- 3) Pull the inertia plate straight up and remove it with the brush assembly.
- 4) Insert the locking pin into the larger pin hole on the lower portion to prevent rotation (the locking pin is included with the upper drum).
- 5) Loosen clamp screw A 3 or 4 turns and very carefully lift the upper drum from the shaft.
See Fig. 1-3-3

Note:

If the upper drum will not come off its shaft easily, use Video Head puller to remove it.

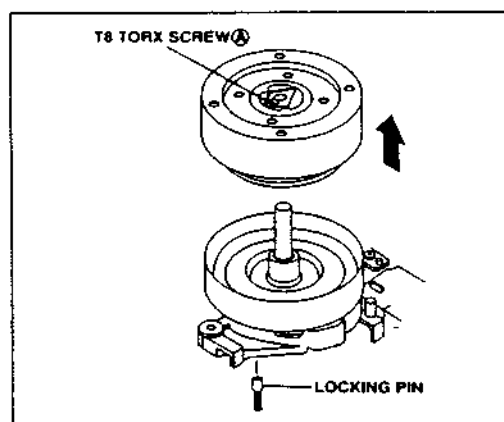


Fig. 1-3-3

2. CLEAN LOWER DRUM AND SHAFT PLATE

Before installing the new unit, use a lint-free cloth dampened with 91% isopropyl alcohol to clean the lower drum shaft and the surface that engages with the upper drum (Fig. 1-3-4).

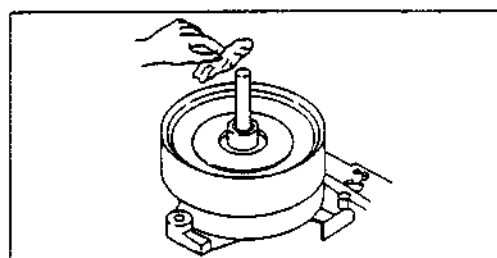


Fig. 1-3-4

3. REPLACEMENT

- 1) Examine the new upper drum and confirm absence of damage.
- 2) Carefully wipe the upper drum with 91% isopropyl alcohol.
- 3) Insert the locking pin into the larger pin hole on the lower portion to prevent rotation (the locking pin is included with the upper drum).
- 4) Set the protector cover correctly onto the upper drum and insert two mylar foils (Fig. 1-3-5).
- 5) Then set it into the notch and lower it onto the lower drum.

- 6) Turn clamp screw A clockwise and tighten to 20N-cm (7.9N-inch) torque.
- 7) Remove the protector cover and pull out the mylar foils.
- 8) Remove the bottom locking pin.

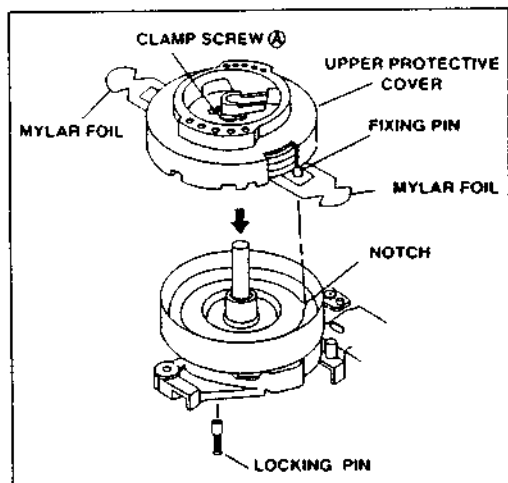


Fig.1-3-5

Note:

After replacement of the upper drum the following checks and adjustments have to be performed:

- Video head switching point
- Tape interchangeability adjustment
- Recording color level

1.4 ADJUSTMENT PROCEDURES OF MECHANISM

1.4.1 TENSION ARM POSITIONING

- 1) Check that the cassette housing is in the eject state (cassette holder is locked in eject position).
- 2) Turn the eccentric adjust pin to align the notch of the pin with the tension arm indent as shown in Fig. 1-4-1.

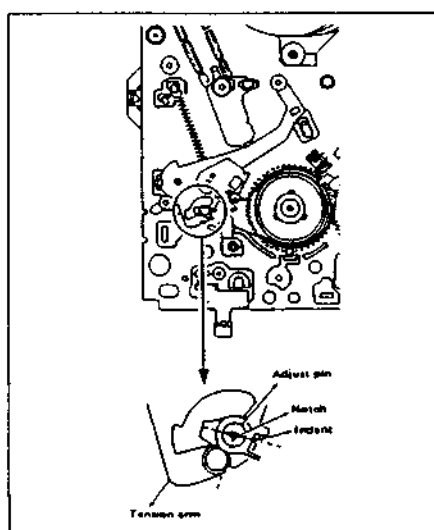


Fig.1-4-1

Note:

Normally, if the tension pole position is properly adjusted, the back tension will assign the correct value.

Use the Tension Meter and confirm playback tension is 35 g-cm to 48 g-cm (13.8 g-inch to 18.9 g-inch).

1.4.2 PINCH ROLLER CAM POSITION

- 1) Set the mechanism to the eject mode (cassette holder is locked in eject position).
- 2) Install the pinch roller cam so the largest hole near the gear teeth is aligned with the hole on the chassis.
- 3) Set the control cam on the deck with the hole in the groove aligned with the hole on the chassis. Observe that the small hole on the control cam and the mark on the pinch roller cam are aligned. (If the control cam does not fit readily, shift the loading arm and plate assembly within the range of mechanical play.)
- 4) Install the half-loading gear assembly with the hole aligned with the hole on the chassis. Secure With split washer.
- 5) Install the guide arm assembly with the hole aligned with hole on the chassis. Engage the spring properly.

Note:

This is the correct mechanical alignment to install the cassette housing.

The cassette housing should also be in the eject the position.

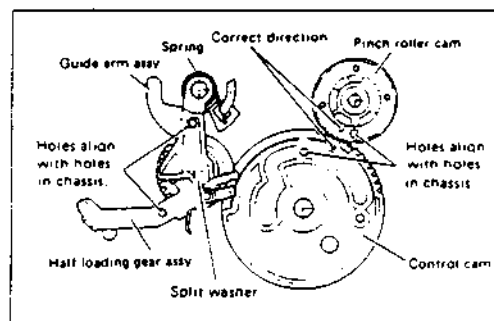


Fig.1-4-2

1.4.3 LOADING ARM AND PLATE ASSY POSITION

- 1) Set for Eject mode and remove the deck terminal board.
- 2) Check that the preset hole of the plate assembly is in the preset position. Temporarily insert a 3 mm screw to hold the position.
- 3) By hand, hold the loading arms in the unloading (inner) position and set the plate assembly from above.
- 4) Install Red and White split washers. Remove temporary screw.
- 5) Move the mode motor belt by hand and confirm mechanism operation.

Note:

Observe that the brake assembly pin engaged with the plate assembly groove.

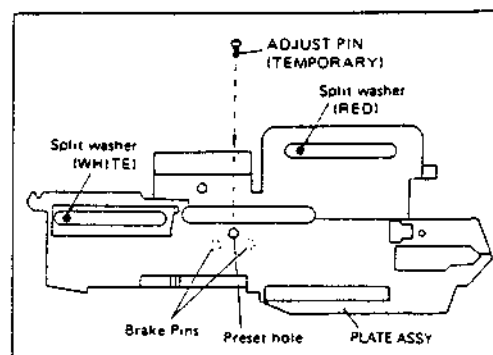


Fig.1-4-3

1.4.4 REEL DISK HEIGHT

- 1) Measure the height of the reel disk above the main chassis.
- 2) Add or remove washers at the bottom of the reel disk to adjust for 12 mm. See Fig.1-4-4

Note:

This adjustment is normally not needed.
Perform after replacing the reel disk.

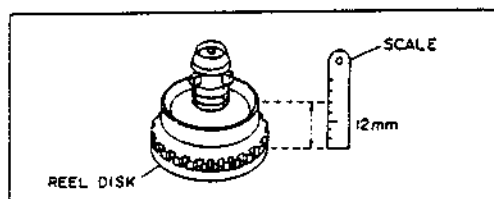


Fig.1-4-4

1.4.5 AUDIO/CONTROL HEAD HEIGHT

- 1) Adjust the 3 screws (screw 1, 2, 3 in Fig.1-5-1) to set the audio/control head height to 6.6 mm. Adjust all screws equally.
- 2) Perform interchangeability adjustments to obtain the specified control pulse and audio signal levels.

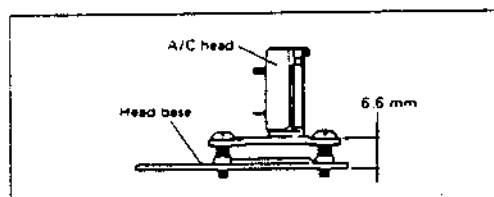


Fig.1-4-5

Note:

1. It is very important to correctly adjust the control pulse and audio signal in addition to the mechanical tape path.
2. Perform interchangeability adjustments after electrical adjustments.

1.5 TAPE INTERCHANGEABILITY ADJUSTMENTS

Note:

This adjustment is extremely important. However, it is normally not required during routine service. Perform only after replacing major components (A/C head, upper drum, etc.).

1.5.1 TAPE TRANSPORT CHECK

Purpose:

Confirm stable tape running.

Check for:

Use a spare tape and check for unstable tape travel and signs of tape damage.

Do not use a VHS Alignment tape before confirming stable tape transport.

1.5.2 A/C HEAD HEIGHT AND INCLINATION

This adjustment presumes completion of mechanical height adjustment and normal electrical circuit operation.

1. HEIGHT AND AZIMUTH ADJUSTMENT OF A/C HEAD

Purpose:

To adjust the position and height of the A/C Head so that it meets the tape tracks properly.

Symptom of Misadjustment:

If the position of the A/C Head is not properly adjusted, the Audio S/N Ratio is also poor.

- 1) Connect the oscilloscope to the audio output jack on the rear of the deck.
- 2) Play back the stairstep portion (7kHz, Mono) of the alignment tape.
- 3) Adjust Black Screw 2 on the head base in Fig.1-5-1 so that the output level is at a maximum.
- 4) Readjust Screw 1 shown in Fig.1-5-1 for maximum output.
- 5) Disconnect the oscilloscope.

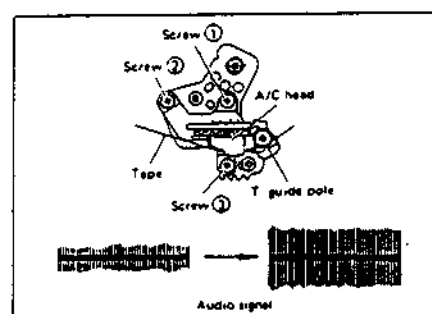


Fig.1-5-1

2. HORIZONTAL POSITION ADJUSTMENT OF A/C HEAD

Purpose:

To adjust the horizontal position of the A/C head.

Symptom of Misadjustment:

If the horizontal position of the A/C head is not properly adjusted, maximum envelope can not be obtained at the neutral position of the tracking control circuit.

- 1) Play back the stairstep portion of the alignment tape.
- 2) Connect the oscilloscope to TP206 (PB FM/COLOR) on the Video Signal Process Section of the Main board. Use TP411 (DRUM FF) as a trigger.
Confirm that the RF envelope appears, as in Fig.1-5-4.
- 3) Set the neutral manual tracking position, by one quick press of the tracking up button on the remote control.
- 4) If adjustment is required, slightly loosen screws 4 and 5.
Set A/C head positioning tool on the A/C head adjusting boss as shown in Fig.1-5-2
- 5) Turn the tool first to position the A/C head fully toward the capstan. Then gradually return it toward the drum and stop at the position of maximum FM waveform output level as shown in Fig.1-5-4
- 6) Tighten screw 5. Remove the tool and tighten screw 4.
- 7) Reset the tracking to the neutral position by ejecting a tape.
Then play back mode again, push the tracking up and down buttons several times each other (count the number of times pushed) until the maximum envelope is reduced to 1/2.
- 8) Confirm that the number of pushes is the same.

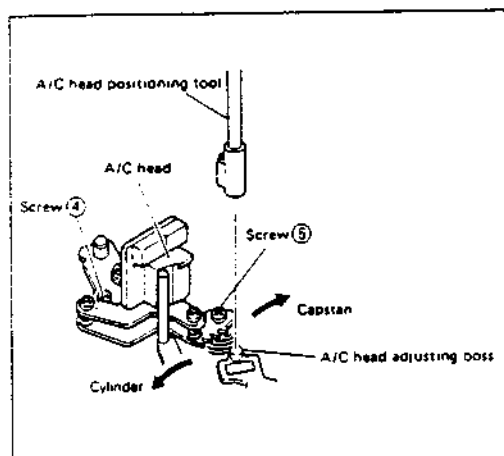


Fig. 1-5-2

1.5.3 PLAYBACK TRACKING

This is the most important adjustment.

If incorrect, proper tracking will not be obtained in recording and playback.

Other problems that may occur are noise in parts of the picture, poor color reproduction and picture instability.

- 1) Play back the stairstep portion of the alignment tape.
- 2) Connect the oscilloscope to TP206 (PB FM/COLOR) on the Video Signal Process Section of the Main board. Use TP411 (DRUM FF) as a trigger.
Confirm that the RF envelope appears, as in Fig. 1-5-4.
- 3) Operate the tracking adjustment (press the tracking buttons during playback) and set for maximum playback luma waveform.
- 4) If adjustment is required, first slightly loosen the set screw located at the bottom of the guide rollers.
Using the guide roller adjustment tool adjust the supply and take-up guide rollers (refer to Fig. 1-5-3) to obtain the correct waveform. Refer to Fig. 1-5-5.

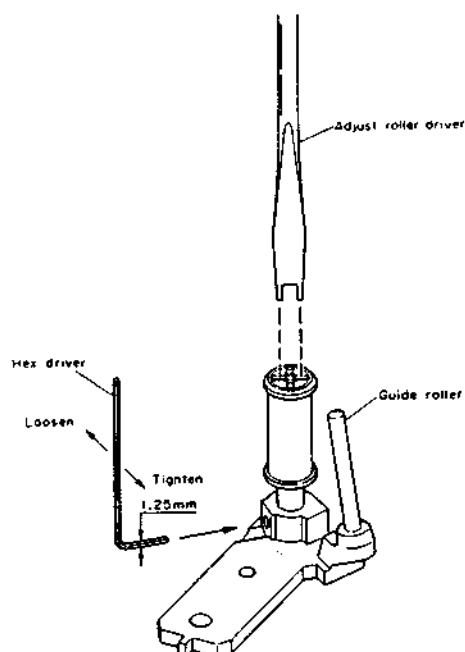


Fig. 1-5-3

- 5) By pushing the tracking buttons several times, vary the FM waveform output from maximum to minimum (& vice versa) gradually and confirm that the variation proceeds in a flat shape, as in Fig. 1-5-6.
- 6) If the FM waveform breaks in the varying process, adjust height of guide roller(s) subtly every breaking so that variation proceeds as flat as possible.
- 7) Eject a tape and then for playback tape again, since the height of guide rollers may move during adjustment.
Confirm, when pushing the tracking up and down buttons, FM waveform variation is always flat.
- 8) After adjustment, confirm that the tape wrinkling does not occur at the roller flanges, as in Fig. 1-5-7
- 9) Perform step 1-5-2, A/C HEAD HEIGHT AND INCLINATION.

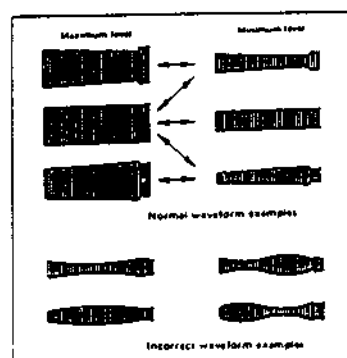


Fig. 1-5-4

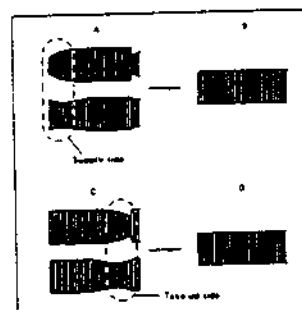


Fig. 1-5-5

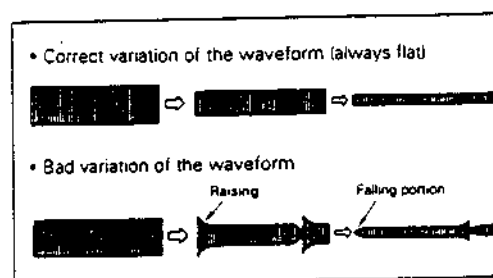


Fig. 1-5-6

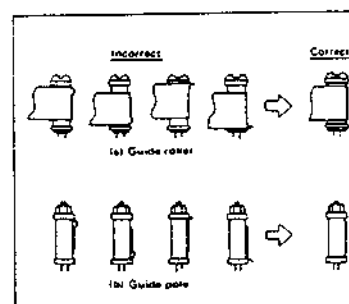


Fig. 1-5-7

SECTION 2 ELECTRICAL ADJUSTMENTS

2.1 PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

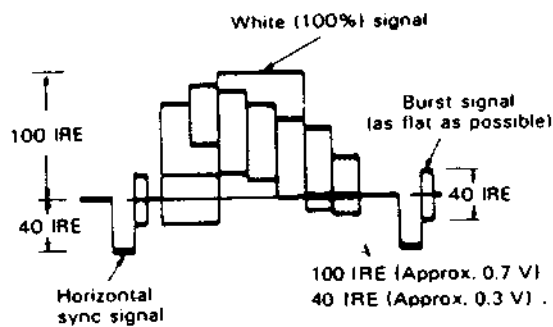


Fig.2-1-1 Color Bar Signal of Pattern Generator

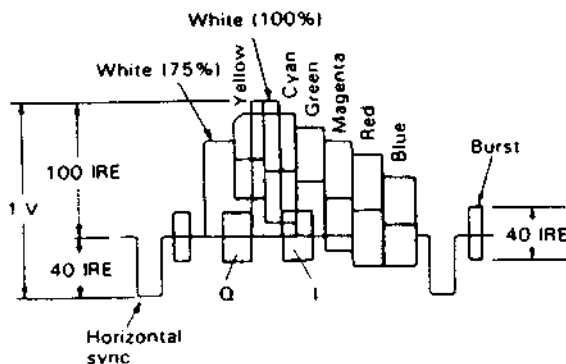


Fig.2-1-2 Color Bar signal waveform

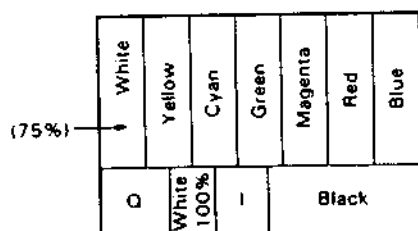


Fig.2-1-3 Color Bar pattern

2.2 REQUIRED TEST EQUIPMENT AND ADJUSTMENTS TOOLS

To perform the electrical adjustments completely, the following equipment is required.

1. Color television or monitor
2. Oscilloscope: 50 MHz, dual-trace, triggered delayed sweep
3. Frequency counter
4. Video Sweeper
5. Audio oscillator
6. AC millivoltmeter
7. Digital voltmeter
8. Signal generator: PAL/*SECAM color bar, staircase
9. Recording tape
10. Presetting unit
11. VHS alignment tape

Note : *SECAM is required for VR3242/95

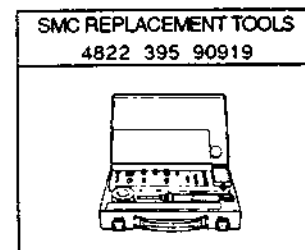
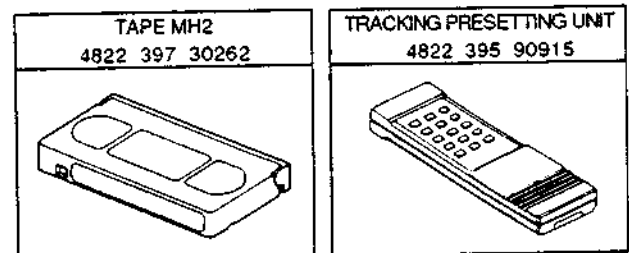


Fig. 2-2-1

2.3 CHECK AND ADJUSTMENT STEP

The check and adjustment step are provided in the following form of charts.

For clarity, the nomenclature used in the charts is outlined below.

Mode	Equipment operating mode at time of check or adjustment
EE	Power on and machine in Stop mode
REC	Recording mode
PB	Playback mode
SLOW	Slow motion during playback mode
SP	SP recording speed

Test Point:

Location to which measuring playback instrument(oscilloscope unless otherwise noted) is to be connected.

Adjustment Part:

Variable component(resistor, capacitor, etc.)to be adjusted in this step.

Specification:

Specification for check or adjustment.

2.4 DIGITAL TRACKING OFF/ON SETTING

Set the tracking to the digital tracking neutral position by ejecting the cassette.

Observe the display on a monitor-TV and adjust for optimum noise free condition (best tracking) by depressing "up" or "down" tracking button during playback mode.

2.5 ADJUSTMENT PROCEDURES

The adjustment procedures consist of the following sections.

1. SW Regulator Section
2. Servo Section
3. Video Section
4. Audio Section
5. Timer Section
6. Tuner/IF Section

2.5.1 SW REGULATOR SECTION**Note:**

Unless otherwise specified, all test points and adjustments are located on the MAIN board.

5V DC OUTPUT ADJUSTMENT**Purpose:**

Set for optimum working voltage.

Symptom of Misadjustment:

If the working voltage becomes higher or lower, the VCR will malfunction.

Signal	TUNER
Mode	SP REC
Measure Equipment	Digital voltmeter
Test point	TP903 (SWD 5V)
	TP902 (GND)
Adjustment Part	R805 (SWD 5V)
Specification	5.30 +/- 0.05 V

2.5.2 SERVO SECTION**Note:**

Unless otherwise specified, all test points and adjustments are located on the MAIN board.

1. SP PB SWITCHING POINT ADJUSTMENT**Purpose:**

Set for optimum video head switching point during playback.

Symptom of Misadjustment:

Video head switching noise or vertical jitter is visible in the picture.

Signal	Alignment tape (MH-2) staircase
Mode	PB
Trigger slope(-)	TP411 (DRUM FF)
Measure Equipment	Oscilloscope
Test point	TP210 (VIDEO OUT)
Adjustment Part	R402 (SP PB SWITCHING PT)
Specification	6.5 +/- 0.5 H

- 1) Connect an oscilloscope to TP210 and TP411.
- 2) Play back the staircase segment of alignment tape.
- 3) Adjust R402 to position the trigger point 6.5 +/- 0.5 H from V.sync as shown in Fig 2-5-1.

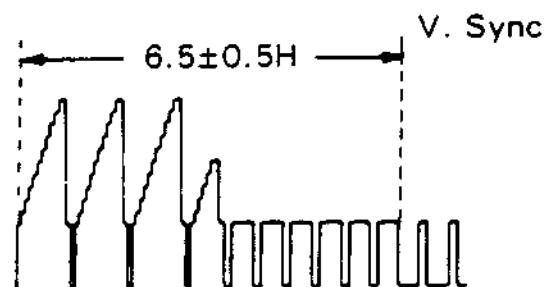


Fig. 2-5-1

2. SP SLOW TRACKING PRESET ADJUSTMENT**Purpose:**

Set for optimum noise condition (best tracking) in slow motion mode.

Notes:

- 1) On the presetting unit use only "A", "B" or "C" buttons. Depressing on the buttons during the steps below may cause adjustment error.
- 2) During playback press the SLOW button for "more than 2 seconds" to begin slow motion at 1/16th the normal speed.

Signal	Color bar
Mode	SP REC then PB (SLOW)
Measure Equipment	TV-Monitor
Test point	Presetting unit
Specification	Minimum noise condition (best tracking)

- 1) Disconnect AC power supply for more than 3 minutes.
- 2) Connect the AC power supply again.
- 3) Set power on.
- 4) Record a color bar signal in SP mode.
- 5) Playback the self recorded tape in neutral tracking position, by a quick press.
- 6) Press the slow button on the remote.
- 7) Depress button "A" on presetting unit, to set VCR to code receive mode.
- 8) Observe monitor-TV and adjust for optimum noise condition (best tracking) by depressing "B" or "C" button, on presetting unit, as required.
- 9) Confirm that noise bar is at a minimum in picture.
- 10) Depress the stop button on the front panel.
- 11) Disconnect VCR AC power supply for more than 3 minutes.
- 12) Connect AC power supply again, confirm the VCR SP slow tracking.

2.5.3 VIDEO SECTION

Note:

Unless otherwise specified, all test points adjustments are located on the VIDEO UNIT board.

Important:

Item 1 thru 5.

- 1) Ordinarily performing these adjustment is not required. Adjustments should be performed only if IC2 on the VIDEO unit board has been replaced.
- 2) To adjust, replace fixed laser trimmed chip resistor with a variable chip resistor, then adjust as required.

1. EE Y LEVEL ADJUSTMENT

Purpose:

Align the output level with that obtained in the input level as reference.

Symptom of Misadjustment:

Difference between EE Y level and playback Y level.
Result in poor signal-to-noise ratio and severe distortion.

Signal	Color bar
Mode	EE
Measure Equipment	Oscilloscope
Test point	TP210 (VIDEO OUT)(Main Bd)
Adjustment Part	R60 (EE Y LEVEL)
Specification	1.00 +/- 0.06 Vp-p (terminated)

- 1) Connect an oscilloscope to TP210.
- 2) Confirm that Y level is 1.0 +/- 0.06 Vp-p.
- 3) If necessary, replace R60 with the variable chip resistor 4822 101 10851 and adjust for 1.00 +/- 0.06 Vp-p, as in Fig.2-5-2



Fig. 2-5-2

2. WHITE CLIP RATIO ADJUSTMENT

Purpose:

Cut the overshoot and undershoot components which exceed certain positive and negative levels.

Symptom of Misadjustment:

If the white clip level becomes higher, picture which is sharp and blurred and black/white reversal effects appear on the monitor.

If the white clip level becomes lower, picture which is soft and small details are indistinct.

Signal	Color bar
Mode	EE
Measure Equipment	Oscilloscope
Test point	IC1 pin 22
Adjustment Part	R64 (WHITE CLIP)
Specification	WHITE CLIP: 90 +/- 4 % DARK CLIP: 45 +/- 5 %

- 1) Connect an oscilloscope to IC1 pin 22.
- 2) Confirm that white clip is 90 +/- 4 % & dark clip is 45 +/- 5%.
- 3) If necessary, replace R64 with the variable chip resistor 4822 101 10894 and adjust it 90+/-4% white clip and 45+/-5% dark clip, as in Fig.2-5-3.

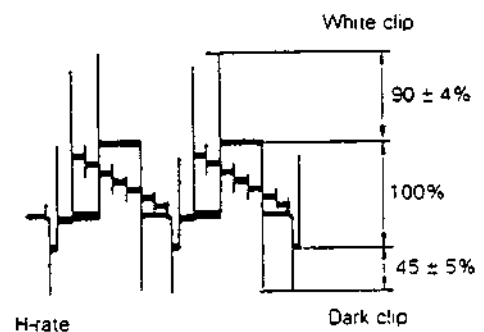


Fig. 2-5-3

3. CARRIER & DEVIATION ADJUSTMENT

CARRIER

Purpose:

A carrier frequency which is used to determine the video SYNC (3.8 MHz).

Symptom of Misadjustment:

The picture will either have a bear or black/white reversal effects.

In some cases it may disappear.

Signal	No signal
Mode	EE
Measure Equipment	Frequency counter
Test point	CN2 pin 9
Adjustment Part	R41 (CARRIER)
Specification	3.8 MHz +/- 40 kHz

DEVIATION

Purpose:

A frequency modulation deviation range of the FM carrier is 1 MHz.

Symptom of Misadjustment:

The picture will either have a dark or severe distortion. In some cases it may disappear.

Signal	Color bar
Mode	REC then PB
Measure Equipment	Oscilloscope
Test point	TP210 (VIDEO OUT)(Main Bd)
Adjustment Part	R42 (DEVIATION)
Specification	1.00 +/- 0.06 Vp-p (terminated)

- 1) Connect a frequency counter to CN2 pin 9.
- 2) Confirm that frequency is 3.8 MHz +/- 40 kHz.
- 3) If necessary, replace R41 with the variable chip resistor 4822 101 10892 & adjust it for 3.8MHz +/- 40 kHz.
- 4) Record and playback a color bar signal.
- 5) Confirm that Y level is 1.00 +/- 0.06 Vp-p at TP210.
- 6) If necessary, replace R42 with the variable chip resistor 4822 101 10851 and adjust it for 1.00 +/- 0.06Vp-p, as in Fig 2-5-4.



Fig. 2-5-4

4. YNR NC BALANCE ADJUSTMENT

Purpose:

The system noise is improved by employing line correlation for playback mode.

Symptom of Misadjustment:

May increase the system noise.

Signal	Color bar
Mode	EE
Measure Equipment	Oscilloscope
Test point	IC1 pin 9
Adjustment Part	R56 (NC BALANCE)
Specification	Minimum DC step difference

- 1) Connect an oscilloscope to IC1 pin 9.
- 2) Confirm that DC step difference is minimum.
- 3) If necessary, replace R56 with the variable resistor 4822 101 30673 and adjust it for minimum DC step difference, as in fig. 2-5-5.



Fig. 2-5-5

5. PLAYBACK Y LEVEL ADJUSTMENT

Purpose:

Set for optimum playback Y level.

Symptom of Misadjustment:

Bright or dark picture.

Signal	Color bar
Mode	SP REC then PB
Measure Equipment	Oscilloscope
Test point	TP210 (VIDEO OUT)(Main Bd)
Adjustment Part	R17 (PB Y LEVEL)
Specification	1.00 +/- 0.06 Vp-p (terminated)

Note:

Confirm that procedure whit clip ratio adjustment is correct before performing this adjustment procedure.

- 1) Connect an oscilloscope to TP210.
- 2) Record and playback a color bar signal.
- 3) Confirm that Y level is 1.00 +/- 0.06 Vp-p.
- 4) If necessary, replace R17 with the variable resistor 4822 101 10891 and adjust it for 1.00 +/- 0.06 Vp-p, as in Fig 2-5-6.

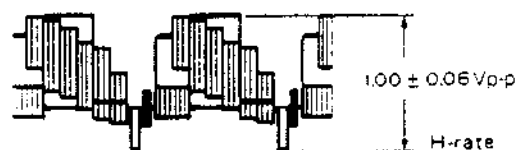


Fig. 2-5-6

6. SP RECORDING FM LEVEL ADJUSTMENT

Purpose:

Set for optimum playback Y level.

Symptom of Misadjustment:

Black/white picture or missing picture.

Signal	Color bar
Mode	REC
Measure Equipment	Oscilloscope
Test point	TP201 (SP REC COLOR)
Adjustment Part	R246 (REC FM LEVEL)
Specification	560 +/- 10 mVp-p

- 1) Connect an oscilloscope to TP201.
- 2) Record the color bar signal.
- 3) Adjust R246 for 560 +/- 10 mVp-p, as in Fig. 2-5-7.

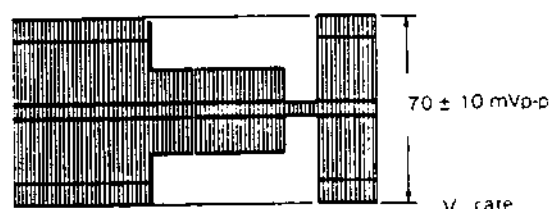


Fig. 2-5-7

7. SP RECORDING COLOR LEVEL ADJUSTMENT

Purpose:

Set for optimum recording color level.

Symptom of Misadjustment:

If the recording color level becomes higher, the beat(dots) are seen in the picture.

If the recording color level becomes lower, the color beat is caused in the picture or the color is degraded.

Signal	Color bar
Mode	SP REC
Measure Equipment	Oscilloscope
Test point	TP205 (REC COLOR)
Adjustment Part	R215 (SP REC COLOR)
Specification	70 +/- 10 mVp-p

- 1) Connect an oscilloscope to TP205.
- 2) Record the color bar signal in SP mode.
- 3) Adjust R215 for 70 +/- 10 mVp-p, as in Fig. 2-5-8.

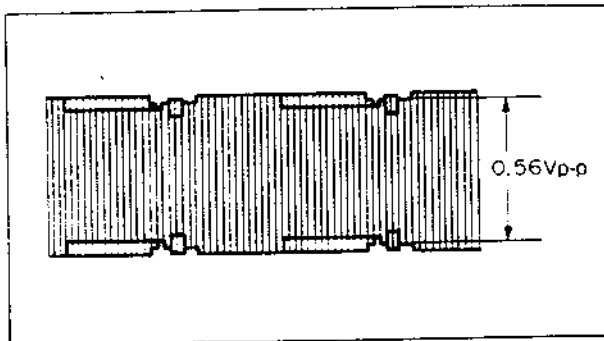


Fig. 2-5-8

8. MESECAM DETECT ADJUSTMENT (ONLY FOR VR3242/95)

Purpose:

Set for SECAM color discrimination signal.

Symptom of Misadjustment:

No color.

Signal	SECAM color bar
Mode	EE
Measure Equipment	Oscilloscope
Test point	TP244 (MESECAM DET)
Adjustment Part	L282 (MESECAM DET)
Specification	A:B = 3:4

- 1) Connect an oscilloscope to TP280.
- 2) Adjust L282 so that A and B are related as follow:
A:B = 3:4

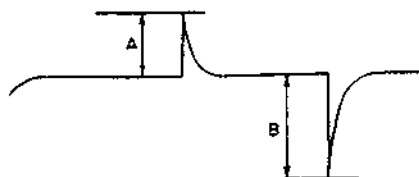


Fig 2-5-9

2.5.4 AUDIO SECTION

Note:

Unless otherwise specified, all test points and adjustment are located on the MAIN board.

1. AUDIO BIAS LEVEL ADJUSTMENT

Purpose:

The amount of bias current used is one that represents the best compromise of low distortion, extended high frequency, and high output.

Symptom of Misadjustment:

Poor signal-to-noise ratio and severe distortion.

Signal	No signal-Lone INPUT (terminated)
Mode	REC
Measure Equipment	Millivoltmeter
Test point	TP331 (BIAS +) TP332 (GND)(BIAS -)
Adjustment Part	B301 or B302
Specification	2.9 +/- 0.5 mVrms or 8.2 +/- 1.4 mVp-p

- 1) Insert recording video cassette into cassette housing.
- 2) Set for the REC mode without an incoming signal.
- 3) Connect a millivoltmeter between TP331 (INPUT) and TP332 (GND), and confirm 2.9 +/- 0.5 mVrms or (8.2 +/- 1.4 mVp-p) of the bias level at TP331. If necessary, perform step 4).
- 4) If level is higher than 3.4 mVrms (9.6 mVp-p), remove B301. If level is lower than 2.4 mVrms (6.8 mVp-p), remove B302.

2.5.5 TIMER SECTION

Note:

Unless otherwise specified, all test point and adjustment parts are located on the MAIN board.

For the following adjustments, use 1:1 probe with input capacitance less than 100 pF.

1. CLOCK ADJUSTMENT

Signal	No signal
Mode	EE
Measure Equipment	Frequency counter
Test point	IC1 PIN42 (CLOCK)
Adjustment Part	C6 (CLOCK)
Specification	488.2813 +/- 0.0005 u Sec (2048.0000 +/- 0.002 Hz)

- 1) Disconnect VCR from AC.
- 2) Connect a frequency counter between IC1 pin42 and GND.
- 3) Connect VCR to AC.
- 4) Connect a jumper wire between IC1 pin 34 and GND.
- 5) Short the leads of capacitor C3 once in order to reset IC1.
- 6) Adjust C6 for 488.2813 +/- 0.0005 u Sec (2048.0000 +/- 0.002 Hz).

2.5.6 TUNER/IF SECTION

Note:

Unless otherwise specified, all test points and adjustment parts are located on the MAIN board.

1. VCO ADJUSTMENT

Purpose:

Set for optimum broadcast color signal.

Symptom of Misadjustment:

The picture will either have a beat or smear.

In some cases it may disappear.

*** Factory Method**

Signal	Sweep generator output
Mode	Tuner mode (without antenna input Signal)
Measure Equipment	Oscilloscope, IF sweep signal generator (with suitable markers, PIF, SIF, etc.)
Sweeper probe	(sweep signal supply cable)- See Fig.2-5-9.
Test point	IC1 pin 17
Adjustment Part	T4 (VCO)
Specification	38.86 MHz (no distortion)

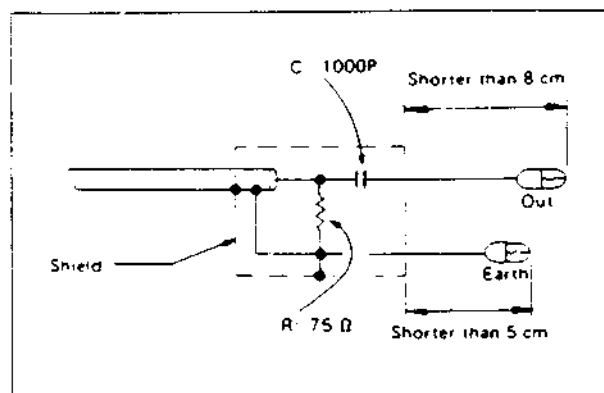


Fig. 2-5-10 Sweeper probe

- 1) Use a sweeper probe as shown in Fig.2-5-10 and connect the sweep generator output to pin 1 of SAW1.
- 2) Adjust the sweep gain so that the waveform does not distort as observed with the oscilloscope.
- 3) Connect the oscilloscope to pin 17 of IC1 (VIDEO DET OUT) and adjust T3 to align the waveform with the frequency marker as shown in Fig. 2-5-11.

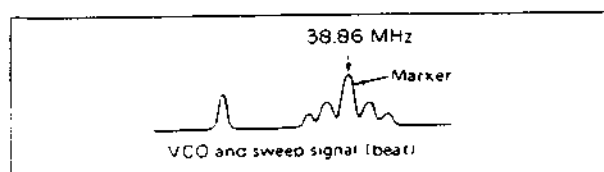


Fig. 2-5-11

*** Alternate method**

Signal	: TV broadcasting
Mode	: Tuner
Measure Equipment	: Monitor-TV
Other condition	: Same

- 1) Receive a color broadcasting on a VHF-HI channel (7 to 13).
- 2) Adjust T4 to obtain a fine picture on the monitor-TV. Find both sides of range of pull in and adjust to the center point.
- 3) Find both sides of range of pull in and adjust to the center point.
- 4) Select other channels to confirm proper channel selection.

2. RF AGC ADJUSTMENT

Purpose:

Determine the correction for excess noise in the picture.

Symptom of Misadjustment:

Cross interference occurs due to strong electrical fields.

Note:

Before the following adjustment,

- 1) Connect a cable to ANT IN and terminate TV OUT with 75 ohms.
- 2) Set a TV channel signal generator as follows.
Video : 65 db u 75 ohm, color bar 87.5 % modulation
Audio : 55 db u 75 ohm, 1 kHz $\pm$ 50 kHz deviation

*** Factory Method**

Signal	TV broadcasting
Mode	Tuner mode
Measure Equipment	Oscilloscope TV signal generator
Test point	IF terminal (U/V tuner)
Adjustment Part	R40 (RF AGC)
Specification	Maximum level (with minimum noise)

- 1) Connect the oscilloscope to IF terminal of U/V tuner (front end).
- 2) Adjust R40 for maximum level, then again adjust R40 for 5.0 dB again.

*** Alternate method***Note:*

Adjust R40 (RF AGC) to correct for excess noise in the picture or when streaks cross interference occurs due to strong electrical fields.

- 1) Adjust R40 to minimize noise or streaks on the TV screen.
- 2) Adjust for noisy picture with strong signal. Then adjust until noise just disappears. Select other channels to confirm proper pick-up of channels.

3. SOUND DET. ADJUSTMENT

Purpose:

Minimize sound distortion.

Symptom of Misadjustment:

Audio level will either have small sound or no sound.

*** Factory Method**

Signal	TV broadcasting signal
Mode	EE (Tuner mode)
Measure Equipment	Distortion meter
Test point	AUDIO OUT (MAIN board)
Adjustment Part	T2 (FM DET)
Specification	Minimum distortion (less than 0.5 %)

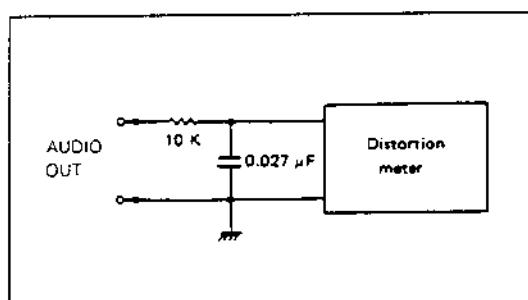


Fig. 2-5-12 Adjustment circuit

- 1) Using an adjustment circuit as shown in Fig 2-5-12, connect a distortion meter.
- 2) Adjust T2 for minimum distortion (less than 0.5 %).

*** Alternate method**

Measure Equipment	: Oscilloscope
Other condition	: Same

- 1) Receive a color broadcast on a VHF-HI channel (7 to 13).
Connect an oscilloscope to AUDIO OUT on the MAIN board.
- 2) Adjust T2 for maximum audio sound level.

4. AFC ADJUSTMENT

Purpose:

Keep the local oscillator in the receiver from drifting off proper tuning.

(Set for optimum broadcast color signal.)

Symptom of Misadjustment:

The picture will either have a beat or smear.
In some cases it may disappear.

Signal	Sweep generator output (75dB μ , 75 ohms)
Mode	EE (Tuner mode)
Measure Equipment	Oscilloscope
Test point	IC1 pin14
Adjustment Part	T3 (AFC)
Specification	4.8 +/- 0.1 V

- 1) Connect an oscilloscope to IC1 pin14.
- 2) Input DC 7.2 V to IC1 pin 13.
- 3) Set the oscilloscope to DC mode and adjust T3 to set lower edge of the ripple waveform to 4.8V.

*** Alternate method**

- 1) Receive a color broadcast on a VHF-HI channel (7 to 13).
- 2) Connect an oscilloscope to A of the MAIN board, as in Fig.2-5-13.
- 3) Set the oscilloscope to DC mode and adjust T3 to set the lower edge of the ripple waveform to 4.8 V.

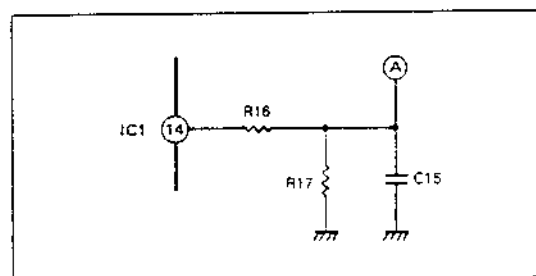


Fig. 2-5-13 Test point

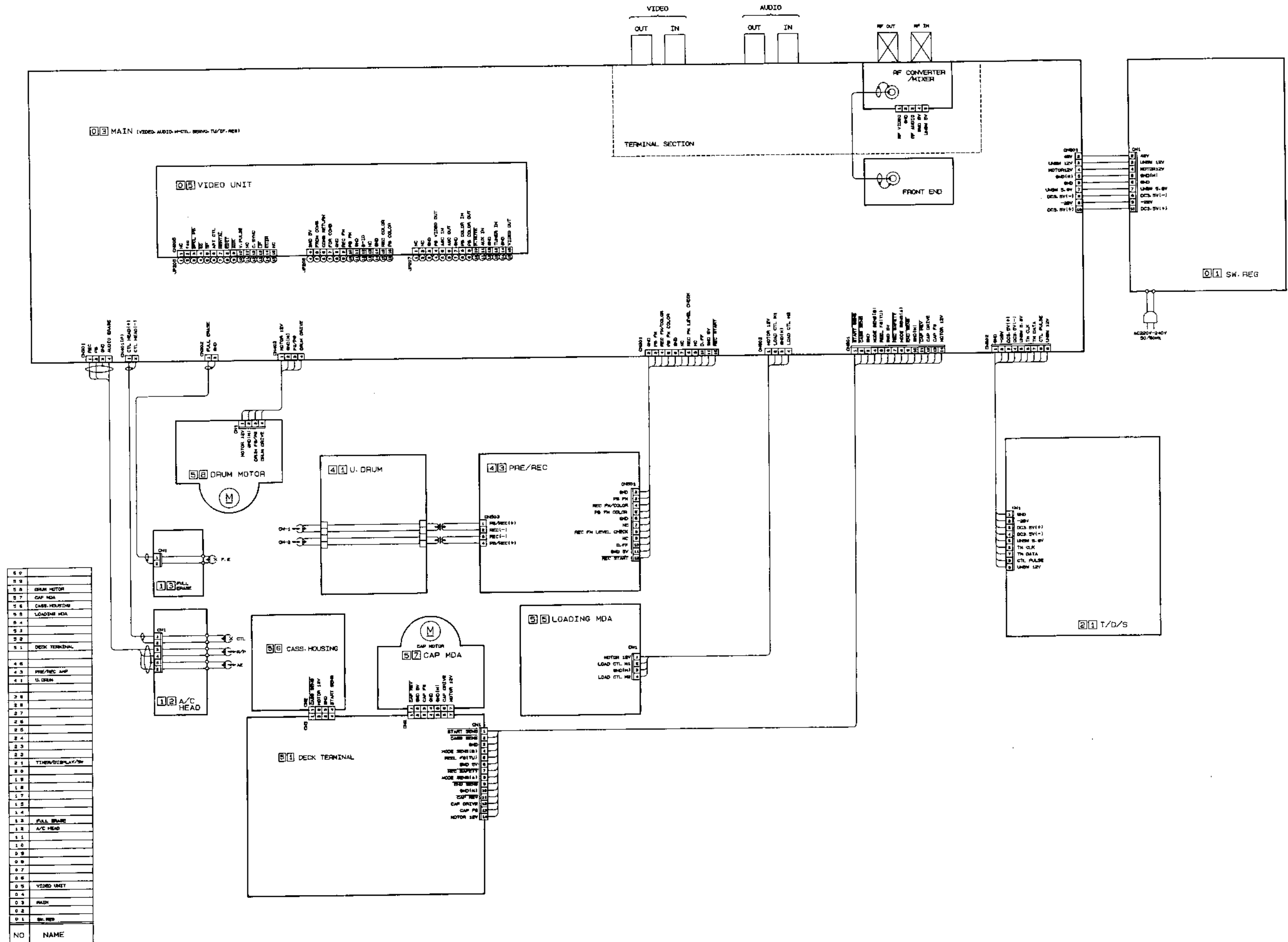
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Note: The diagrams are generally meant for /75.

The differences between /57 & /75 are shown on pages with extension A, e.g. 3-5A.

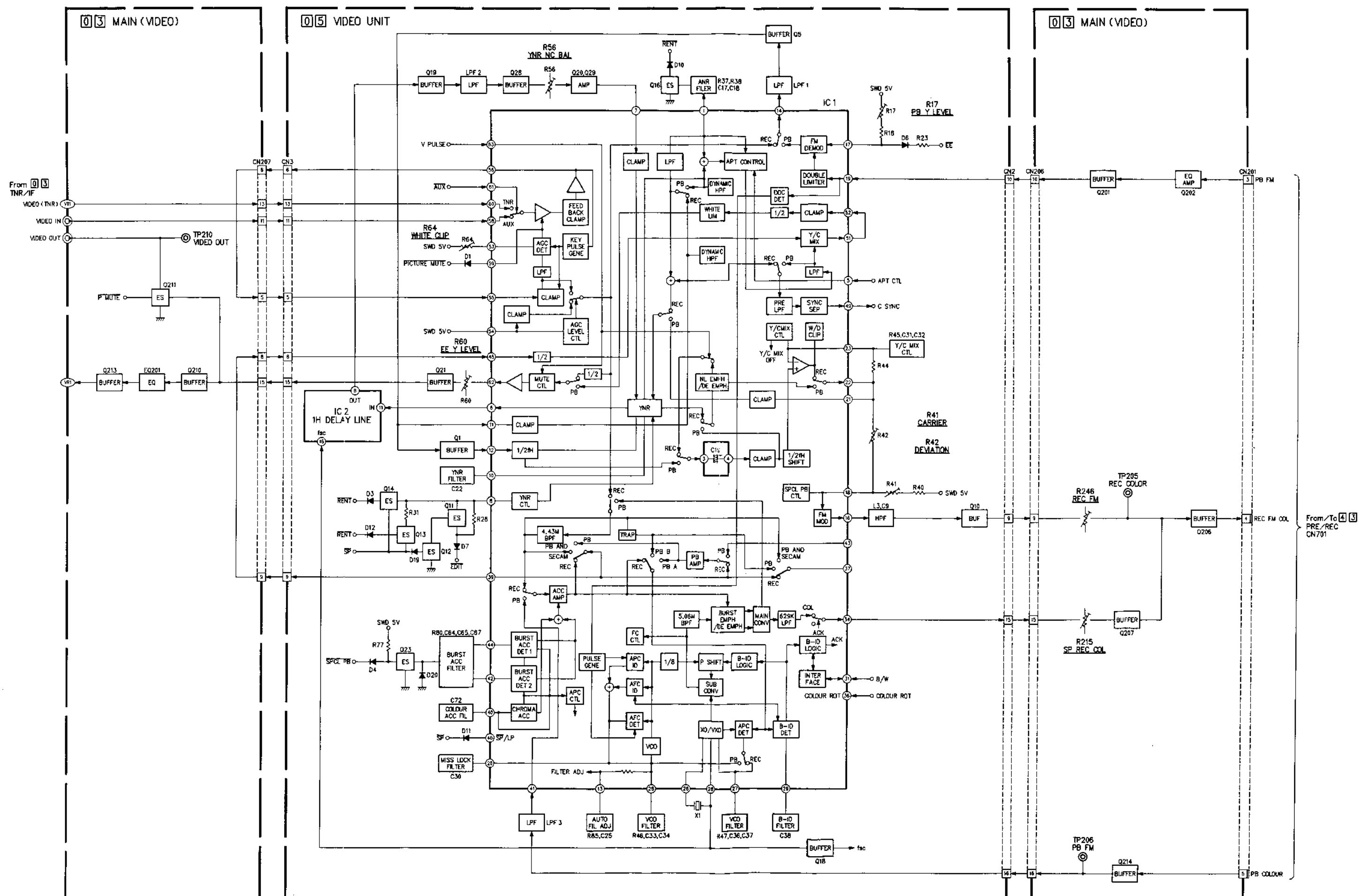
The differences between /95 & /75 are shown on pages with extension B, e.g. 3-5B.

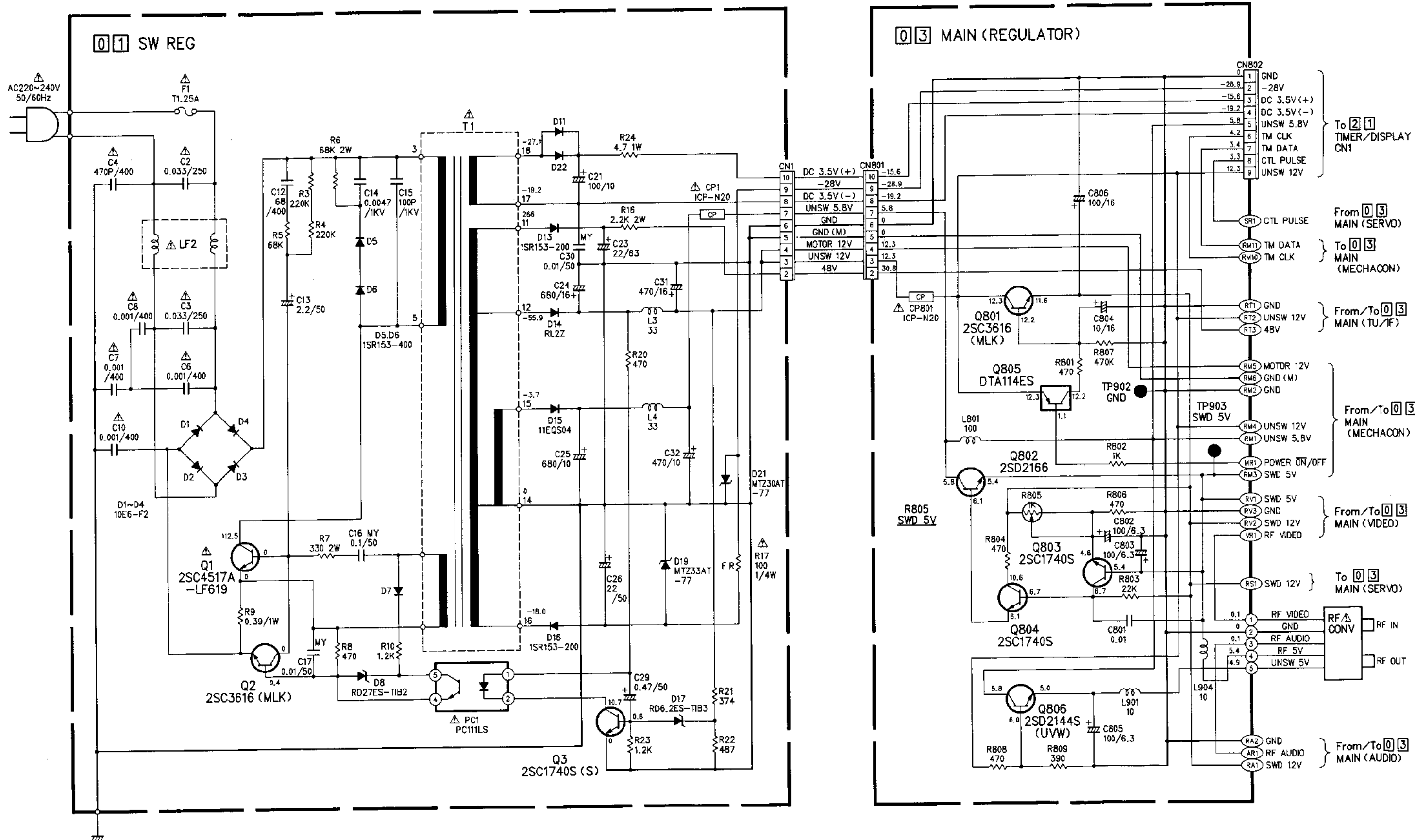
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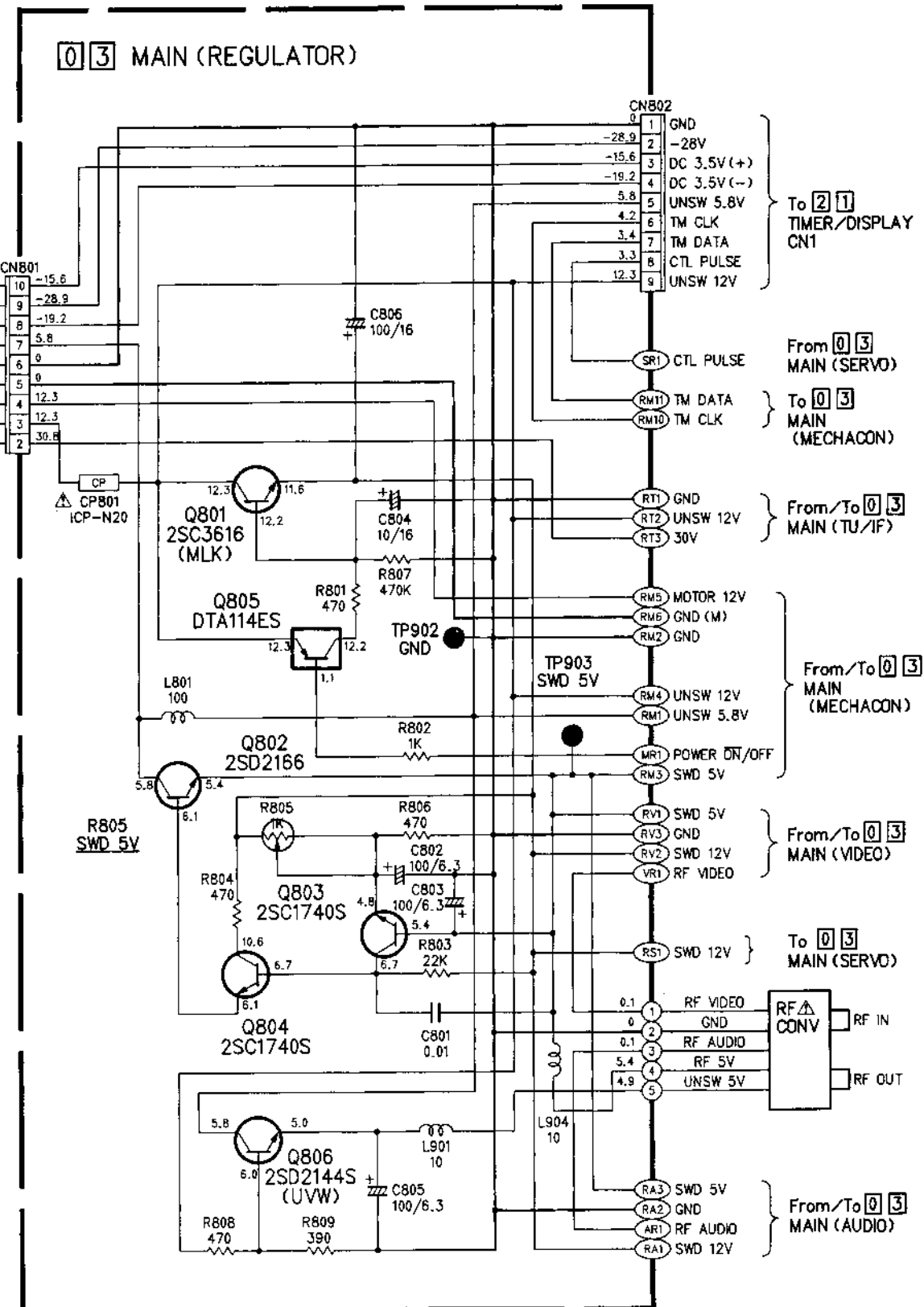
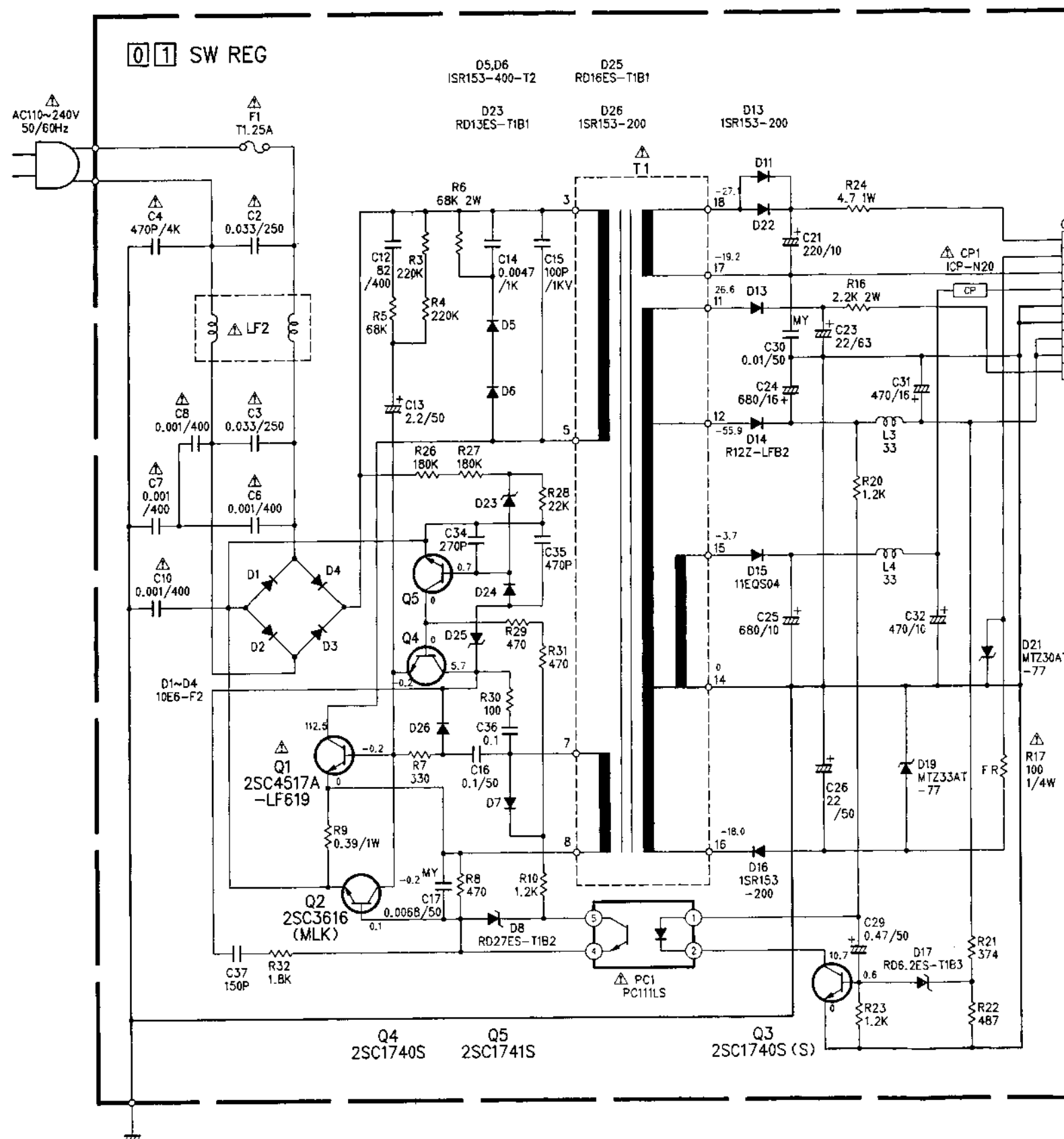


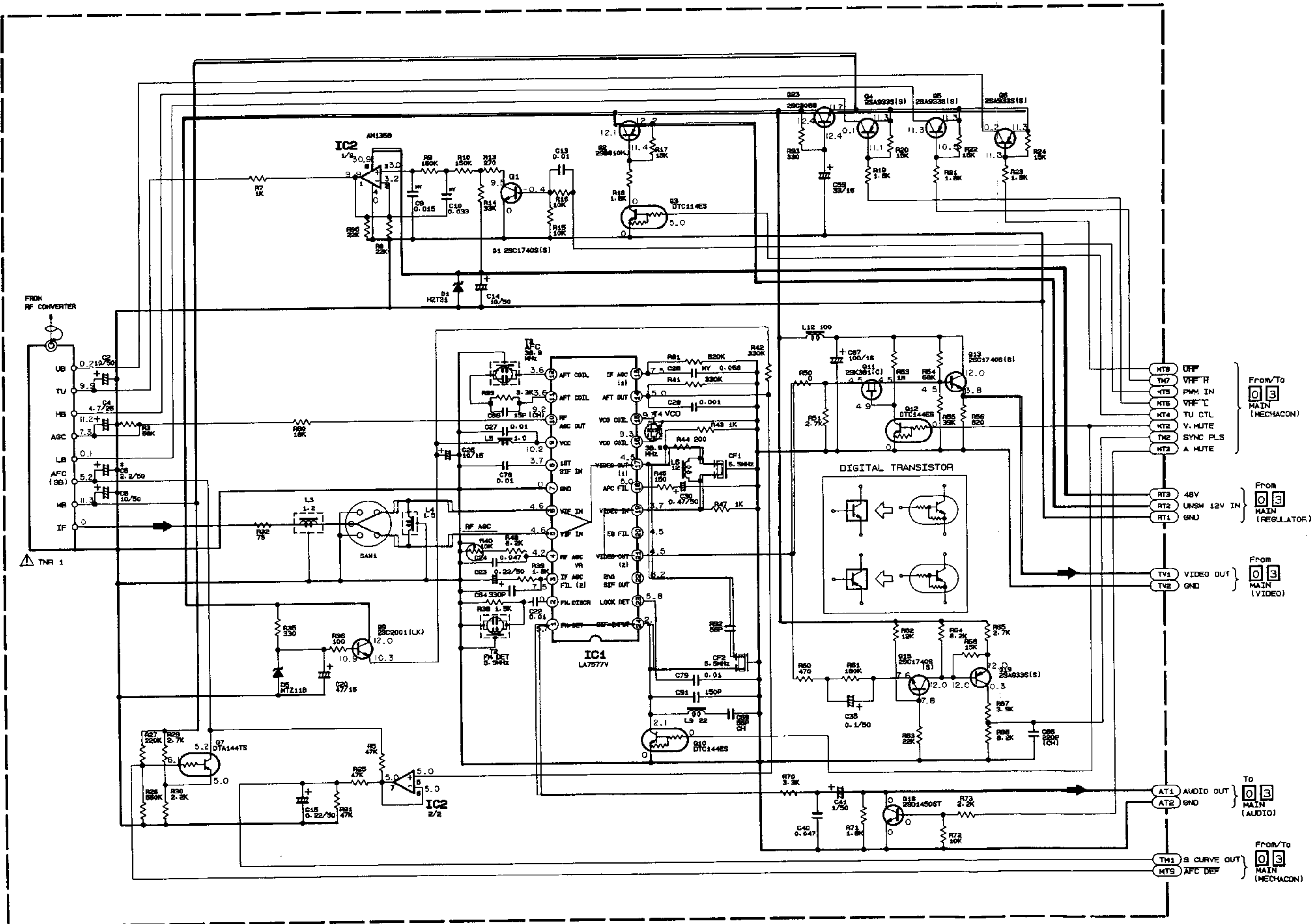


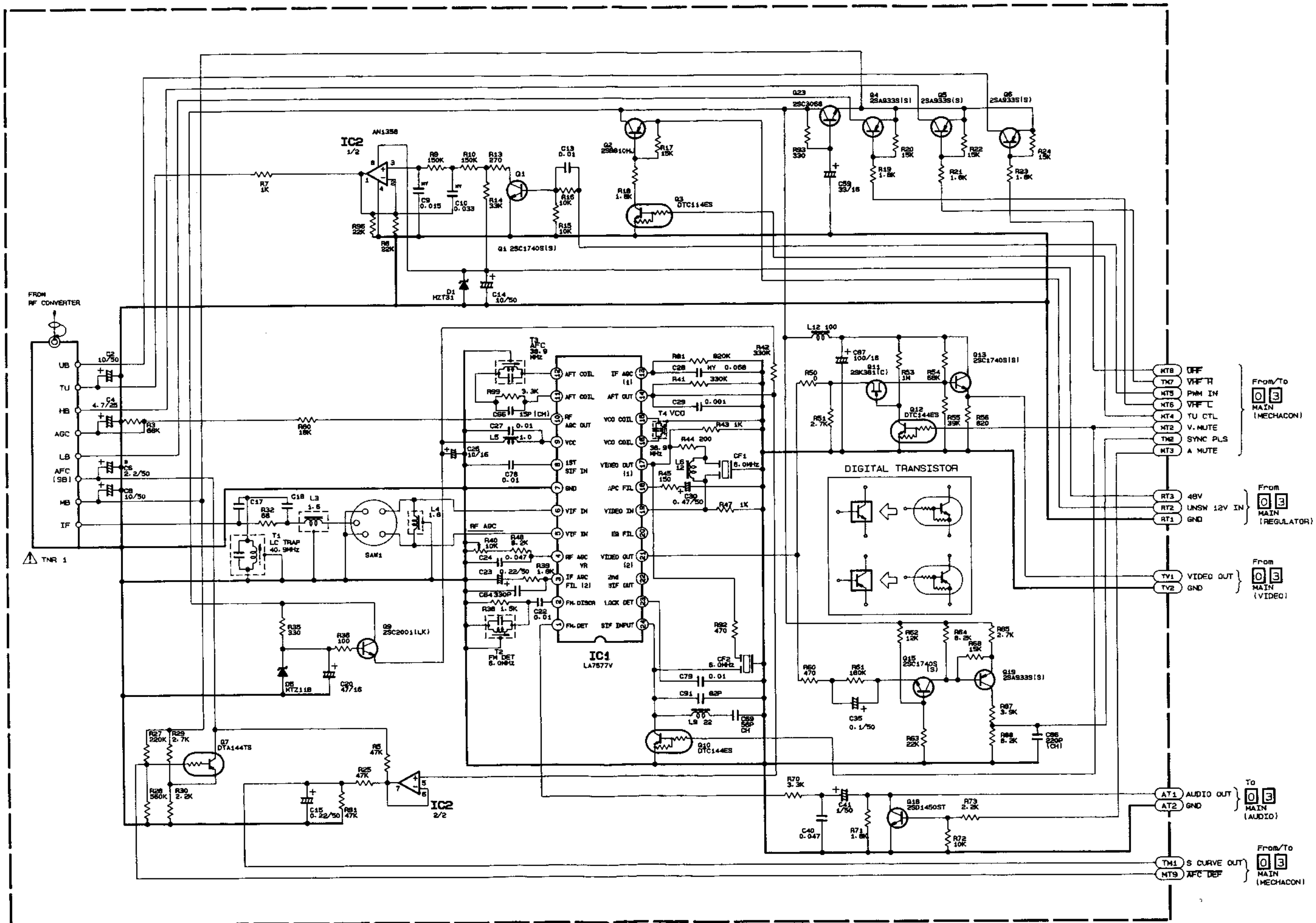


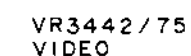


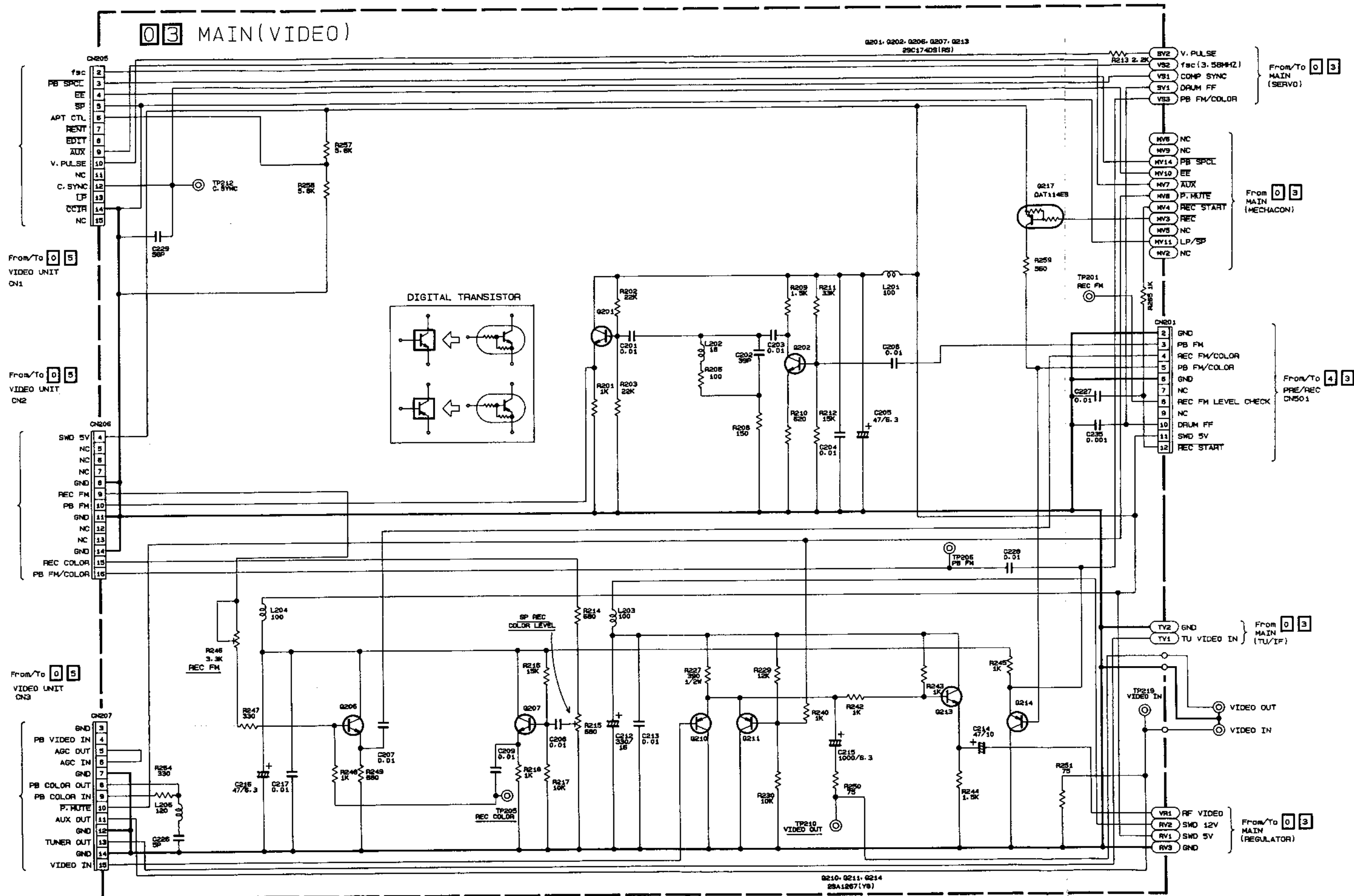




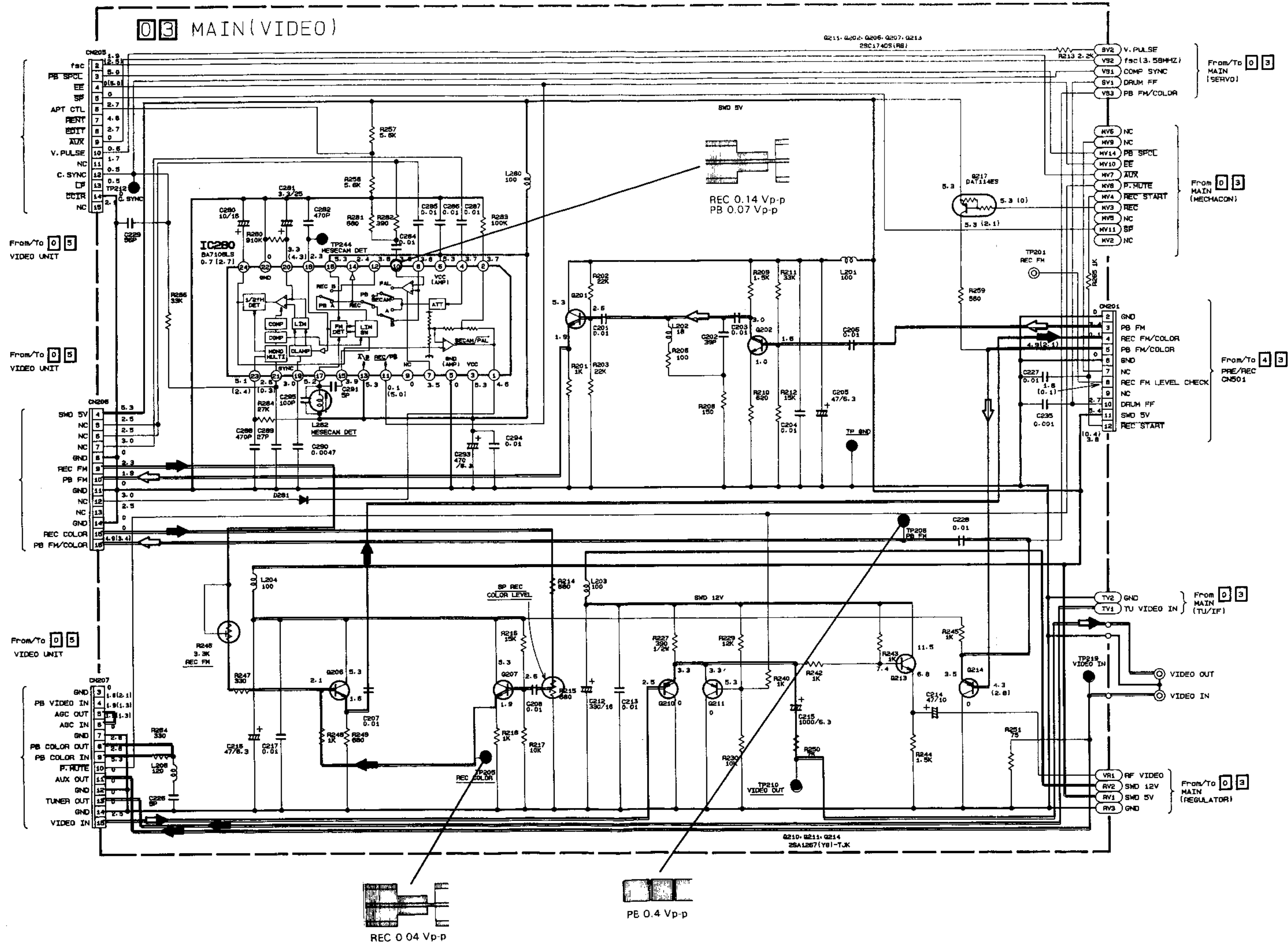


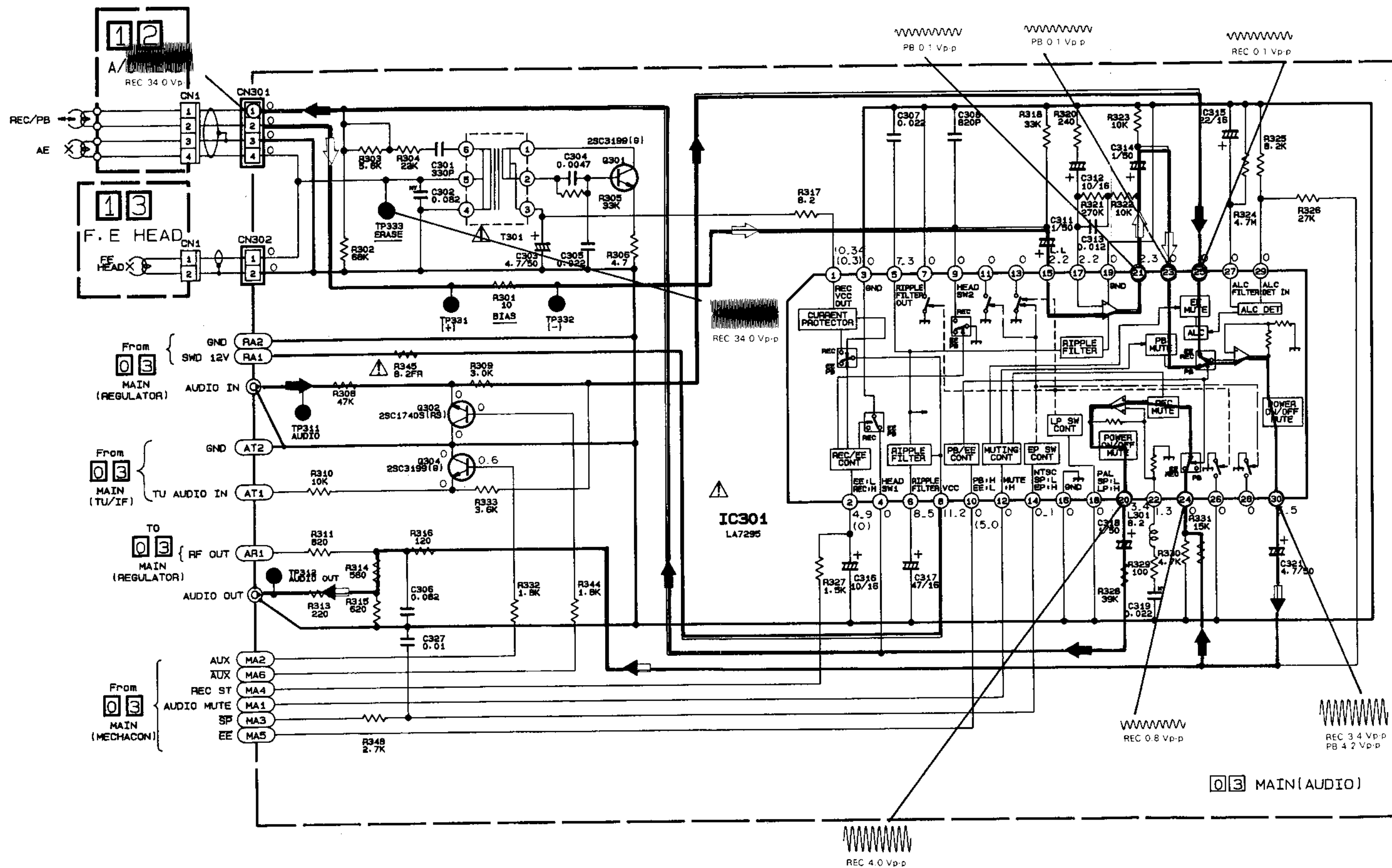




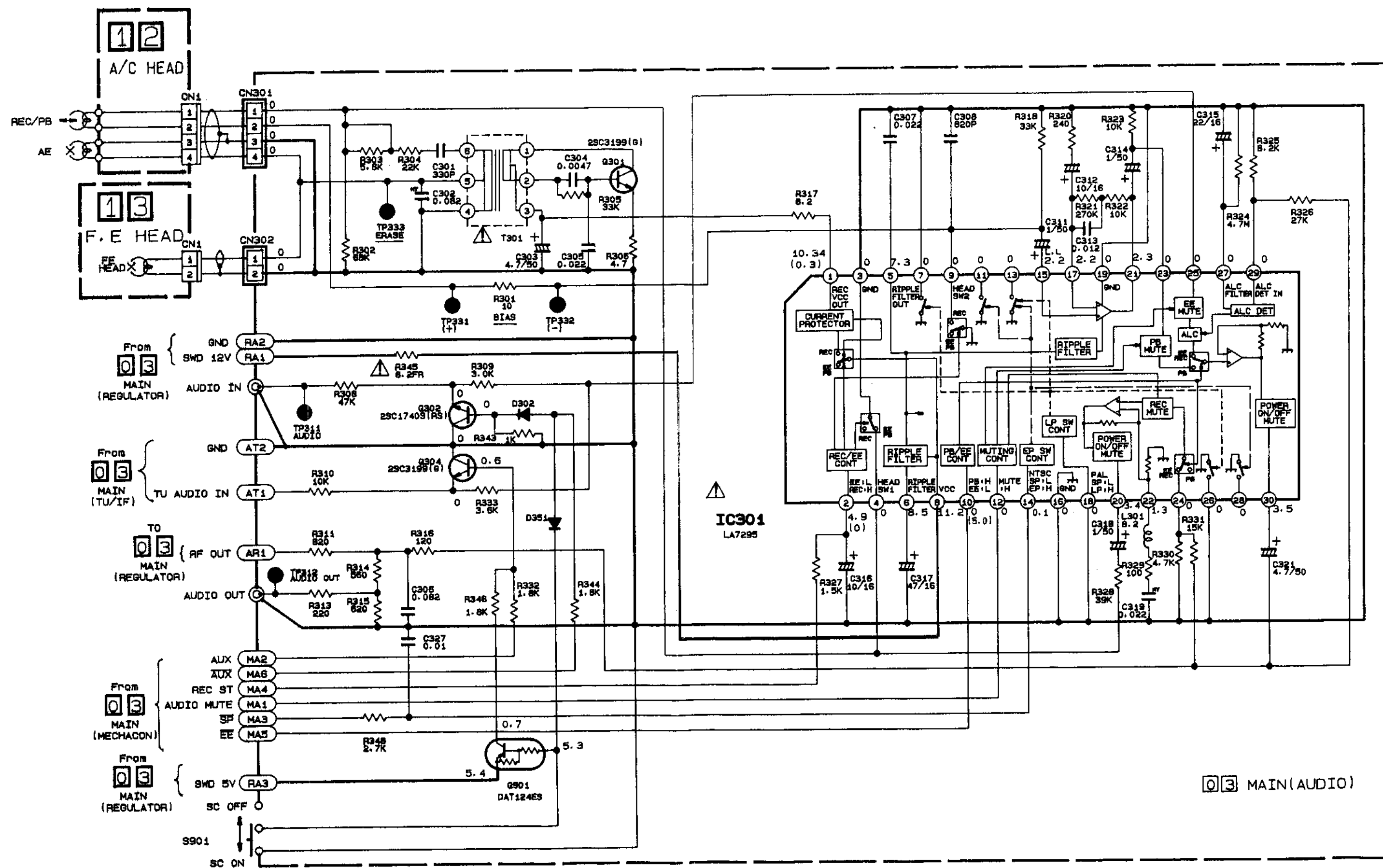


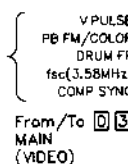
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03 MAIN(VIDEO)
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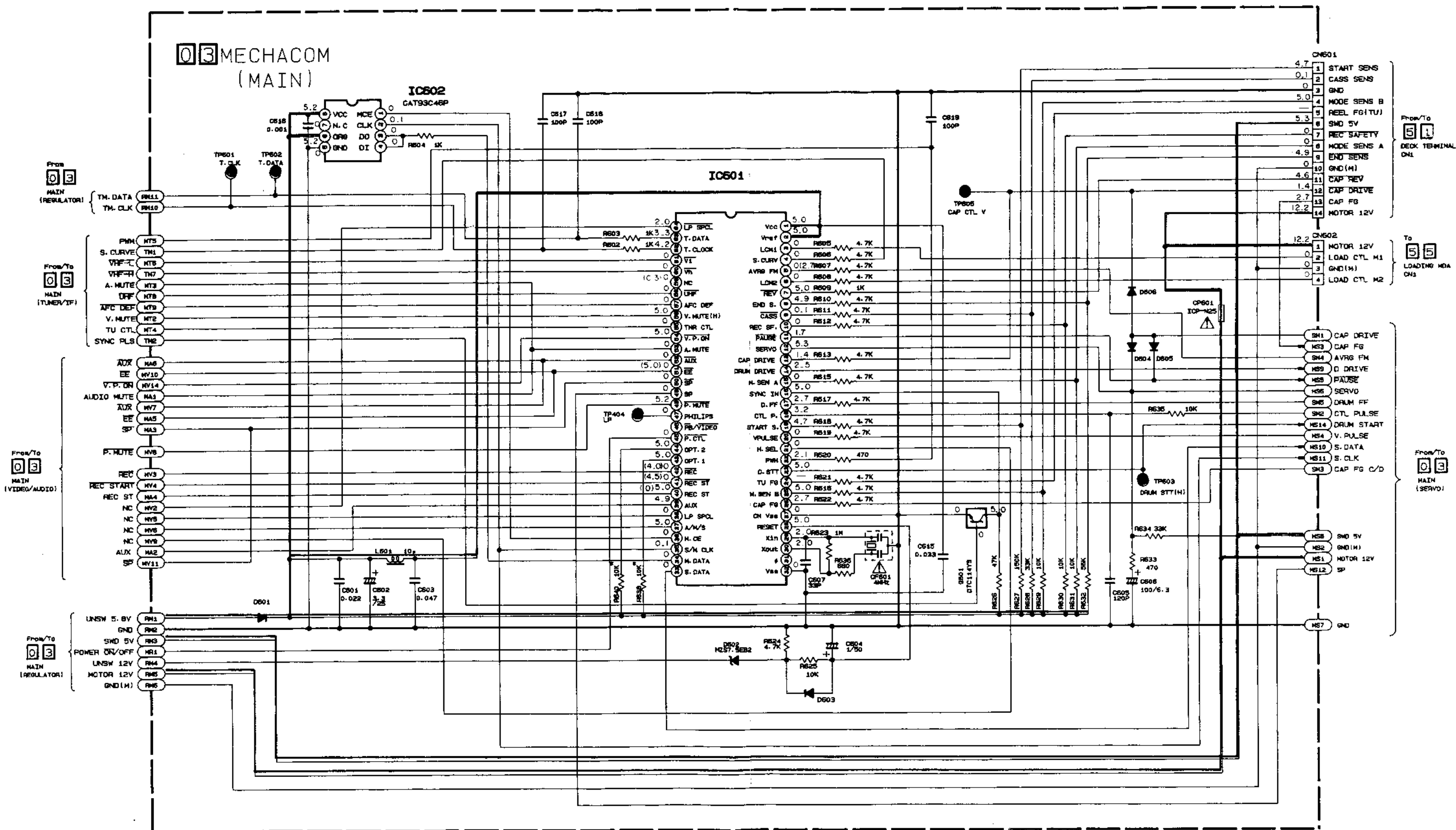


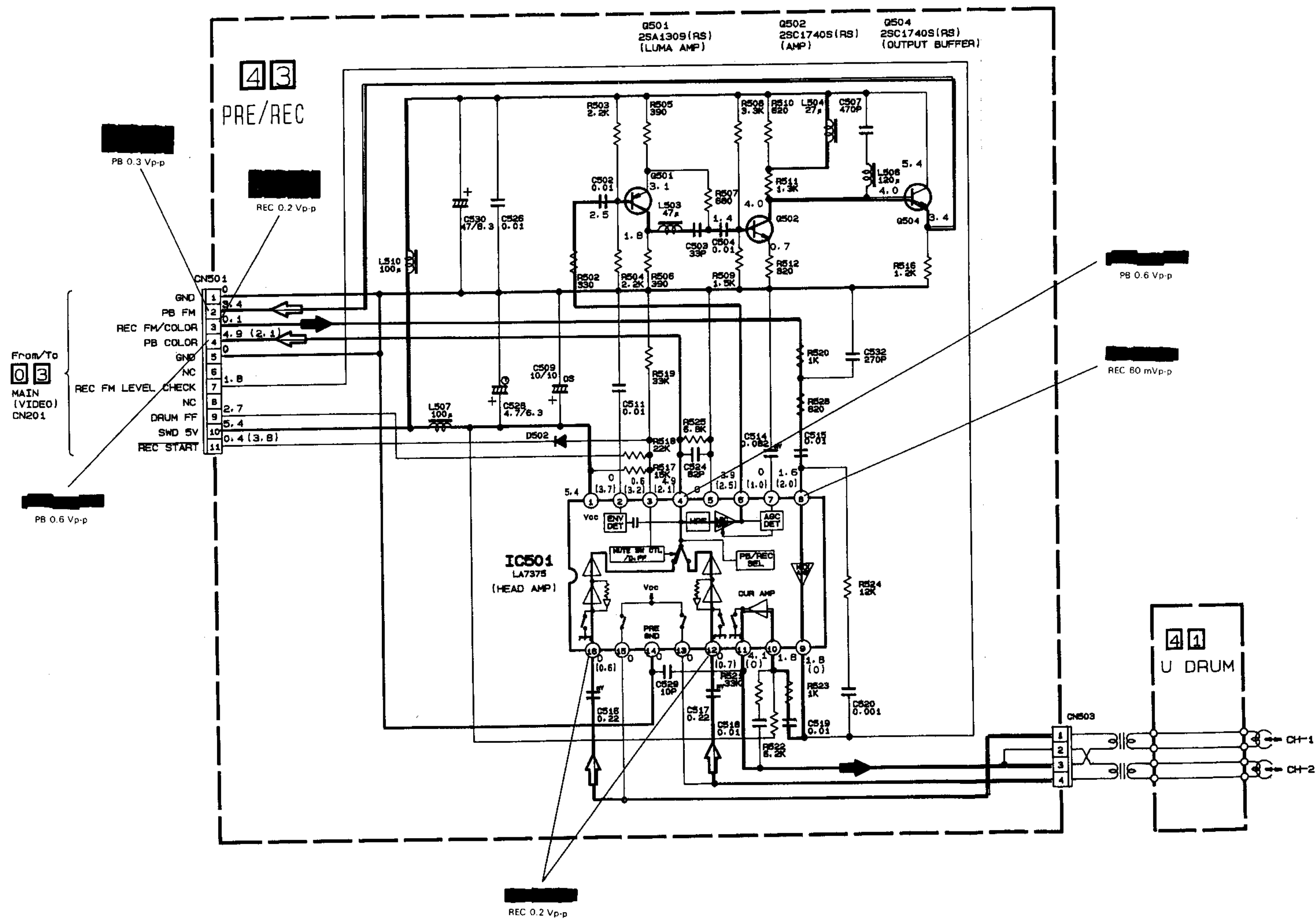


VR3442/75
AUDIO

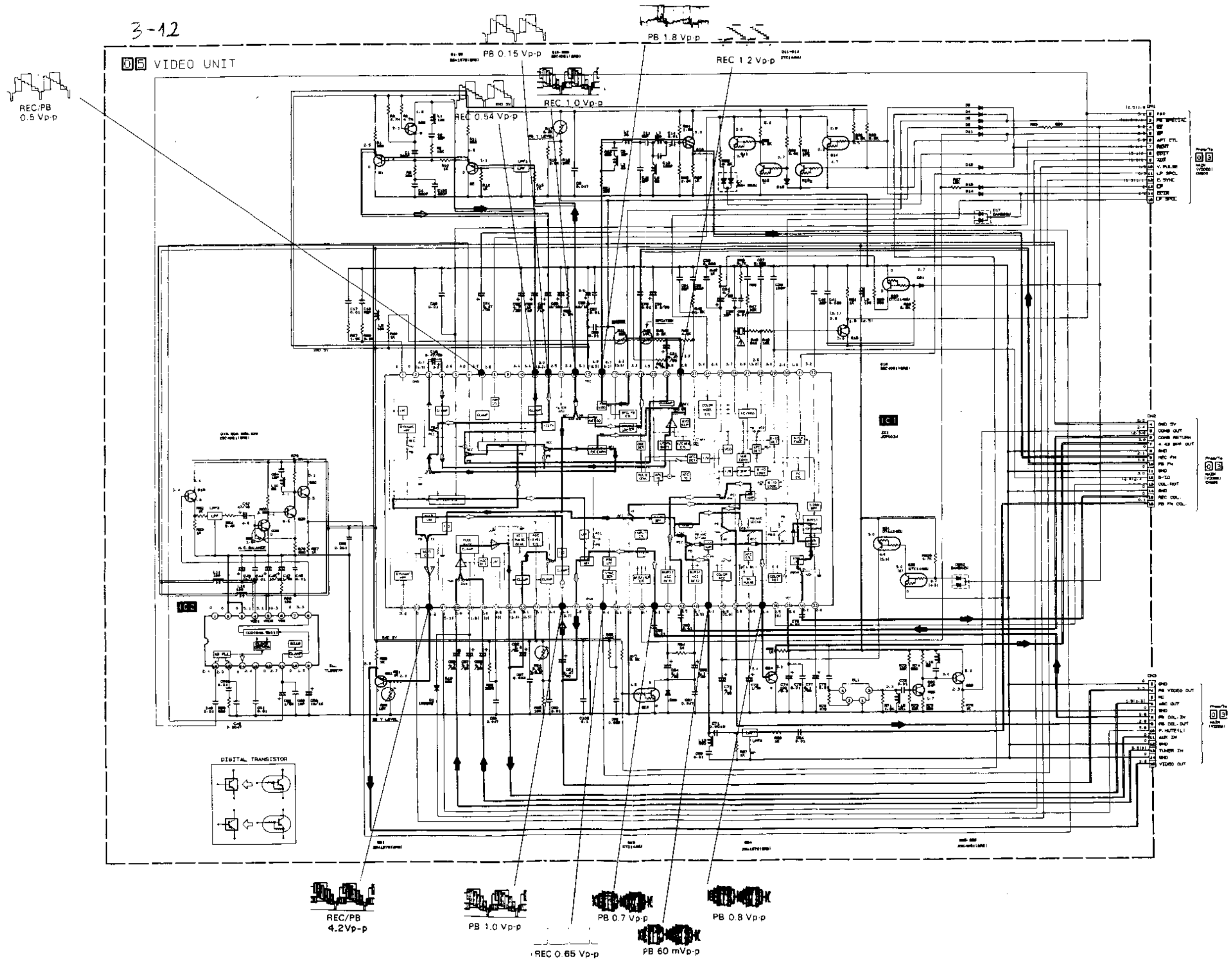




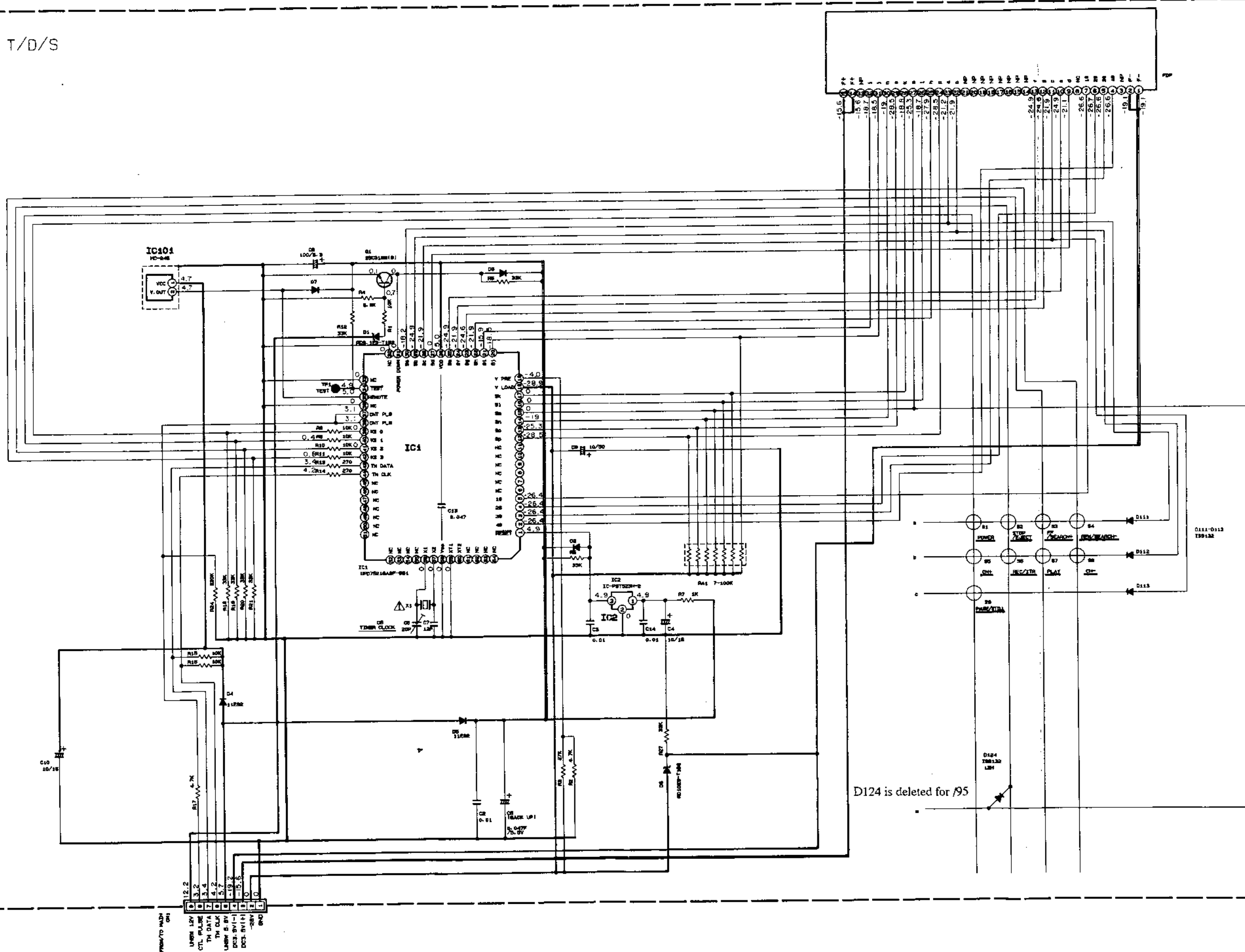


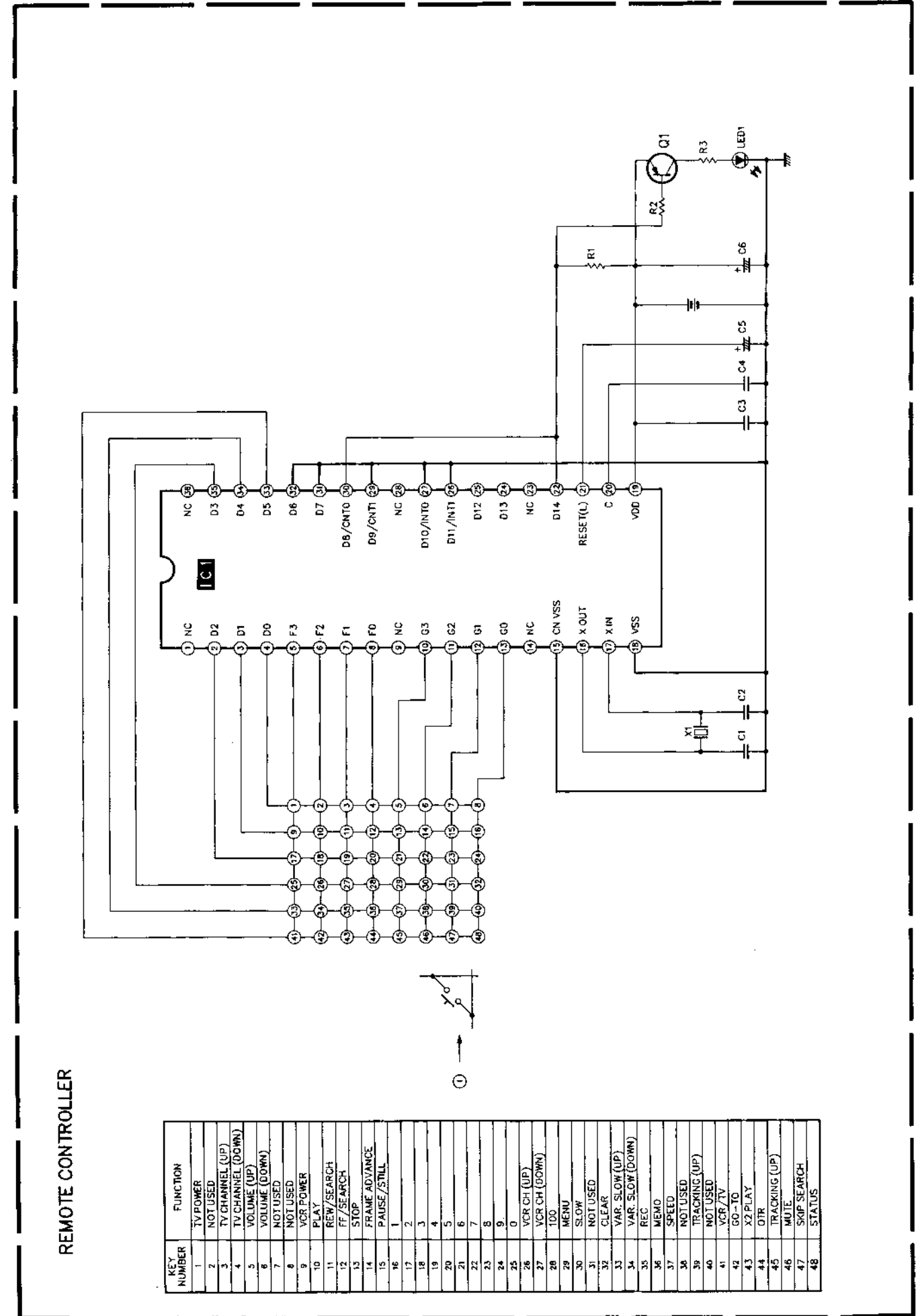
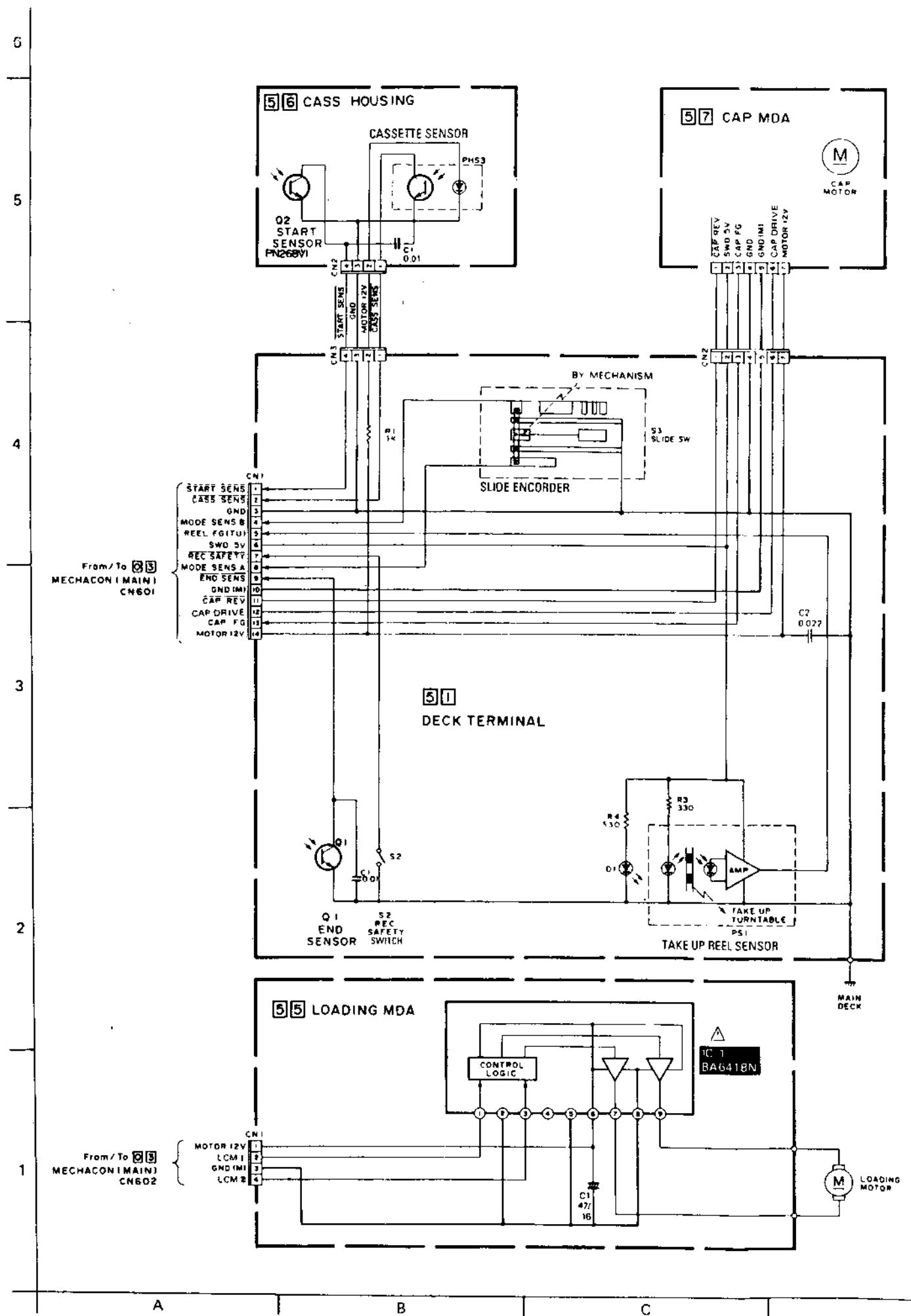


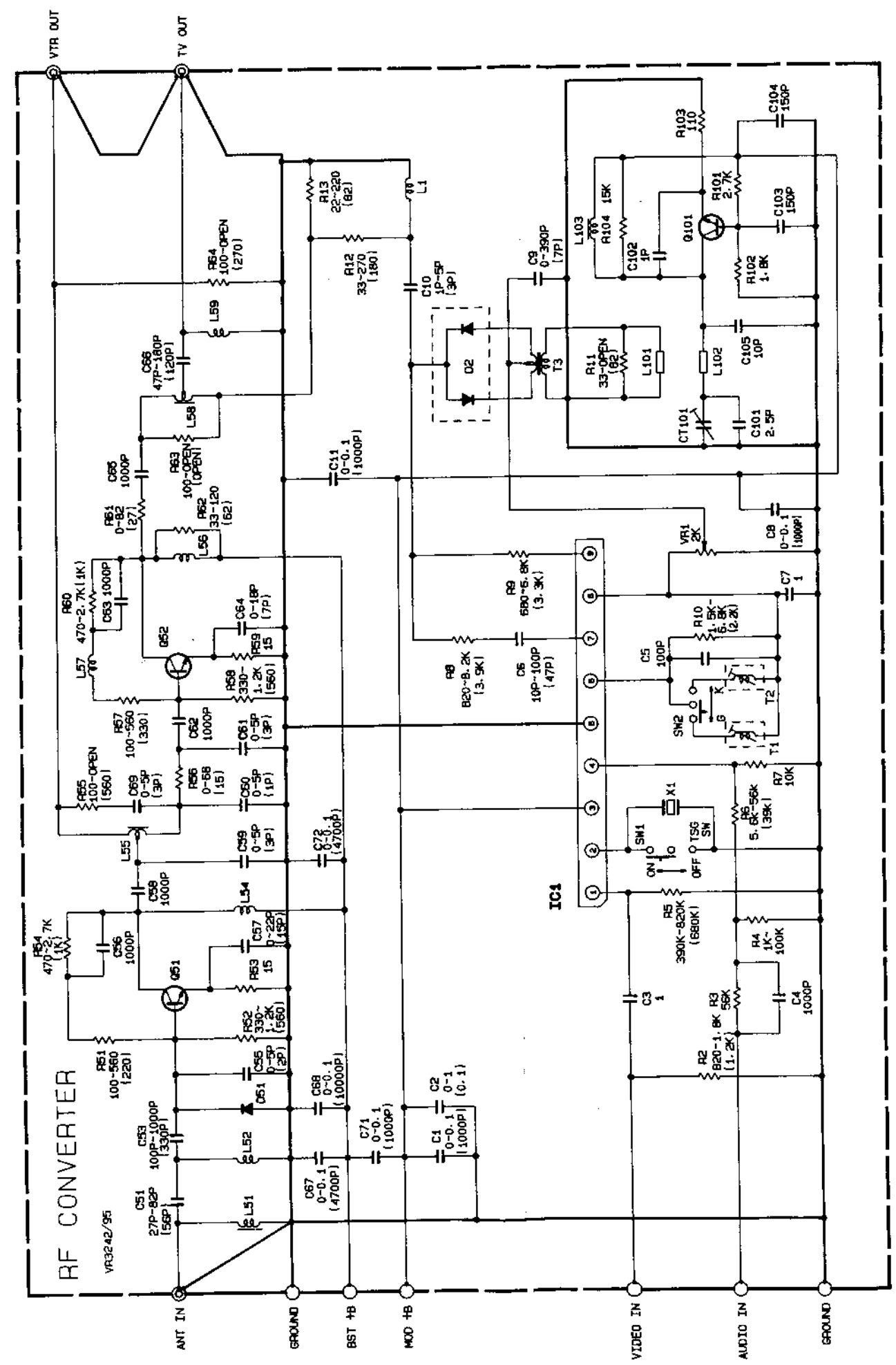
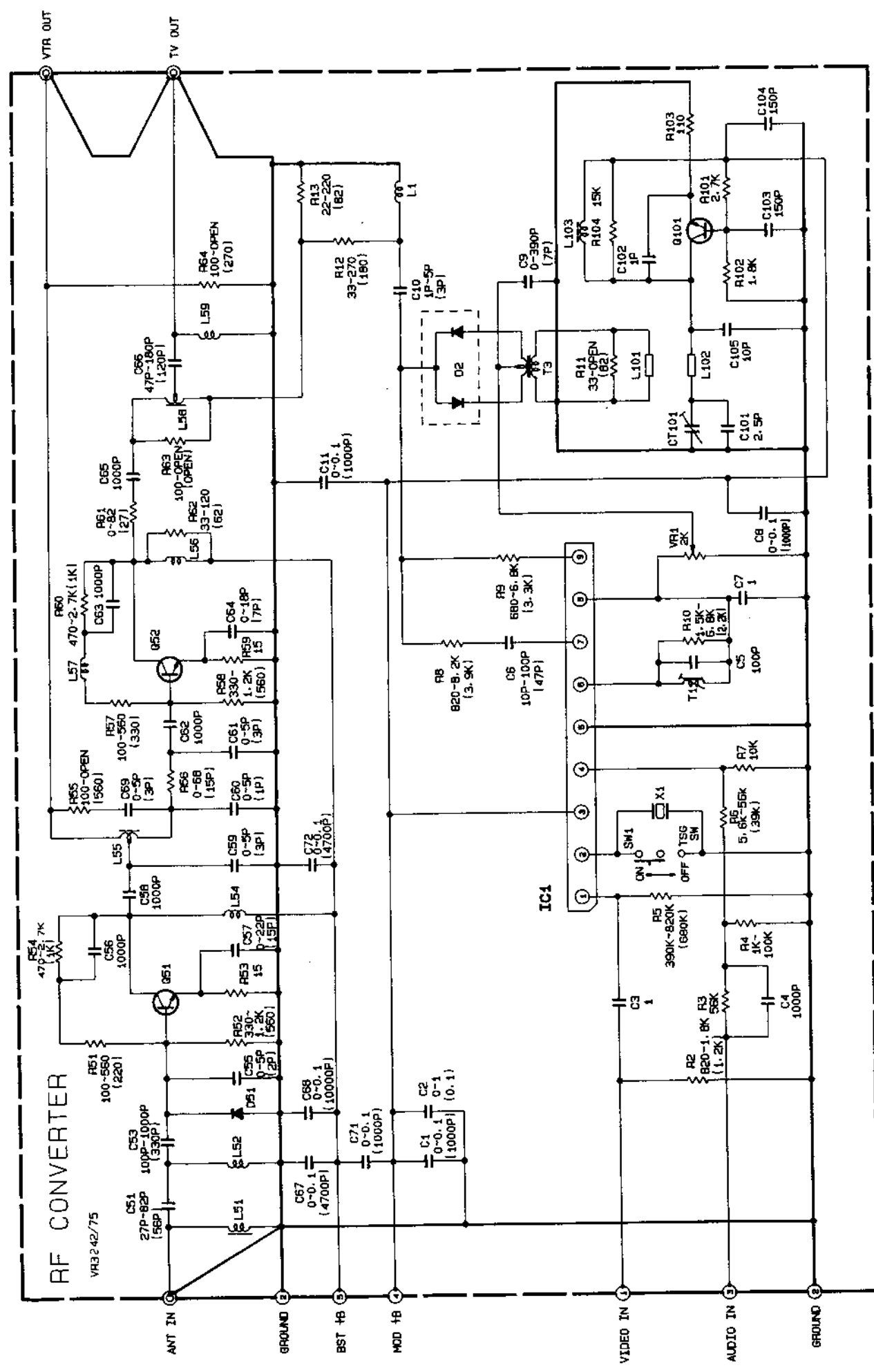
3-12

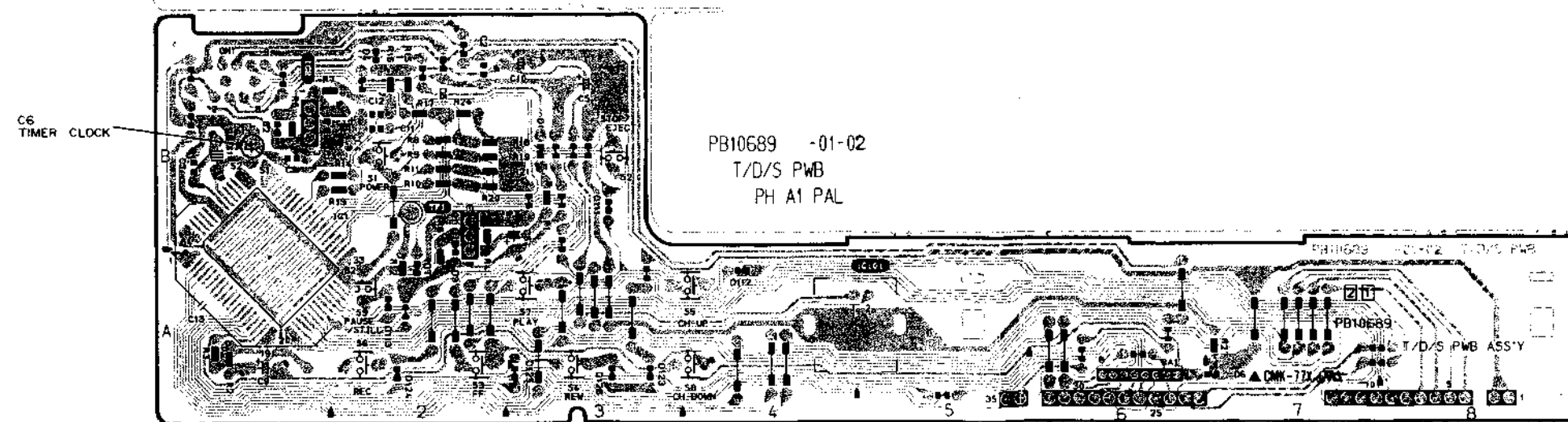
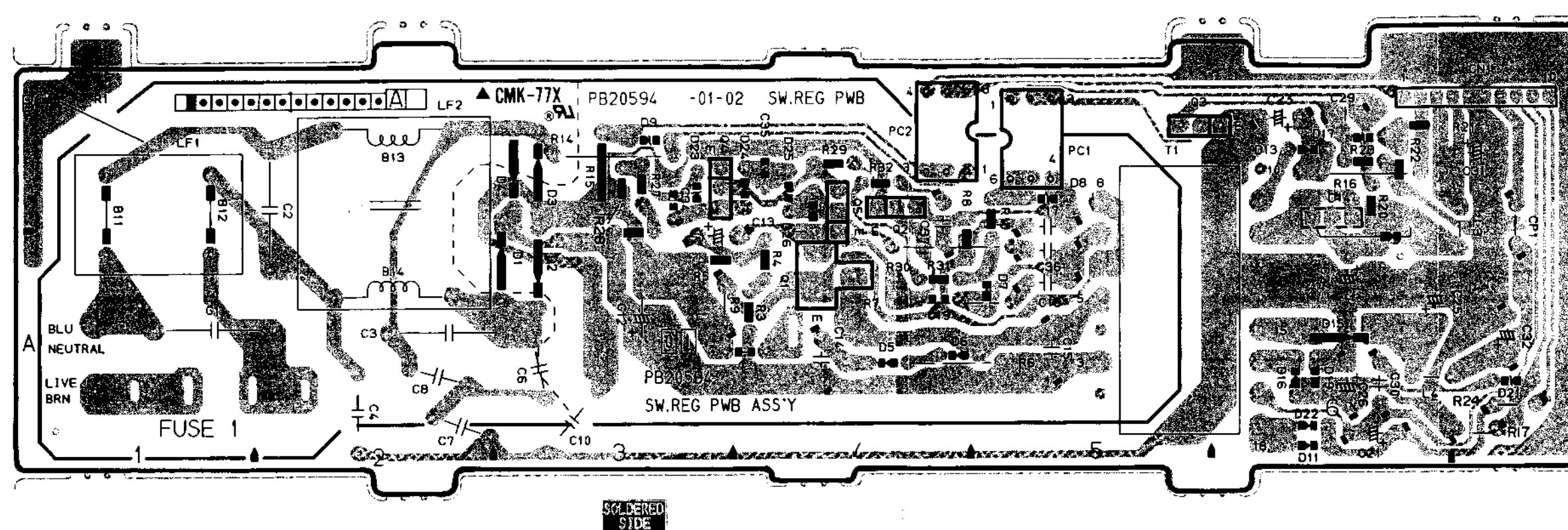


21 T/D/S

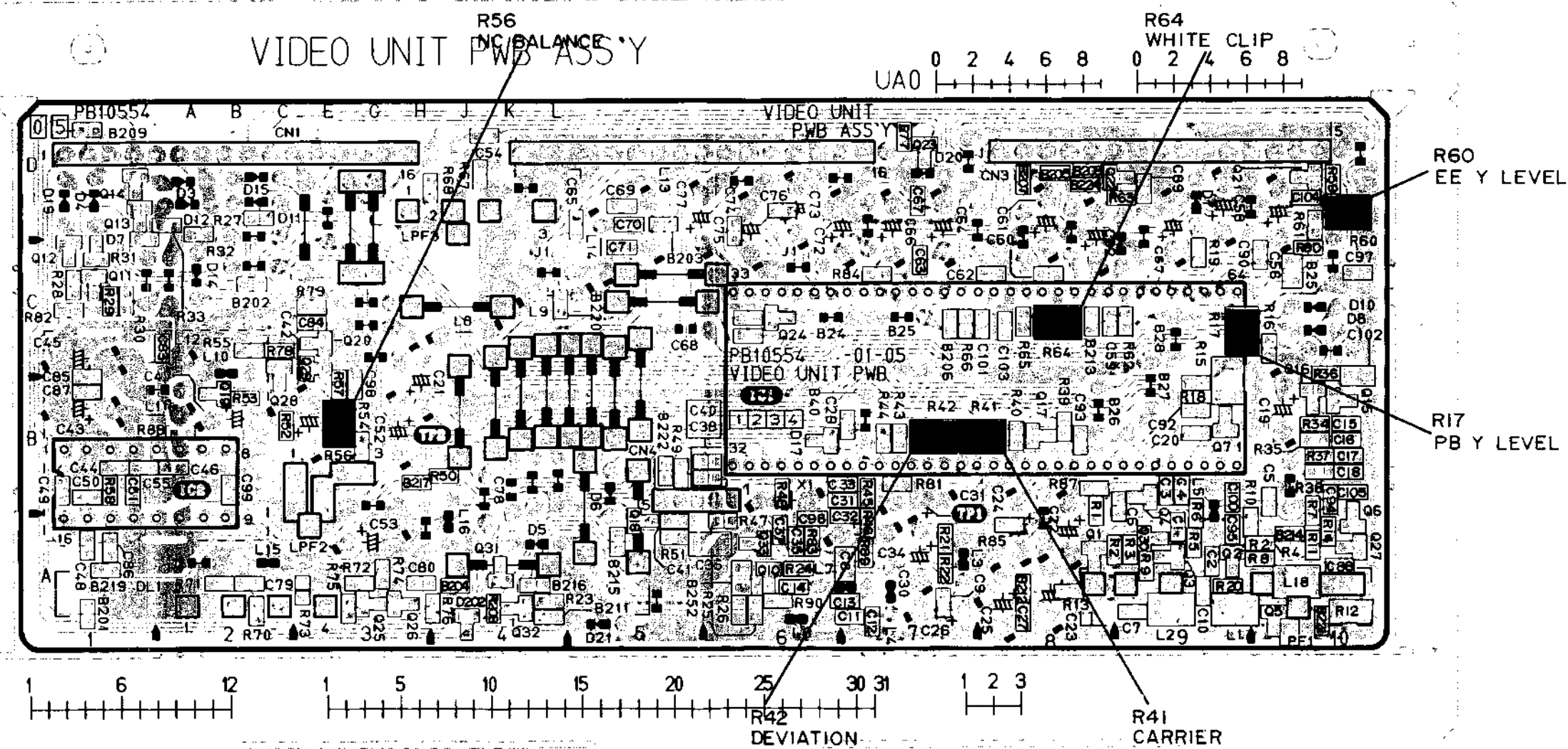




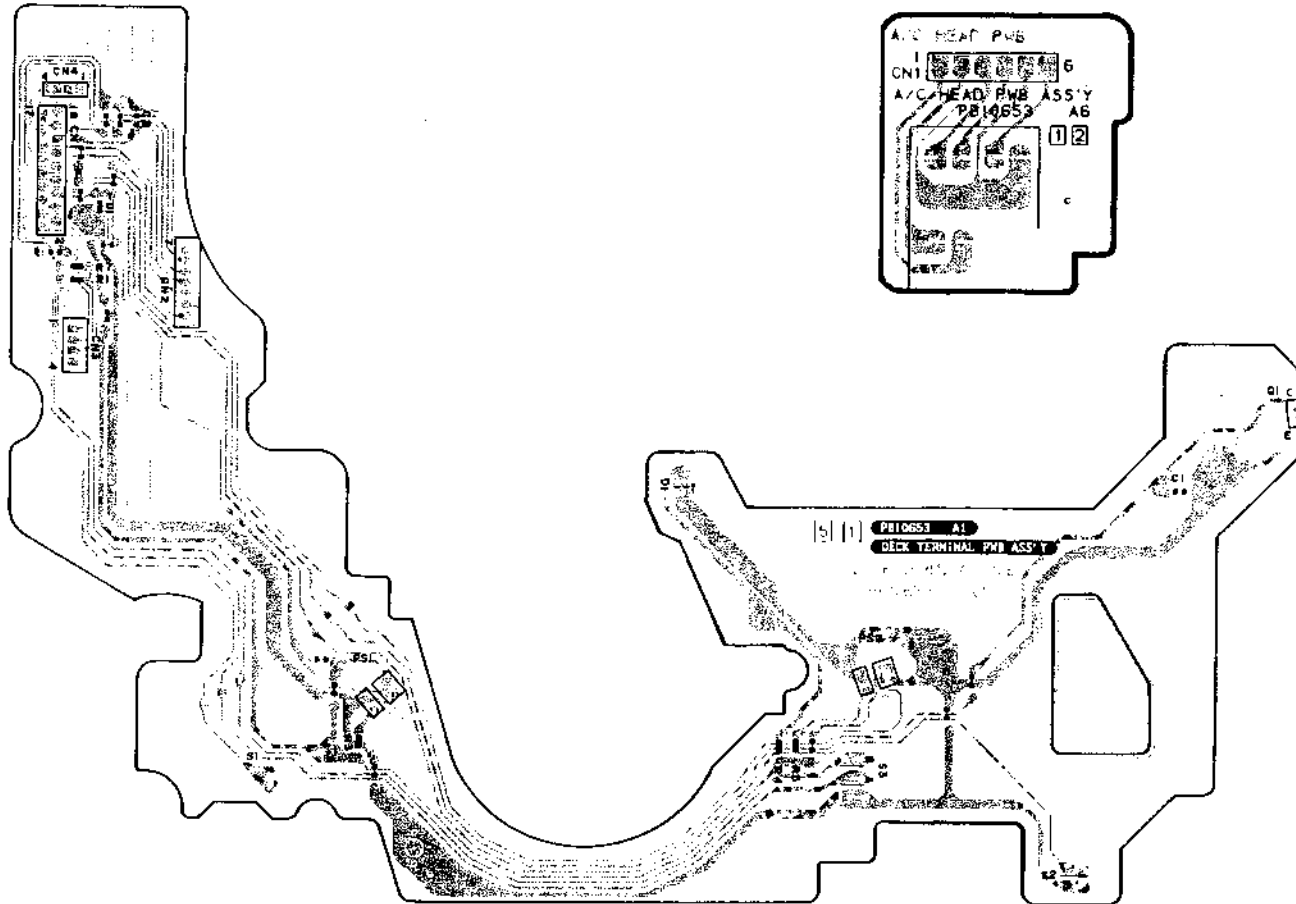




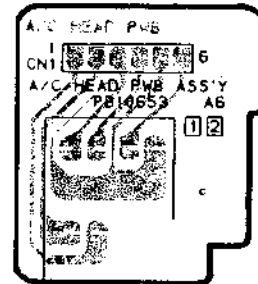
PR10070 01 02
MAIN PWB
VO5A1/C1 PAI
RCA JACK



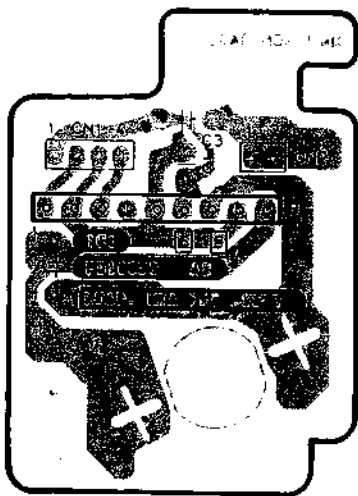
— DECK TERMINAL —



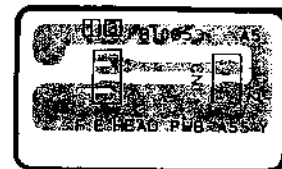
— A/CTL HEAD —



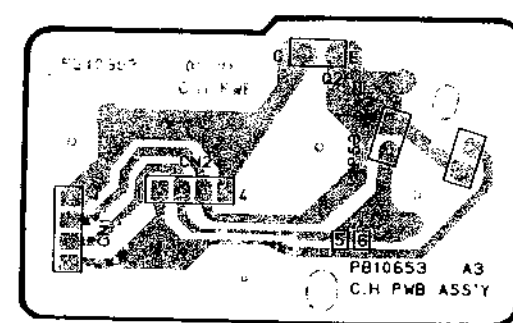
— LOADING MDA —



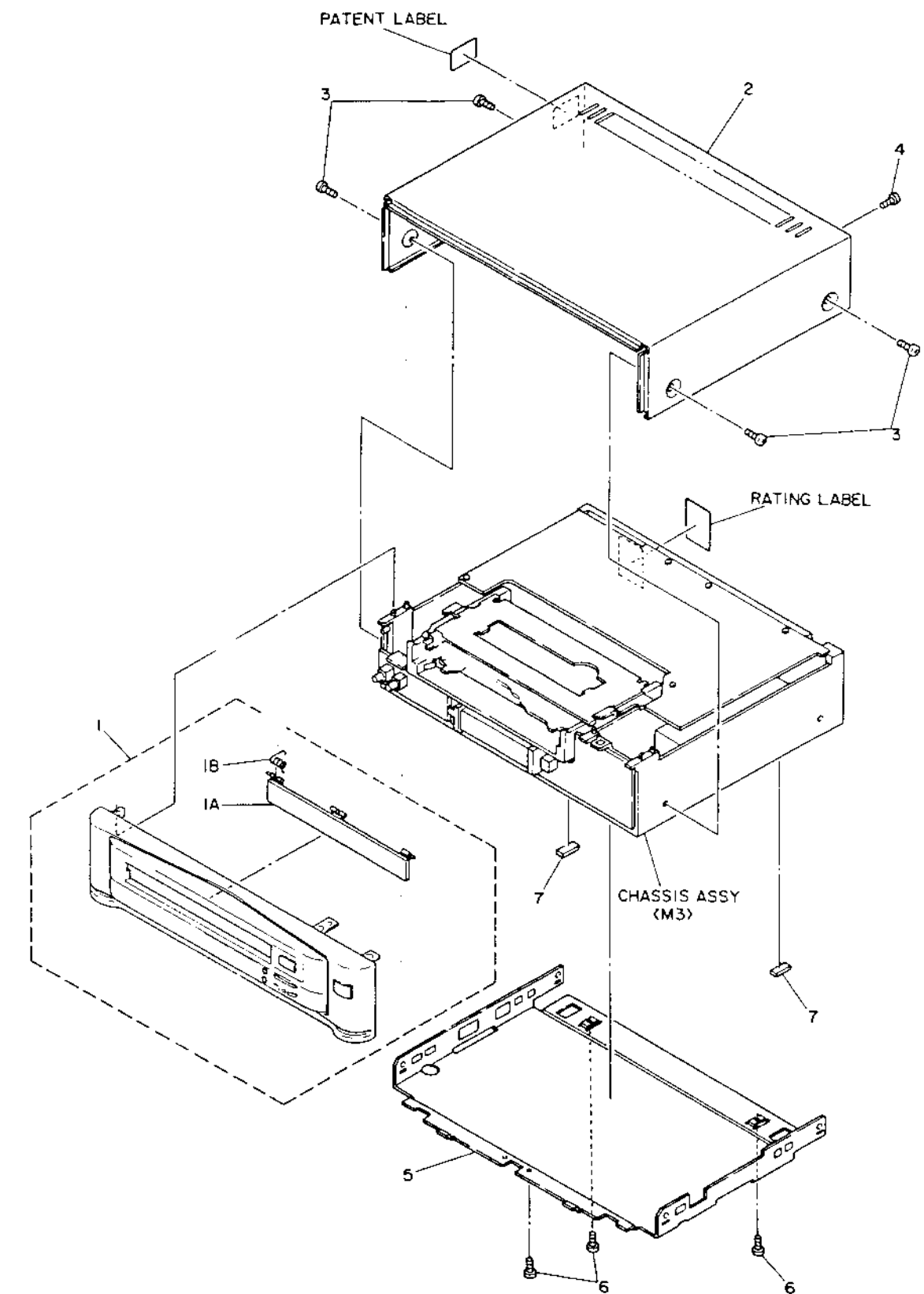
— FULL ERASE HEAD —



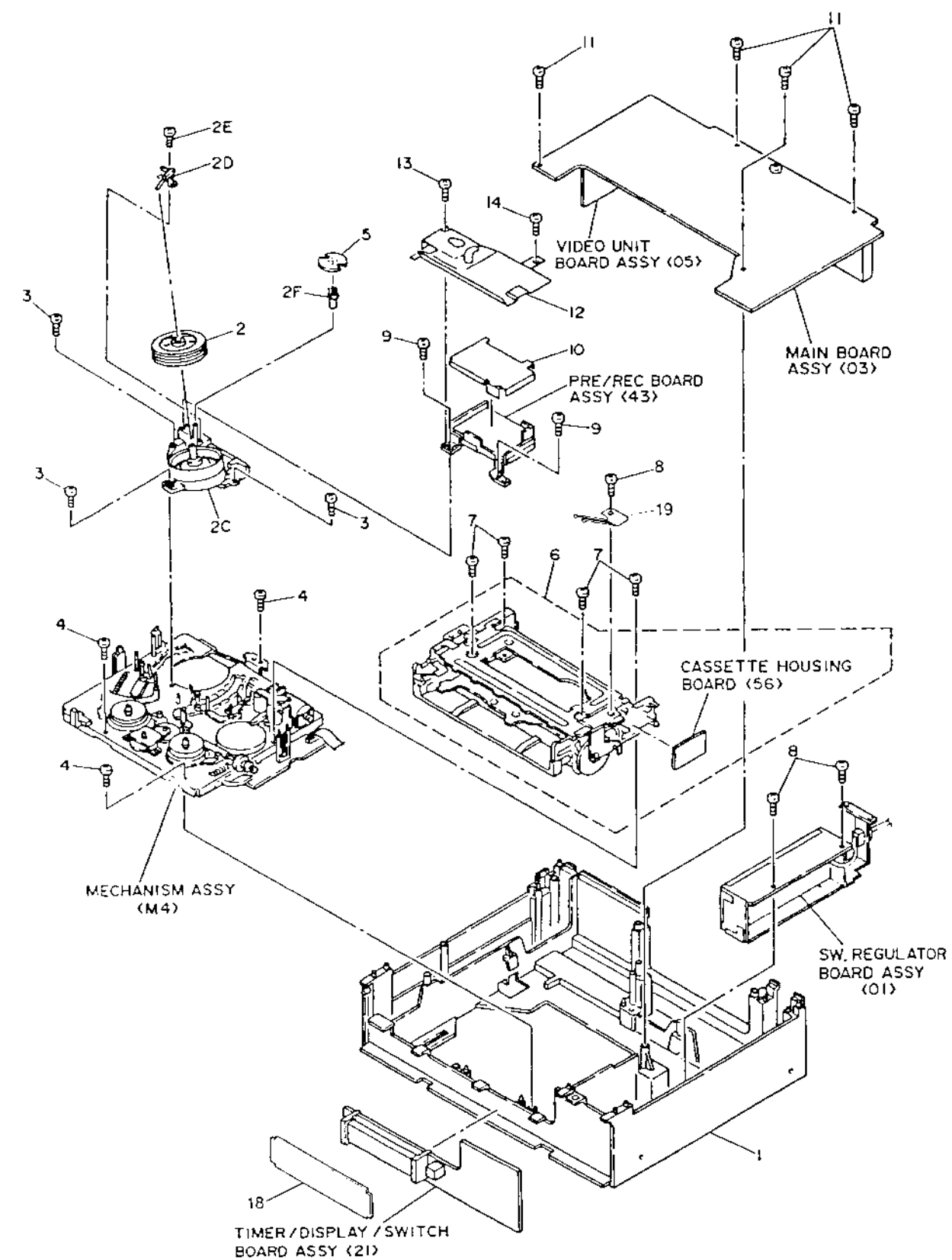
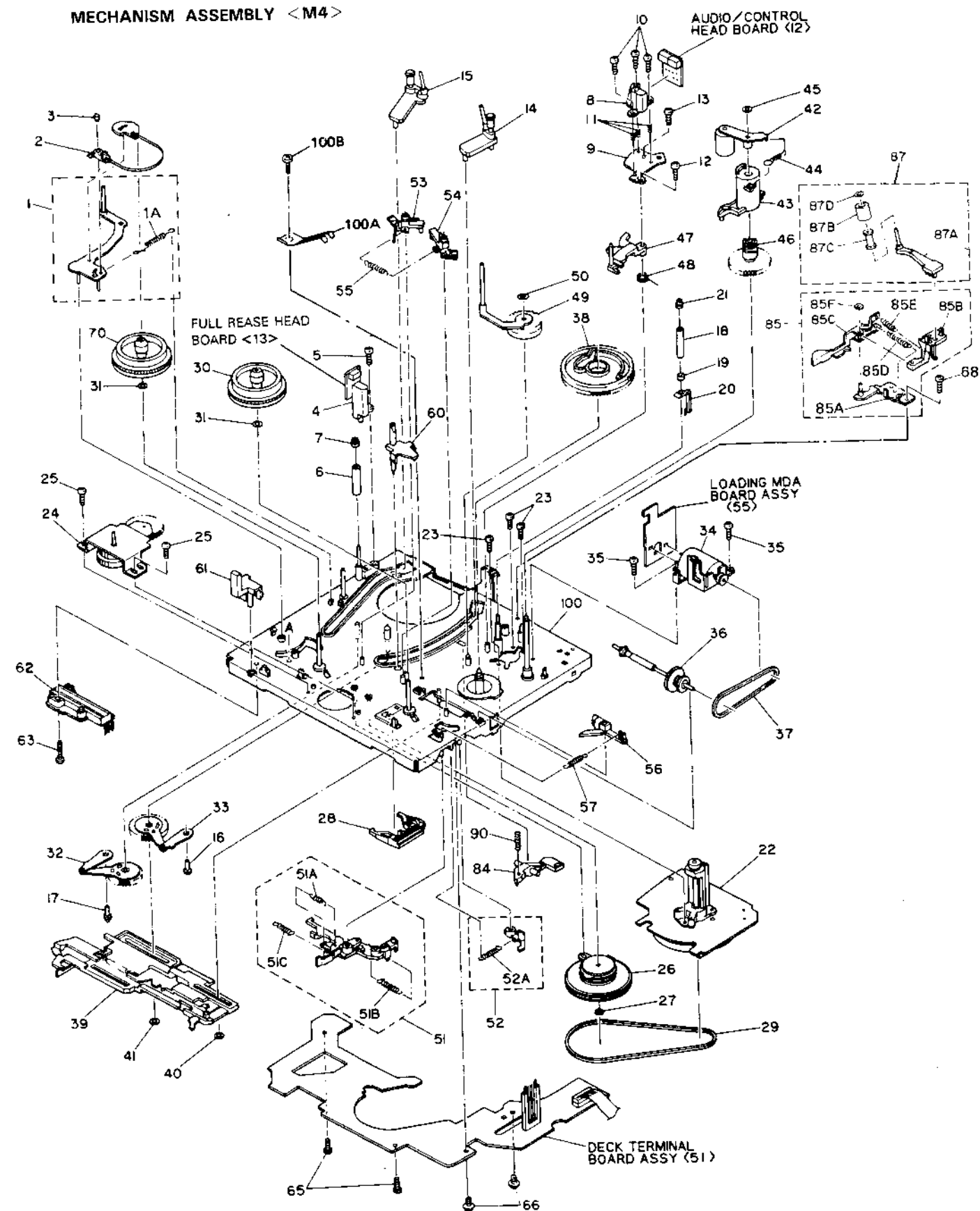
— CASSETTE HOUSING —



4. CABINET ASSEMBLY < M2 >



MECHANISM ASSEMBLY <M4>



PARTSLIST FOR VR3442/95

NOTE : \$ denotes safety component

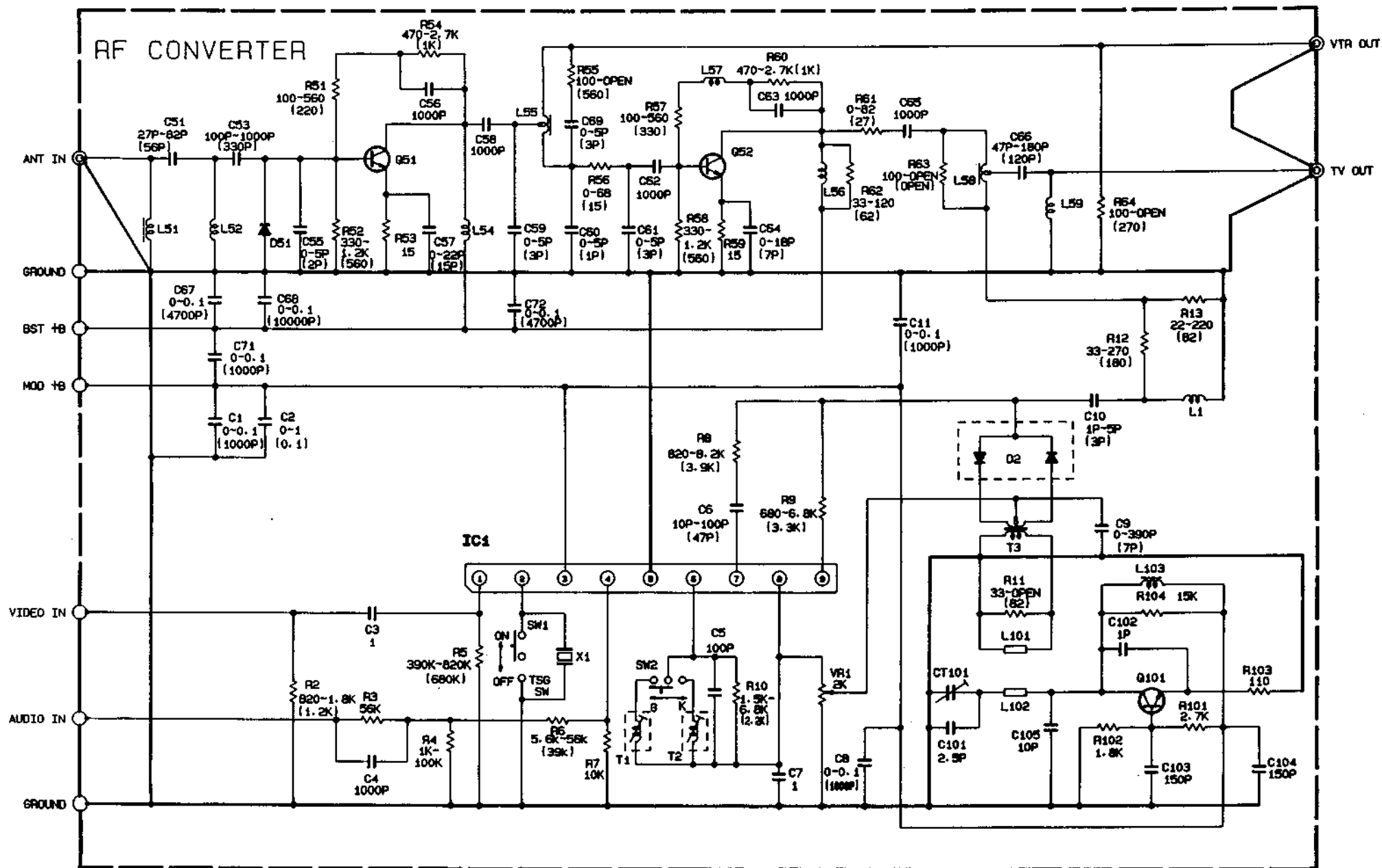
MISCELLANEOUS

6	4822 321 23308	RF CABLE
9	4822 736 53245	INST BOOK1
9A	4822 736 53246	INST BOOK2
10	4822 218 30658	REMOTE CONTROLLER

MECHANICAL PARTS

W1	4822 443 41216	FRONT PANEL ASSY
1A	4822 443 63744	CASS HOUSING DOOR
1B	4822 492 42629	TORSION SPRING
2	4822 443 63722	TOP COVER
3	4822 502 13813	SPECIAL SCREW, X4
4	4822 502 13815	SPECIAL SCREW
5	4822 443 63721	BOTTOM COVER
6	4822 502 13817	SCREW, X3, BOTTOM
7	4822 466 40627	FOOT, X2
1	4822 443 63743	BOTTOM CHASSIS
1	4822 464 50957	BOTTOM CHASSIS
2A	4822 691 20802	UPPER DRUM ASSEMBLY
2B	4822 502 13283	DRUM SCREW ASSY, X2
2C	4822 691 20803	LOWER DRUM ASSEMBLY
2D	4822 479 30152	BRUSH ASSEMBLY
2E	4822 502 13821	SCREW
2F	4822 528 90822	ROLLER ASSEMBLY
3	4822 503 21013	SCREW, X3, FOR DRUM
4	4822 502 13814	SPECIAL SCREW, X3
5	4822 528 90827	INERTIA PLATE
6	4822 691 20784	CASS HOUSING ASSY
7	4822 502 13818	SCREW, X4, FOR CASS
18	4822 502 30466	SCREW
8	4822 502 13817	SCREW, X2, REG ASSY
20	4822 502 13817	SCREW, CASS HOUSING
9	4822 503 21007	SCREW, X2, PRE/REC
10	4822 466 82953	SHIELD COVER UPPER
11	4822 502 13817	SCREW, X4, MAIN ASSY
12	4822 466 82954	SHIELD PLATE, DRUM
13	4822 502 13827	SCREW, SHIELD PLATE
14	4822 502 21243	SCREW, SHIELD PLATE
15	4822 466 82962	SHIELD PLATE
16	4822 401 11468	WIRE CLAMP
17	4822 403 70733	BRACKET
21	4822 443 63391	FILTER(FDP)
22	4822 492 71189	EARTH PLATE
1	4822 403 70714	TENSION ARM ASSY
1A	4822 492 33295	TENSION SPRING
2	4822 401 11421	TENSION BAND ASSY
3	4822 535 93247	ADJUST PIN
4	4822 249 40281	FULL ERASE HEAD
5	4822 502 13816	SCREW, FOR F.E. HEAR
6	4822 528 90823	ROLLER
7	4822 462 71778	GUIDE POLE CAP
8	4822 249 10473	AUDIO/CONTROL HEAD
9	4822 464 50858	HEAD BASE
10	4822 502 13812	SPECIAL SCREW, X3
11	4822 492 52267	COMPRESSION SPRING,
12	4822 502 30531	SCREW

13	4822 502 13277	SCREW
14	4822 403 70723	POLE BASE ASSY, TAKE
15	4822 403 70724	POLE BASE ASSY, SUPP
16	4822 462 71867	STOPPER(T)
17	4822 462 71866	STOPPER(S)
18	4822 528 90824	TAPE GUIDE
19	4822 528 90825	GUIDE FLANGE
20	4822 528 90826	TAPE GUARD
21	4822 462 71778	GUIDE POLE CAP
22	4822 361 60503	CAPSTAN MOTOR
23	4822 502 12949	SCREW, X3
24	4822 522 33112	IDLER GEAR UNIT
25	4822 502 30471	SCREW, X2
26	4822 528 30413	CLUTCH UNIT
27	4822 532 12105	SLIT WASHER
28	4822 403 70735	CHANGE LEVER ASSEMB
29	4822 358 31143	TIMING BELT
30	4822 528 81451	REEL DISK(TAKE-UP)
31	4822 532 52355	SPACER, X2
32	4822 403 70444	LOADING ARM ASSY, SU
33	4822 403 70445	LOADING ARM ASSY, TA
34	4822 361 21462	MODE MOTOR ASSY
35	4822 502 30471	SCREW, X2
36	4822 528 30409	WORM CLUTCH ASSY
37	4822 358 31142	LOADING BELT
38	4822 522 33108	CONTROL CAM
39	4822 403 70446	PLATE ASSY
40	4822 532 12103	SLIT WASHER
41	4822 532 12105	SLIT WASHER
42	4822 403 70447	PINCH ROLLER ARM AS
43	4822 403 70441	PINCH ROLLER PRESS
44	4822 492 33287	TENSION SPRING
45	4822 532 12103	SLIT WASHER
46	4822 522 33109	PINCH ROLLER CAM
47	4822 403 70448	GUIDE ARM ASSY
48	4822 492 42564	TORSION SPRING
49	4822 522 33111	HALF LOADING GEAR A
50	4822 532 12104	SLIT WASHER
51	4822 403 70449	CANCEL LEVER ASSY
51A	4822 492 33293	TENSION SPRING
51B	4822 492 33289	TENSION SPRING
51C	4822 492 33294	TENSION SPRING
52	4822 403 70451	HOOK ASSY
52A	4822 492 33291	TENSION SPRING
53	4822 403 70452	MAIN BRAKE ASSY(SUP
54	4822 403 70453	MAIN BRAKE ASSY(TAK
55	4822 492 33292	TENSION SPRING
56	4822 403 70736	SUB BRAKE ASSY(TAK
57	4822 492 33288	TENSION SPRING
60	4822 255 41225	LED HOLDER, INCL. LED
61	4822 276 13134	REC SAFETY SWITCH
62	4822 277 21637	SLIDE ENCORDER, S3
63	4822 502 13816	SCREW
65	4822 502 13819	SCREW, X2
66	4822 502 13809	SCREW, X2
68	4822 502 30471	SCREW, FOR ARM BASE
70	4822 528 81452	REEL DISK(SUPPLY)
84	4822 403 70715	CAPSTAN BRAKE ASSY
85	4822 403 70719	ARM BASE ASSY
85A	4822 403 70721	ARM BASE SUB ASSY
85B	4822 403 70713	CLEANER ARM
85C	4822 403 70718	CANCEL LEVER
85D	4822 492 33355	TENSION SPRING
85E	4822 492 33356	TENSION SPRING
85F	4822 532 12193	SLIT WASHER



PARTSLIST FOR VR3242/57/75/95

NOTE: \$ denotes Safety Component

MISCELLANEOUS

1	4822 218 30671	REMOTE CONTROLLER
9	4822 736 53244	INSTRUCTIONS (/57)
9	4822 736 53243	INSTRUCTIONS (/75)

CHASSIS ASSEMBLY

1	4822 443 41215	FRONT PANEL ASSY /95
1	4822 443 41214	FRONT PANEL ASSY /57
1	4822 443 41213	FRONT PANEL ASSY /75
2	4822 443 63722	TOP COVER
3	4822 502 13813	SPEC. SCR TOP COVER
4	4822 502 13815	SPEC. SCR, TOP COVER
5	4822 443 63787	BOTTOM COVER (/95)
5	4822 443 63721	BOTTOM COVER (/57/75)
6	4822 502 13817	SCR, X3, BOTT. COVER
7	4822 466 40627	FOOT, X2

MECHANISM ASSEMBLY

1	4822 464 50957	BOTTOM CHASSIS
2	4822 691 20689	DRUM ASSY
2C	4822 691 20821	DRUM BASE ASSY (/95)
2C	4822 691 20688	DRUM BASE ASSY (/57/75)
2D	4822 290 81443	BRUSH ASSY
2E	4822 503 21007	SCR, BRUSH
2F	4822 528 90822	ROLLER ASSY
2G	4822 502 13277	SCR, X3 DRUM ASSY
2H	4822 503 21007	SCR, SHIELD
3	4822 503 21013	SCR, X3 DRUM ASSY
4	4822 502 13814	SPEC. SCR, MECHANISM
5	4822 528 90827	INERTIA PLATE
6	4822 691 20822	CASS. HOUSING ASSY
7	4822 502 13818	SCR, X4 CASS. HOUSING
8	4822 502 13817	SCR, X2 REG ASSY
9	4822 503 21007	SCR, X2 PRE/REC
10	4822 466 82953	SHIELD(UPPER),PRE/RE
11	4822 502 13817	SCR, X4 MAIN BOARD
12	4822 466 82954	SHIELD PLATE, DRUM
13	4822 502 13827	SCR, SHIELD (DRUM)
14	4822 502 21243	SCREW
15	4822 466 82962	SHIELD PLATE
16	4822 401 11468	WIRE CLAMP
17	4822 403 70733	BRACKET
18	4822 502 30466	SCR
19	4822 443 63391	FILTER(FDP)

1	4822 403 70714	TENSION ARM ASSY
1A	4822 492 33295	TENSION SPRING
2	4822 401 11421	TENSION BAND ASSY
3	4822 535 93247	ADJUST PIN
4	4822 249 40281	FULL ERASE HEAD
5	4822 502 13816	SCR, F.E.HEAR
6	4822 528 90823	ROLLER
7	4822 462 71778	GUIDE POLE CAP
8	4822 249 10473	AUDIO/CONTROL HEAD
9	4822 464 50858	HEAD BASE
10	4822 502 13812	SPEC. SCR,X3
11	4822 492 52267	COMPRESS. SPRING,X3

12	4822 502 30531	SCR
13	4822 502 13277	SCR
14	4822 403 70723	POLE BASE (TAKE-UP)
15	4822 403 70724	POLE BASE (SUPPLY)
16	4822 462 71867	STOPPER(T)
17	4822 462 71866	STOPPER(S)
18	4822 528 90824	TAPE GUIDE
19	4822 528 90825	GUIDE FLANGE
20	4822 528 90826	TAPE GUARD

21	4822 462 71778	GUIDE POLE CAP
22	4822 361 60503	CAPSTAN MOTOR
23	4822 502 12949	SCR,X3
24	4822 522 33112	IDLER GEAR UNIT
25	4822 502 30471	SCR,X2
26	4822 528 30413	CLUTCH UNIT
27	4822 532 12105	SLIT WASHER
28	4822 403 70735	CHANGE LEVER ASSY
29	4822 358 31143	TIMING BELT
30	4822 528 81451	REEL DISK(TAKE-UP)
31	4822 532 52355	SPACER,X2
32	4822 403 70444	LOADING ARM (SUPPLY)
33	4822 403 70445	LOADING ARM TAKE-UP)
34	4822 361 21462	MODE MOTOR ASSY
35	4822 502 30471	SCR,X2
36	4822 528 30409	WORM CLUTCH ASSY
37	4822 358 31142	LOADING BELT
38	4822 522 33108	CONTROL CAM
39	4822 403 70446	PLATE ASSY
40	4822 532 12103	SLIT WASHER

41	4822 532 12105	SLIT WASHER
42	4822 403 70447	PINCH ROLLER ARM ASS
43	4822 403 70441	PINCH ROLLER LEVER
44	4822 492 33287	TENSION SPRING
45	4822 532 12103	SLIT WASHER
46	4822 522 33109	PINCH ROLLER CAM
47	4822 403 70448	GUIDE ARM ASSY
48	4822 492 42564	TORSION SPRING
49	4822 522 33111	HALF LOADING GEAR AS
50	4822 532 12104	SLIT WASHER
51	4822 403 70449	CANCEL LEVER ASSY
51A	4822 492 33293	TENSION SPRING
51B	4822 492 33289	TENSION SPRING
51C	4822 492 33294	TENSION SPRING
52	4822 403 70451	HOOK ASSY
52A	4822 492 33291	TENSION SPRING
53	4822 403 70452	MAIN BRAKE (SUPPLY)
54	4822 403 70453	MAIN BRAKE (TAKE-UP)
55	4822 492 33292	TENSION SPRING
56	4822 403 70736	SUB BRAKE (TAKE-UP)
57	4822 492 33288	TENSION SPRING
60	4822 255 41225	LED HOLDER,+ LED.D1
61	4822 276 13134	REC SAFETY SWITCH,S2
62	4822 277 21637	SLIDE ENCODER,S3
63	4822 502 13816	SCR
65	4822 502 13819	SCR,X2
66	4822 502 13809	SCR,X2
68	4822 502 30471	SCR, ARM BASE ASSY
70	4822 528 81452	REEL DISK(SUPPLY)

84	4822 403 70715	CAPSTAN BRAKE ASSY
85	4822 403 70719	ARM BASE ASSY
85A	4822 403 70721	ARM BASE SUB ASSY
85B	4822 403 70713	CLEANER ARM
85C	4822 403 70718	CANCEL LEVER
85D	4822 492 33355	TENSION SPRING

85E	4822 492 33356	TENSION SPRING
85F	4822 532 12193	SLIT WASHER
87	4822 403 70737	CLEANER BASE ASSY
87A	4822 403 70716	CLEANER BASE
87B	4822 528 90858	CLEANER
87C	4822 528 90859	ROLLER
87D	4822 532 12192	SLIT WASHER
90	4822 492 52334	COMPRESSION SPRING
100	4822 691 20783	MAIN DECK ASSY
100A	4822 492 70943	EARTH PLATE
100B	4822 502 13828	SCR

POWER SUPPLY PCB ASSEMBLY

PWBA	4822 214 33886	SW REG.BD ASSY (/95)
PWBA	4822 214 33805	SW REG BD ASSY (/57)
PWBA	4822 214 33841	SW REG BD ASSY (/75)

Q1	4822 130 62795	TRANSISTOR
Q2	4822 130 62794	TRANSISTOR
Q3	4822 130 42483	TRANSISTOR
Q4	4822 130 42483	TRANSISTOR (/57)
Q5	4822 130 43191	TRANSISTOR (/57)
D1	4822 130 82698	DIODE
D2	4822 130 82698	DIODE
D3	4822 130 82698	DIODE
D4	4822 130 82698	DIODE
D5	4822 130 83208	FR DIODE
D6	4822 130 83208	FR DIODE
D7	\$ 4822 130 32778	DIODE
D8	4822 130 83155	DIODE
D11	\$ 4822 130 32778	DIODE
D13	4822 130 82768	FR DIODE
D14	4822 130 82696	FR DIODE
D15	4822 130 81377	DIODE (/95)
D15	4822 130 83194	SB DIODE (/57/75)
D16	4822 130 82768	FR DIODE
D17	4822 130 83156	ZENER DIODE
D19	4822 130 82692	ZENER DIODE
D21	4822 130 82693	ZENER DIODE
D22	\$ 4822 130 32778	DIODE
D23	4822 130 83192	ZENER DIODE (/57)
D24	\$ 4822 130 32778	DIODE (/57)
D25	4822 130 83193	ZENER DIODE (/57)
D26	4822 130 82768	FR DIODE (/57)

R3	4822 111 50565	RESISTOR
R4	4822 111 50565	RESISTOR
R5	4822 111 30976	RESISTOR
R6	4822 117 10009	OMF RESISTOR
R7	4822 117 10008	OMF RESISTOR
R8	4822 116 81729	RESISTOR (/57)
R9	4822 117 10052	MF RESISTOR
R10	4822 050 11202	RESISTOR
R11	4822 111 20405	RESISTOR (/95)
R16	4822 117 10007	OMF RESISTOR
R17	\$ 4822 116 83202	FUSIBLE RESISTOR
R20	4822 116 81729	RESISTOR (/95/75)
R20	4822 050 11202	RESISTOR (/57)
R21	4822 050 23741	CMF RESISTOR
R22	4822 050 24871	CMF RESISTOR
R23	4822 050 11202	RESISTOR
R24	4822 117 10011	MF RESISTOR
B12	4822 532 12235	BUS WIRE (/95)
R26	4822 111 30975	RESISTOR (/57)
R27	4822 111 30975	RESISTOR (/57)

R28	4822 116 81637	RESISTOR (/57)
R29	4822 116 81729	RESISTOR (/57)
R30	4822 117 10048	OMF RESISTOR (/57)
R31	4822 116 81729	RESISTOR (/57)
R32	4822 111 30974	RESISTOR (/57)

C2	\$ 4822 121 43979	MM CAPACITOR (/57/95)
C2	4822 121 70234	M CAPACITOR (/75)
C3	\$ 4822 121 43979	MM CAPACITOR (/57/95)
C3	4822 121 70234	M CAPACITOR (/75)
C4	4822 126 12434	CAPACITOR
C6	4822 126 12553	CAPACITOR
C7	4822 126 12432	CAPACITOR (/57/95)
C7	4822 126 12553	CAPACITOR (/75)
C8	4822 126 12432	CAPACITOR
C10	4822 126 12433	CAPACITOR
C11	4822 126 12552	C.CAPACITOR (/95)
C12	4822 124 23819	E CAPACITOR (/95/75)
C12	4822 124 80343	E CAPACITOR (/57)
C13	4822 124 23852	E CAPACITOR
C14	4822 124 11223	CAPACITOR
C15	4822 126 11615	CAPACITOR
C16	4822 121 43972	MM CAPACITOR
C17	4822 121 43958	M CAPACITOR (/95/75)
C17	4822 121 70193	M CAPACITOR (/57)

C21	4822 124 80384	E CAPACITOR (/95/75)
C21	4822 124 80302	E CAPACITOR (/57)
C23	4822 124 23856	E CAPACITOR
C24	4822 124 80441	E CAPACITOR (/57/95)
C24	4822 124 23834	E CAPACITOR (/75)
C25	4822 124 80442	E CAPACITOR (/57/95)
C25	4822 124 23872	E CAPACITOR (/75)
C26	4822 124 23853	E CAPACITOR
C29	4822 121 20242	E CAPACITOR (/57/95)
C29	4822 124 23854	E CAPACITOR (/75)
C30	4822 121 43958	M CAPACITOR
C31	4822 124 23098	E CAPACITOR (/57/95)
C31	4822 124 80301	E CAPACITOR (/75)
C32	4822 124 23844	E CAPACITOR (/57/95)
C32	4822 124 80299	E CAPACITOR (/75)
C34	4822 126 11599	CAPACITOR (/57)
C35	4822 126 10425	CAPACITOR (/57)
C36	4822 126 10081	TF CAPACITOR (/57)
C37	4822 126 12368	CAPACITOR (/57)

L3	4822 157 70119	COIL
L4	4822 157 70119	COIL
PC1	\$ 4822 130 82535	PH COUPLER
POC1	4822 321 10946	POWER CORD (M) (/95)
POC1	4822 321 10898	POWER CORD (/57)
POC1	4822 321 10912	POWER CORD (/75)
T1	\$ 4822 148 81186	SW TRANS (/95/75)
T1	\$ 4822 148 81274	SW TRANS (/57)
CL1	4822 265 30707	FUSE CLIP,X2
ETH1	4822 492 71207	E.PLATE(R/B)
HD1	4822 401 11312	STRAIN RELIEF
HS1	4822 255 41286	HEAT SINK (/95)
HS1	4822 255 41272	HEAT SINK (/57/75)
LF2	\$ 4822 121 20261	LINE FILTER
SCW1	4822 502 21251	SCR, EARTH PLATE
SCW2	4822 502 30597	SCR, HEAT SINK
SLD1	4822 466 93189	S.CASE(S/R)
SLD2	4822 466 93192	S.COVER(S/R)
CN1	4822 265 41259	CONNECTOR
CP1	\$ 4822 209 63611	CIRCUIT PROTECTOR
F1	\$ 4822 253 30407	FUSE,

MAIN BOARD ASSEMBLY

PWBA	4822 214 33885	MAIN BOARD ASSY (/95)	R32	4822 116 83344	RESISTOR (/57/95)	C20	4822 124 23874	E CAPACITOR	Q201	4822 130 42483	TRANSISTOR
PWBA	4822 214 33883	MAIN BOARD ASSY (/57)	R32	4822 116 83194	RESISTOR (/75)	C22	4822 126 11611	CAPACITOR	Q202	4822 130 42483	TRANSISTOR
PWBA	4822 214 33882	MAIN BOARD ASSY (/75)	R35	4822 116 83174	RESISTOR	C23	4822 124 23865	E CAPACITOR	Q206	4822 130 42483	TRANSISTOR
RF1	4822 214 33887	RF CONVERTER (/95)	R36	4822 116 83144	RESISTOR	C24	4822 126 11634	CAPACITOR	Q207	4822 130 42483	TRANSISTOR
RF1	4822 214 33806	RF CONVERTER, (/57)	R38	4822 116 83159	RESISTOR (/95)	C26	4822 124 23826	E CAPACITOR	Q210	4822 130 63144	TRANSISTOR
RF1	4822 214 33843	RF CONVERTER (/75)	R38	4822 116 83155	RESISTOR (/57/75)	C27	4822 126 11611	CAPACITOR	Q211	4822 130 63144	TRANSISTOR
TB1	4822 290 81572	TERM BD ASSY (/95)	R39	4822 116 83159	RESISTOR	C28	4822 121 43971	M CAPACITOR	Q213	4822 130 42483	TRANSISTOR
TB1	4822 214 33807	TERM BD ASSY (/57)	R40	4822 100 11926	V RESISTOR,RF AGC	C29	4822 126 11612	CAPACITOR	Q214	4822 130 63144	TRANSISTOR
TB1	4822 290 81543	TERM BD ASSY (/75)	R41	4822 116 83177	RESISTOR	C30	4822 124 80344	E CAPACITOR	Q217	4822 130 60591	TRANSISTOR
SPC2	4822 466 62314	SHEET(TERMINAL) (/95)	R42	4822 116 83177	RESISTOR	C31	4822 126 11645	CAPACITOR (/95)	D281	\$ 4822 130 32778	DIODE (/95)
CL1	4822 401 11468	WIRE CLAMP,X2	R43	4822 116 83145	RESISTOR	C35	4822 124 23831	E CAPACITOR			
ETH1	4822 403 70459	EARTH PLATE, TERM.	R44	4822 117 10049	RESISTOR (/57/75)	C40	4822 121 43969	M CAPACITOR			
JA2	4822 264 30321	PIN JACK, V IN/OUT	R45	4822 116 83154	RESISTOR	C41	4822 124 23873	E CAPACITOR (/95)	R201	4822 116 83145	RESISTOR
JA4	4822 264 30319	PIN JACK, A IN/OUT	R46	4822 117 10016	RESISTOR (/95)	C41	4822 124 23863	E CAPACITOR (/57/75)	R202	4822 116 83164	RESISTOR
SCW1	4822 502 13827	SCREW, RF (/95/75)	R47	4822 116 83163	RESISTOR (/95)	C52	4822 124 23866	E CAPACITOR (/95)	R203	4822 116 83164	RESISTOR
SCW1	4822 502 12042	SCREW, RF (/57)	R47	4822 116 83145	RESISTOR (/57/75)	C59	4822 124 23861	E CAPACITOR	R206	4822 116 83144	RESISTOR
SCW2	4822 502 13817	SCR, TERMINAL BOARD	R48	4822 116 83196	RESISTOR	C64	4822 126 11614	CAPACITOR	R208	4822 111 41432	RESISTOR
			R50	4822 116 83144	RESISTOR (/95)	C66	4822 126 11835	CAPACITOR	R209	4822 116 83155	RESISTOR
			R50	4822 116 83142	RESISTOR (/57/75)	C67	4822 126 12551	CAPACITOR (/95)	R210	4822 116 83189	RESISTOR
IC1	4822 209 31726	IC				C69	4822 126 11836	CAPACITOR	R211	4822 116 83176	RESISTOR
IC2	4822 209 30246	IC	R51	4822 116 83168	RESISTOR	C77	4822 126 11613	CAPACITOR (/95)	R212	4822 116 83156	RESISTOR
Q1	4822 130 42483	TRANSISTOR	R53	4822 116 83148	RESISTOR	C77	4822 116 81545	RESISTOR (/57/75)	R213	4822 116 83163	RESISTOR
Q2	4822 130 62589	TRANSISTOR	R54	4822 116 83193	RESISTOR	C78	4822 126 11611	CAPACITOR (/57/75)	R214	4822 116 83191	RESISTOR
Q3	4822 130 60588	TRANSISTOR	R55	4822 117 10019	RESISTOR	C79	4822 126 11611	CAPACITOR	R215	4822 100 11927	V RES,SP REC COLOR
Q4	4822 130 60161	TRANSISTOR	R56	4822 116 83195	RESISTOR	C85	4822 126 11849	CAPACITOR (/95)	R216	4822 116 83156	RESISTOR
Q5	4822 130 60161	TRANSISTOR	R60	4822 116 83181	RESISTOR	C86	4822 126 12429	CAPACITOR	R217	4822 116 83146	RESISTOR
Q6	4822 130 60161	TRANSISTOR	R61	4822 116 83162	RESISTOR	C87	4822 124 80311	E CAPACITOR	R218	4822 116 83145	RESISTOR
Q7	4822 130 61187	TRANSISTOR	R62	4822 116 83151	RESISTOR	C91	4822 126 11837	CAPACITOR (/57)	R227	4822 111 41568	RESISTOR
Q9	4822 130 41651	TRANSISTOR	R63	4822 116 83164	RESISTOR	C91	4822 126 12468	CAPACITOR (/75)	R229	4822 116 83151	RESISTOR
Q10	4822 130 42594	TRANSISTOR	R64	4822 116 83196	RESISTOR				R230	4822 116 83146	RESISTOR
Q11	4822 130 62796	FE TRANSISTOR	R65	4822 116 83168	RESISTOR				R240	4822 116 83145	RESISTOR
Q12	4822 130 42594	TRANSISTOR	R68	4822 116 83156	RESISTOR	L3	4822 157 70382	COIL (/95)	R242	4822 116 81536	RESISTOR
Q13	4822 130 42483	TRANSISTOR	R69	4822 116 83142	RESISTOR (/95)	L3	4822 157 63578	COIL (/57)	R243	4822 116 83145	RESISTOR
Q15	4822 130 42483	TRANSISTOR	R70	4822 116 83175	RESISTOR	L3	4822 157 63562	COIL (/75)	R244	4822 116 83155	RESISTOR
Q17	4822 130 60161	TRANSISTOR (/95)	R71	4822 116 83159	RESISTOR	L4	4822 157 63404	COIL (/95/75)	R245	4822 116 83145	RESISTOR
Q18	4822 130 61544	TRANSISTOR	R72	4822 116 83146	RESISTOR	L4	4822 157 70186	COIL (/57)	R246	4822 100 11925	V RESISTOR,REC FM
Q19	4822 130 60161	TRANSISTOR	R73	4822 116 83163	RESISTOR	L5	4822 157 62371	COIL	R247	4822 116 83174	RESISTOR
Q23	4822 130 62793	TRANSISTOR	R76	4822 116 83185	RESISTOR (/95)	L6	4822 157 70128	COIL	R248	4822 116 83145	RESISTOR
			R77	4822 116 83185	RESISTOR (/95)	L7	4822 157 62378	COIL (/95)	R249	4822 116 83191	RESISTOR
			R78	4822 116 83174	RESISTOR (/95)	L8	4822 153 10397	COIL (/95)	R250	4822 116 83194	RESISTOR
			R80	4822 116 83161	RESISTOR	L9	4822 157 62377	COIL	R251	4822 116 83194	RESISTOR
D1	4822 209 83931	ZENER DIODE				L10	4822 157 63579	COIL (/95)	R257	4822 116 83186	RESISTOR
D3	4822 130 82772	V.DIODE (/95)				L11	4822 157 70384	COIL (/95)	R258	4822 116 81751	RESISTOR
D5	4822 130 82689	ZENER DIODE				L12	4822 157 90197	COIL	R259	4822 116 81695	RESISTOR
R3	4822 116 83193	RESISTOR	R81	4822 116 83197	RESISTOR				R264	4822 116 83174	RESISTOR
R5	4822 116 83183	RESISTOR	R85	4822 116 83147	RESISTOR (/95)	TR1	\$ 4822 210 10525	TUNER (/95)	R265	4822 116 83145	RESISTOR
R7	4822 116 83145	RESISTOR	R86	4822 116 83147	RESISTOR (/95)	TR1	\$ 4822 210 10511	TUNER (/57)	R268	4822 116 83142	RESISTOR
R8	4822 116 83164	RESISTOR	R87	4822 116 83335	RESISTOR	TR1	\$ 4822 210 10513	TUNER (/75)	R280	4822 116 83337	RESISTOR (/95)
R9	4822 116 83157	RESISTOR	R88	4822 116 83196	RESISTOR				R281	4822 116 83191	RESISTOR (/95)
R10	4822 116 83157	RESISTOR	R91	4822 116 83183	RESISTOR	CF1	4822 242 80335	CERAMIC FILTER /95/75	R282	4822 116 83178	RESISTOR (/95)
R13	4822 116 83167	RESISTOR	R92	4822 116 83142	RESISTOR (/95)	CF1	4822 242 80396	CERAMIC FILTER (/57)	R283	4822 050 11004	RESISTOR (/95)
R14	4822 116 83176	RESISTOR	R92	4822 116 83181	RESISTOR (/57)	CF2	4822 242 81412	CERAMIC FILTER (/95)	R284	4822 116 83169	RESISTOR (/95)
R15	4822 116 83146	RESISTOR	R92	4822 126 12469	CAPACITOR (/75)	CF2	4822 242 80398	CERAMIC FILTER (/57)	R286	4822 116 81638	RESISTOR (/95)
R16	4822 116 81636	RESISTOR (/95)	R93	4822 116 83174	RESISTOR	CF2	4822 242 80337	CERAMIC FILTER (/75)			
R16	4822 116 81696	RESISTOR (/57/75)	R96	4822 116 83164	RESISTOR	CF3	4822 242 80337	CERAMIC FILTER (/95)	C201	4822 126 11601	CAPACITOR
R17	4822 116 83156	RESISTOR	R99	4822 116 83175	RESISTOR	SAW1	4822 242 80388	SAW FILTER (/95/75)	C202	4822 126 11602	CAPACITOR
R18	4822 116 83159	RESISTOR				SAW1	4822 242 81322	SAW FILTER (/57)	C203	4822 126 11601	CAPACITOR
R19	4822 116 83159	RESISTOR	C2	4822 124 23864	E CAPACITOR	SAW2	4822 242 81411	SAW FILTER (/95)	C204	4822 126 11601	CAPACITOR
R20	4822 116 83156	RESISTOR	C4	4822 124 23862	E CAPACITOR				C205	4822 124 23825	E CAPACITOR
R21	4822 116 83159	RESISTOR	C6	4822 124 23866	E CAPACITOR	T1	4822 157 63576	LC TRAP	C206	4822 126 11601	CAPACITOR
R22	4822 116 83156	RESISTOR	C8	4822 214 80018	E CAPACITOR	T2	4822 148 81201	IF,TRANSMER (/95)	C207	4822 126 11601	CAPACITOR
R23	4822 116 83159	RESISTOR	C9	4822 121 43963	M CAPACITOR	T2	4822 157 63577	COIL (/57)	C208	4822 126 11601	CAPACITOR
R24	4822 116 83156	RESISTOR	C10	4822 121 43966	M CAPACITOR	T2	4822 157 63391	COIL (/75)	C209	4822 126 11601	CAPACITOR
R25	4822 116 83183	RESISTOR	C13	4822 126 11647	CAPACITOR	T3	4822 148 81198	IF,TRANSMER,AFC	C212	4822 124 80346	E CAPACITOR
R27	4822 116 83165	RESISTOR	C14	4822 124 23864	E CAPACITOR	T4	4822 148 81197	IF,TRANSMER,VCO	C213	4822 126 11601	CAPACITOR
R28	4822 116 83188	RESISTOR	C15	4822 124 23865	E CAPACITOR	WR1	4822 321 61775	COAXIAL CABLE	C214	4822 124 23859	E CAPACITOR
R29	4822 116 83168	RESISTOR	C17	4822 126 11851	CAPACITOR (/57/95)	IC280	4822 209 30415	IC (/95)	C215	4822 124 23841	E CAPACITOR
R30	4822 116 83163	RESISTOR	C18	4822 126 11852	CAPACITOR (/57/95)						

87	4822 403 70737	CLEANER BASE ASSY	C26	4822 124 23853	E CAPACITOR
87A	4822 403 70716	CLEANER BASE	C29	4822 121 20242	E CAPACITOR
87B	4822 528 90858	CLEANER	C30	4822 121 43958	M CAPACITOR
87C	4822 528 90859	ROLLER	C31	4822 124 80301	E CAPACITOR
87D	4822 532 12192	SLIT WASHER	C32	4822 124 80299	E CAPACITOR
90	4822 492 52334	COMPRESSION SPRING			
100	4822 691 20783	MAIN DECK ASSEMBLY	L3	4822 157 70119	COIL
100A	4822 492 70943	EARTH PLATE	L4	4822 157 70119	COIL
100B	4822 502 13828	SCREW	PC1	4822 130 82535	\$ PHOTO COUPLER
			POC1	4822 321 10898	POWER CORD
			T1	4822 148 81186	\$ SW TRANS
			CL1	4822 265 30707	FUSE CLIP, X2, FUSE
			ETH1	4822 492 71207	E.PLATE(R/B)
			HD1	4822 401 11312	STRAIN RELIEF
			HS1	4822 255 41272	HEAT SINK
			LF2	4822 121 20261	\$ LINE FILTER
			SCW1	4822 502 21251	SCREW
			SCW2	4822 502 30597	SCREW
			SLD1	4822 466 93165	S.CASE(S/R)
			SLD2	4822 466 93166	S.COVER(S/R)
			CN1	4822 265 41259	CONNECTOR
			CP1	4822 209 63611	\$ CIRCUIT PROTECTOR
			F1	4822 253 30407	FUSE, T1.25A
POWER SUPPLY ASSEMBLY					
Q1	4822 130 62795	TRANSISTOR			
Q2	4822 130 62794	TRANSISTOR			
Q3	4822 130 42431	TRANSISTOR			
D1	4822 130 82698	DIODE			
D2	4822 130 82698	DIODE			
D3	4822 130 82698	DIODE			
D4	4822 130 82698	DIODE			
D5	4822 130 82686	FR DIODE			
D6	4822 130 82686	FR DIODE			
D7	4822 130 32778	\$ DIODE			
D8	4822 130 83155	DIODE			
D11	4822 130 32778	\$ DIODE			
D13	4822 130 82768	FR DIODE			
D14	4822 130 82696	FR DIODE			
D15	4822 130 81377	DIODE			
D16	4822 130 82768	FR DIODE			
D17	4822 130 83156	ZENER DIODE			
D19	4822 130 82692	ZENER DIODE			
D21	4822 130 82693	ZENER DIODE			
D22	4822 130 32778	\$ DIODE			
R3	4822 111 50565	RESISTOR			
R4	4822 111 50565	RESISTOR			
R5	4822 111 30976	RESISTOR			
R6	4822 117 10009	OMF RESISTOR			
R7	4822 117 10008	OMF RESISTOR			
R8	4822 116 81729	RESISTOR			
R9	4822 117 10052	MF RESISTOR			
R10	4822 050 11202	RESISTOR			
R16	4822 117 10007	OMF RESISTOR			
R17	4822 116 83202	\$ FUSIBLE RESISTOR			
R20	4822 116 81729	RESISTOR			
R21	4822 050 23741	CMF RESISTOR			
R22	4822 050 24871	CMF RESISTOR			
R23	4822 050 11202	RESISTOR			
R24	4822 117 10011	MF RESISTOR			
C2	4822 121 70234	M CAPACITOR			
C3	4822 121 70234	M CAPACITOR			
C4	4822 126 12434	CAPACITOR			
C6	4822 126 12432	CAPACITOR			
C7	4822 126 12432	CAPACITOR			
C8	4822 126 12432	CAPACITOR			
C10	4822 126 12433	\$ CAPACITOR			
C12	4822 124 23819	E CAPACITOR			
C13	4822 124 23852	E CAPACITOR			
C14	4822 124 11223	CAPACITOR			
C15	4822 126 11615	CAPACITOR			
C16	4822 121 43972	MM CAPACITOR			
C17	4822 121 43958	M CAPACITOR			
C21	4822 124 80384	E CAPACITOR			
C23	4822 124 23856	E CAPACITOR			
C24	4822 124 23834	E CAPACITOR			
C25	4822 124 23872	E CAPACITOR			
MAIN BOARD ASSEMBLY					
PWBA	4822 214 33889	MAIN BOARD ASSY			
RF1	4822 214 33887	RF CONVERTER			
D953	4822 130 32778	\$ DIODE			
D954	4822 130 32778	\$ DIODE			
CL1	4822 401 11468	WIRE CLAMP, X2			
ETH1	4822 403 70459	EARTH PLATE, TERM BD			
JA2	4822 264 30321	PIN JACK, V IN/OUT			
JA4	4822 264 30319	PIN JACK, A IN/OUT			
SCW1	4822 502 13827	SCREW, FOR RF1			
SCW2	4822 502 13817	SCREW, FOR TERMINAL			
SPC2	4822 466 62292	SHEET(TERMINAL)			
TB1	4822 290 81572	TERMINAL BOARD ASSY			
TR1	4822 210 10525	\$ TUNER			
IC1	4822 209 31726	IC			
IC2	4822 209 30246	IC			
Q1	4822 130 42431	TRANSISTOR			
Q2	4822 130 62589	TRANSISTOR			
Q3	4822 130 60588	TRANSISTOR			
Q4	4822 130 60161	TRANSISTOR			
Q5	4822 130 60161	TRANSISTOR			
Q6	4822 130 60161	TRANSISTOR			
Q7	4822 130 61187	TRANSISTOR			
Q9	4822 130 41651	TRANSISTOR			
Q10	4822 130 42594	TRANSISTOR			
Q11	4822 130 62796	FE TRANSISTOR			
Q12	4822 130 42594	TRANSISTOR			
Q13	4822 130 42431	TRANSISTOR			
Q15	4822 130 42431	TRANSISTOR			
Q17	4822 130 60161	TRANSISTOR			
Q18	4822 130 61544	TRANSISTOR			
Q19	4822 130 60161	TRANSISTOR			
Q23	4822 130 62793	TRANSISTOR			
D1	4822 209 83931	ZENER DIODE			
D3	4822 130 82772	V.DIODE			
D5	4822 130 82689	ZENER DIODE			
R3	4822 116 83193	RESISTOR			
R5	4822 116 83183	RESISTOR			

R7	4822 116 83145	RESISTOR	C2	4822 124 23864	E CAPACITOR
R8	4822 116 83164	RESISTOR	C4	4822 124 23862	E CAPACITOR
R9	4822 116 83157	RESISTOR	C6	4822 124 23866	E CAPACITOR
R10	4822 116 83157	RESISTOR	C8	4822 214 80018	E CAPACITOR
R13	4822 116 83167	RESISTOR	C9	4822 121 43963	M CAPACITOR
R14	4822 116 83176	RESISTOR	C10	4822 121 43966	M CAPACITOR
R15	4822 116 83146	RESISTOR	C13	4822 126 11647	CAPACITOR
R16	4822 116 81696	RESISTOR	C14	4822 124 23864	E CAPACITOR
R17	4822 116 83156	RESISTOR	C15	4822 124 23865	E CAPACITOR
R18	4822 116 83159	RESISTOR	C17	4822 126 12431	CAPACITOR
R19	4822 116 83159	RESISTOR	C18	4822 126 12387	CAPACITOR
R20	4822 116 83156	RESISTOR	C20	4822 124 23874	E CAPACITOR
R21	4822 116 83159	RESISTOR	C22	4822 126 11611	CAPACITOR
R22	4822 116 83156	RESISTOR	C23	4822 124 23865	E CAPACITOR
R23	4822 116 83159	RESISTOR	C24	4822 126 11634	CAPACITOR
R24	4822 116 83156	RESISTOR	C26	4822 124 23826	E CAPACITOR
R25	4822 116 83183	RESISTOR	C27	4822 126 11611	CAPACITOR
R27	4822 116 83165	RESISTOR	C28	4822 121 43971	M CAPACITOR
R28	4822 116 83188	RESISTOR	C29	4822 126 11612	CAPACITOR
R29	4822 116 83168	RESISTOR	C30	4822 124 80344	E CAPACITOR
R30	4822 116 83163	RESISTOR	C31	4822 126 11645	CAPACITOR
R32	4822 116 83344	RESISTOR	C35	4822 124 23831	E CAPACITOR
R36	4822 116 83144	RESISTOR	C40	4822 121 43969	M CAPACITOR
R38	4822 116 83159	RESISTOR	C41	4822 124 23873	E CAPACITOR
R39	4822 116 83159	RESISTOR	C52	4822 124 23866	E CAPACITOR
			C59	4822 124 23861	E CAPACITOR
R40	4822 100 11926	V RESISTOR, RF AGC	C64	4822 126 11614	CAPACITOR
R41	4822 116 83177	RESISTOR	C66	4822 126 11835	CAPACITOR
R42	4822 116 83177	RESISTOR	C67	4822 126 12551	CAPACITOR
R43	4822 116 83145	RESISTOR	C69	4822 126 11836	CAPACITOR
R44	4822 116 83174	RESISTOR	C77	4822 126 11613	CAPACITOR
R45	4822 116 83154	RESISTOR	C79	4822 126 11611	CAPACITOR
R46	4822 117 10016	RESISTOR	C85	4822 126 11849	CAPACITOR
R47	4822 116 83163	RESISTOR	C86	4822 126 12429	CAPACITOR
R48	4822 116 83196	RESISTOR	C87	4822 124 80311	E CAPACITOR
R50	4822 116 83144	RESISTOR			
R51	4822 116 83168	RESISTOR	L3	4822 157 70382	COIL
R53	4822 116 83148	RESISTOR	L4	4822 157 63404	COIL
R54	4822 116 83193	RESISTOR	L5	4822 157 62371	COIL
R55	4822 117 10019	RESISTOR	L6	4822 157 70128	COIL
R56	4822 116 83195	RESISTOR	L7	4822 157 62378	COIL
R60	4822 116 83181	RESISTOR	L8	4822 153 10397	COIL
R61	4822 116 83162	RESISTOR	L9	4822 157 62377	COIL
R62	4822 116 83151	RESISTOR	L10	4822 157 63579	COIL
R63	4822 116 83164	RESISTOR	L11	4822 157 70384	COIL
R64	4822 116 83196	RESISTOR	L12	4822 157 90197	COIL
R65	4822 116 83168	RESISTOR			
R68	4822 116 83156	RESISTOR	CF1	4822 242 80335	CERAMIC FILTER
R69	4822 116 83142	RESISTOR	CF2	4822 242 81412	CERAMIC FILTER
R70	4822 116 83175	RESISTOR	CF3	4822 242 80337	CERAMIC FILTER
R71	4822 116 83159	RESISTOR	SAW1	4822 242 80388	SAW FILTER
R72	4822 116 83146	RESISTOR	SAW2	4822 242 81411	SAW FILTER
R73	4822 116 83163	RESISTOR	T1	4822 157 63576	LC TRAP
R76	4822 116 83185	RESISTOR	T2	4822 148 81201	IF TRANSFORMER
R77	4822 116 83185	RESISTOR	T3	4822 148 81198	IF TRANSFORMER
R78	4822 116 83174	RESISTOR	T4	4822 148 81197	IF TRANSFORMER
R80	4822 116 83161	RESISTOR	WR1	4822 321 61775	COAXIAL CABLE
R81	4822 116 83197	RESISTOR	IC280	4822 209 30415	IC
R85	4822 116 83147	RESISTOR			
R86	4822 116 83147	RESISTOR	Q201	4822 130 42431	TRANSISTOR
R87	4822 116 83335	RESISTOR	Q202	4822 130 42431	TRANSISTOR
R88	4822 116 83196	RESISTOR	Q204	4822 130 42683	TRANSISTOR
R91	4822 116 83183	RESISTOR	Q205	4822 130 42683	TRANSISTOR
R92	4822 116 83142	RESISTOR	Q206	4822 130 42431	TRANSISTOR
R93	4822 116 83174	RESISTOR	Q207	4822 130 42431	TRANSISTOR
R96	4822 116 83164	RESISTOR	Q208	4822 130 42431	TRANSISTOR
R99	4822 116 83175	RESISTOR	Q210	4822 130 63144	TRANSISTOR

C216	4822 124 80323	E CAPACITOR	R330	4822 116 83182	RESISTOR	R425	4822 116 83146	RESISTOR	R602	4822 116 83145	RESISTOR
C217	4822 126 11601	CAPACITOR	R331	4822 116 83156	RESISTOR	R426	4822 117 10019	RESISTOR	R603	4822 116 83145	RESISTOR
C226	4822 126 11603	CAPACITOR	R332	4822 111 30974	RESISTOR	R429	4822 116 83184	RESISTOR	R604	4822 116 83145	RESISTOR
C227	4822 126 11601	CAPACITOR	R333	4822 117 10018	RESISTOR	R430	4822 116 83157	RESISTOR	R605	4822 116 83182	RESISTOR
C228	4822 126 11601	CAPACITOR	R343	4822 116 83145	RESISTOR (/57)	R431	4822 116 83146	RESISTOR	R606	4822 116 83182	RESISTOR
C229	4822 126 12428	CAPACITOR	R344	4822 111 30974	RESISTOR,SILK D301	R433	4822 116 83148	RESISTOR	R607	4822 116 81641	RESISTOR
C235	4822 126 11612	CAPACITOR	R345	\$ 4822 117 10053	FUSIBLE RESISTOR	R434	4822 116 83164	RESISTOR	R608	4822 116 83182	RESISTOR
C280	4822 124 80317	E CAPACITOR (/95)	R346	4822 116 83159	RESISTOR (/57)	R440	4822 116 83145	RESISTOR	R609	4822 116 83145	RESISTOR
C281	4822 124 80355	E CAPACITOR (/95)	R348	4822 111 41569	RESISTOR (/57/95)	R450	4822 111 30985	RESISTOR	R610	4822 116 83182	RESISTOR
C282	4822 126 11858	CAPACITOR (/95)	R348	4822 111 30986	RESISTOR (/75)	R451	4822 116 83145	RESISTOR	R611	4822 116 83182	RESISTOR
C284	4822 126 11601	CAPACITOR (/95)	R349	4822 111 30937	RESISTOR	R452	4822 116 83163	RESISTOR	R612	4822 116 83182	RESISTOR
C285	4822 126 11601	CAPACITOR (/95)				R453	4822 116 83168	RESISTOR	R613	4822 116 81641	RESISTOR
C286	4822 126 11601	CAPACITOR (/95)	C301	4822 126 11646	CAPACITOR	R458	4822 116 83152	RESISTOR	R615	4822 116 83182	RESISTOR
C287	4822 126 11601	CAPACITOR (/95)	C302	4822 121 70195	M CAPACITOR				R616	4822 116 83182	RESISTOR
C288	4822 121 70009	M CAPACITOR (/95)	C303	4822 124 80313	E CAPACITOR	C401	4822 121 43355	M CAPACITOR (/57/95)	R617	4822 116 81641	RESISTOR
C289	4822 126 11833	CAPACITOR (/95)	C304	4822 126 11654	CAPACITOR	C401	4822 121 70211	M CAPACITOR (/75)	R618	4822 116 83182	RESISTOR
C290	4822 126 11654	CAPACITOR (/95)	C305	4822 126 12389	CAPACITOR	C402	4822 126 11612	CAPACITOR	R619	4822 116 83182	RESISTOR
C291	4822 126 11603	CAPACITOR (/95)	C306	4822 126 12427	CAPACITOR	C403	4822 126 11654	CAPACITOR	R620	4822 116 83181	RESISTOR
C293	4822 124 42276	E CAPACITOR (/95)	C307	4822 126 12389	CAPACITOR	C405	4822 126 11611	CAPACITOR			
C294	4822 126 11601	CAPACITOR (/95)	C308	4822 126 12391	CAPACITOR	C407	4822 126 11613	CAPACITOR	R621	4822 116 81641	RESISTOR
C295	4822 126 12386	CAPACITOR (/95)	C311	4822 124 23822	E CAPACITOR (/57/95)	C409	4822 126 11611	CAPACITOR	R622	4822 116 81641	RESISTOR
			C312	4822 124 23873	E CAPACITOR	C411	4822 124 80306	E CAPACITOR	R623	4822 116 83148	RESISTOR
L201	4822 157 60104	COIL	C313	4822 126 11649	CAPACITOR	C412	4822 124 80306	E CAPACITOR	R624	4822 116 81641	RESISTOR
L202	4822 157 62375	COIL	C314	4822 124 23832	E CAPACITOR	C413	4822 126 11652	CAPACITOR	R625	4822 116 83146	RESISTOR
L203	4822 157 70191	COIL	C315	4822 124 23827	E CAPACITOR	C414	4822 126 12456	CAPACITOR	R626	4822 116 81694	RESISTOR
L204	4822 157 60104	COIL	C316	4822 124 23873	E CAPACITOR	C415	4822 121 70214	TF CAPACITOR	R627	4822 116 83161	RESISTOR (/95)
L206	4822 157 2373	COIL	C317	4822 124 23874	E CAPACITOR	C416	4822 126 11653	CAPACITOR	R627	4822 116 83157	RESISTOR (/57/75)
L280	4822 157 60104	COIL (/95)	C318	4822 124 23863	E CAPACITOR	C417	4822 126 11612	CAPACITOR	R628	4822 116 83176	RESISTOR
L282	4822 157 63582	COIL (/95)	C319	4822 121 70208	M CAPACITOR	C418	4822 124 23826	E CAPACITOR	R629	4822 116 81636	RESISTOR
CN201	4822 265 41142	CONNECTOR	C321	4822 124 80345	TF CAPACITOR	C419	4822 126 12374	CAPACITOR	R630	4822 116 81636	RESISTOR
IC301	4822 209 31725	IC	C327	4822 126 11601	CAPACITOR (/57/95)	C420	4822 124 23826	E CAPACITOR	R631	4822 116 81636	RESISTOR
D302\$	4822 130 32778	DIODE (/57)	C327	4822 126 11647	CAPACITOR (/75)				R632	4822 050 15603	RESISTOR
D351\$	4822 130 32778	DIODE (/57)				C421	4822 124 80353	E CAPACITOR	R633	4822 116 83181	RESISTOR
Q301	4822 130 42483	TRANSISTOR (/95)	L301	4822 157 70185	COIL	C422	4822 126 11612	CAPACITOR	R634	4822 116 83176	RESISTOR
Q301	4822 130 63163	TRANSISTOR (/57/75)	T301	4822 148 81187	OSC TRANSFORMER	C423	4822 126 11612	CAPACITOR	R635	4822 116 81636	RESISTOR
Q302	4822 130 63163	TRANSISTOR (/95)	CN302	4822 265 20527	CONNECTOR	C424	4822 124 80305	E CAPACITOR	R636	4822 116 83191	RESISTOR
Q302	4822 130 42483	TRANSISTOR (/57/75)	IC401	4822 209 30235	IC	C425	4822 126 12375	CAPACITOR	R637	4822 116 83146	RESISTOR (/57/95)
Q304	4822 130 42483	TRANSISTOR (/95)	IC402	4822 209 80587	IC (/57/75)	C426	4822 121 70268	M CAPACITOR	R638	4822 116 83146	RESISTOR (/75)
Q304	4822 130 63163	TRANSISTOR (/57/75)	IC451	4822 209 30234	IC	C427	4822 124 23873	E CAPACITOR (/57/95)	R640	4822 116 83146	RESISTOR
EQ201	4822 214 33842	EQUALIZER (/75)	D402	\$ 4822 130 32778	DIODE	C427	4822 124 23826	E CAPACITOR (/75)			
			D403	\$ 4822 130 32778	DIODE	C428	4822 124 23873	E CAPACITOR (/57/95)	C601	4822 126 11636	CAPACITOR
R301	4822 050 11009	RESISTOR	D405	\$ 4822 130 32778	DIODE	C428	4822 124 23826	E CAPACITOR (/75)	C602	4822 124 80355	E CAPACITOR
R302	4822 116 83193	RESISTOR	D406	4822 130 81737	ZENER DIODE (/95/75)	C429	4822 126 12554	CAPACITOR (/57/95)	C603	4822 126 10489	CAPACITOR (/57/75)
R303	4822 116 83186	RESISTOR	D406	4822 130 80373	ZENER DIODE (/57)	C429	4822 126 12375	CAPACITOR (/75)	C604	4822 124 23832	E CAPACITOR
R304	4822 116 83164	RESISTOR	D409	\$ 4822 130 32778	DIODE	C452	4822 126 11611	CAPACITOR	C605	4822 126 11639	CAPACITOR
R305	4822 116 83176	RESISTOR				C454	4822 126 12372	CAPACITOR (/57/75)	C606	4822 124 23824	E CAPACITOR
R306	4822 116 83179	RESISTOR	R401	4822 116 83183	RESISTOR	C455	4822 126 11611	CAPACITOR	C607	4822 126 12445	CAPACITOR
R308	4822 116 83183	RESISTOR	R402	4822 100 11928	SW POINT (/57/95)	C456	4822 121 70213	M CAPACITOR	C615	4822 126 12436	CAPACITOR
R309	4822 116 83172	RESISTOR	R402	4822 100 11975	V RESISTOR,SWITC (/75)	C457	4822 126 11611	CAPACITOR	C616	4822 126 11612	CAPACITOR
R310	4822 116 83146	RESISTOR	R403	4822 116 83145	RESISTOR	C458	4822 124 80305	E CAPACITOR	C617	4822 126 11832	CAPACITOR
R311	4822 116 81543	RESISTOR	R404	4822 116 81694	RESISTOR	C459	4822 126 11611	CAPACITOR	C618	4822 126 11832	CAPACITOR
R313	4822 117 10017	RESISTOR	R406	4822 111 50565	RESISTOR				C619	4822 126 11614	CAPACITOR (/95)
R314	4822 116 83185	RESISTOR	R408	4822 116 81694	RESISTOR	L451	4822 157 90157	COIL	C619	4822 126 10419	CAPACITOR (/57/75)
R315	4822 116 83189	RESISTOR	R410	4822 116 83165	RESISTOR	CN401	4822 265 20527	CONNECTOR			
R316	4822 116 83149	RESISTOR	R412	4822 116 83148	RESISTOR	CN402	4822 265 30909	CONNECTOR	L601	4822 157 62372	COIL
R317	4822 111 30983	RESISTOR	R413	4822 116 83169	RESISTOR	CP401	\$ 5322 157 53342	CIRCUIT PROTECTOR	CF601	4822 242 81305	RESONATOR
R318	4822 116 83176	RESISTOR	R414	4822 116 83182	RESISTOR	IC601	4822 209 32128	IC (/57/95)	CN601	4822 265 41257	FFC CONNECTOR
R320	4822 117 10051	RESISTOR	R415	4822 116 83182	RESISTOR	IC601	4822 209 31832	IC (/75)	CN602	4822 265 30912	CONNECTOR
R321	4822 116 83171	RESISTOR	R416	4822 050 11004	RESISTOR	IC602	4822 209 30236	IC	CP601	\$ 4822 209 63612	CIRCUIT PROTECTOR
R322	4822 116 83146	RESISTOR	R417	4822 116 83151	RESISTOR	Q601	4822 130 62503	TRANSISTOR	D953	\$ 4822 130 32778	DIODE
R323	4822 116 83146	RESISTOR	R418	4822 116 83166	RESISTOR				D954	\$ 4822 130 32778	DIODE
R324	4822 116 83184	RESISTOR	R419	4822 117 10019	RESISTOR	D601	\$ 4822 130 32778	DIODE	Q901	4822 130 42593	TRANSISTOR (/57)
R325	4822 116 83196	RESISTOR	R420	4822 116 83164	RESISTOR	D602	4822 130 80684	ZENER DIODE			
R326	4822 116 83169	RESISTOR	R421	4822 116 83163	RESISTOR	D603	\$ 4822 130 32778	DIODE	R953	4822 116 83142	RESISTOR
R327	4822 116 81537	RESISTOR	R422	4822 116 83145	RESISTOR	D604	\$ 4822 130 32778	DIODE	L901	4822 157 60438	COIL
R328	4822 050 23903	RESISTOR	R423	4822 116 83145	RESISTOR	D605	\$ 4822 130 32778	DIODE	L904	4822 157 60438	COIL
R329	4822 116 83144	RESISTOR	R424	4822 116 83154	RESISTOR	D606	\$ 4822 130 32778	DIODE	L965	4822 157 62372	COIL (/57)

Q211	4822 130 63144	TRANSISTOR	C213	4822 126 11601	CAPACITOR
Q213	4822 130 42431	TRANSISTOR	C214	4822 124 23859	E CAPACITOR
Q214	4822 130 63144	TRANSISTOR	C215	4822 124 23841	E CAPACITOR
Q221	4822 130 42593	TRANSISTOR	C216	4822 124 80323	E CAPACITOR
			C217	4822 126 11601	CAPACITOR
D203	4822 130 32778	\$ DIODE	C218	4822 126 11601	CAPACITOR
D205	4822 130 32778	\$ DIODE	C226	4822 126 11603	CAPACITOR
D209	4822 130 32778	\$ DIODE	C227	4822 126 11601	CAPACITOR
D281	4822 130 32778	\$ DIODE	C229	4822 126 12428	CAPACITOR
			C280	4822 124 80317	E CAPACITOR
R201	4822 116 83145	RESISTOR	C281	4822 124 80355	E CAPACITOR
R202	4822 116 83164	RESISTOR	C282	4822 126 11858	CAPACITOR
R203	4822 116 83164	RESISTOR	C284	4822 126 11601	CAPACITOR
R206	4822 116 83144	RESISTOR	C285	4822 126 11601	CAPACITOR
R207	4822 100 11925	V RESISTOR, LP PB EQ	C286	4822 126 11601	CAPACITOR
R208	4822 116 81536	RESISTOR	C287	4822 126 11601	CAPACITOR
R209	4822 116 83155	RESISTOR	C288	4822 121 70009	M CAPACITOR
R210	4822 116 83189	RESISTOR	C289	4822 126 11833	CAPACITOR
R211	4822 116 83176	RESISTOR	C290	4822 126 11654	CAPACITOR
R212	4822 116 83156	RESISTOR	C291	4822 126 11603	CAPACITOR
R213	4822 116 83163	RESISTOR	C293	4822 124 42276	E CAPACITOR
R214	4822 116 83178	RESISTOR	C294	4822 126 11601	CAPACITOR
R215	4822 100 11927	V RESISTOR, SP REC	C295	4822 126 12386	CAPACITOR
R216	4822 116 83146	RESISTOR			
R217	4822 116 83146	RESISTOR	L201	4822 157 60104	COIL
R218	4822 116 83145	RESISTOR	L202	4822 157 62375	COIL
R219	4822 116 83151	RESISTOR	L203	4822 157 70191	COIL
R220	4822 116 83169	RESISTOR	L204	4822 157 60104	COIL
R221	4822 116 83175	RESISTOR	L206	4822 157 62373	COIL
R222	4822 100 11927	V RESISTOR, EP REC	L280	4822 157 60104	COIL
R227	4822 111 41568	RESISTOR	L282	4822 157 63582	COIL
R229	4822 116 83151	RESISTOR			
R230	4822 116 83146	RESISTOR	CN201	4822 265 41254	CONNECTOR
R240	4822 116 83145	RESISTOR	IC301	4822 209 31725	IC
R242	4822 116 81536	RESISTOR	Q301	4822 130 63163	TRANSISTOR
R243	4822 116 83145	RESISTOR	Q302	4822 130 63163	TRANSISTOR
R244	4822 116 83155	RESISTOR	Q304	4822 130 63163	TRANSISTOR
R245	4822 116 83145	RESISTOR			
R247	4822 116 83163	RESISTOR	R301	4822 050 11009	RESISTOR
R248	4822 116 83163	RESISTOR	R302	4822 116 83193	RESISTOR
R249	4822 116 83191	RESISTOR	R303	4822 116 83186	RESISTOR
R250	4822 116 83194	RESISTOR	R304	4822 116 83164	RESISTOR
R251	4822 116 83194	RESISTOR	R305	4822 116 83176	RESISTOR
R257	4822 116 83186	RESISTOR	R306	4822 116 83179	RESISTOR
R258	4822 116 81751	RESISTOR	R308	4822 116 83183	RESISTOR
R264	4822 116 83174	RESISTOR	R309	4822 116 83172	RESISTOR
R265	4822 116 83145	RESISTOR	R310	4822 116 83146	RESISTOR
R268	4822 116 83142	RESISTOR	R311	4822 116 81543	RESISTOR
R269	4822 116 83191	RESISTOR	R313	4822 117 10017	RESISTOR
R280	4822 116 83337	RESISTOR	R314	4822 116 83185	RESISTOR
R281	4822 116 83191	RESISTOR	R315	4822 116 83189	RESISTOR
R282	4822 116 83178	RESISTOR	R316	4822 116 83149	RESISTOR
R283	4822 050 11004	RESISTOR	R317	4822 111 30983	RESISTOR
R284	4822 116 83169	RESISTOR	R318	4822 117 10019	RESISTOR
R286	4822 116 81638	RESISTOR	R319	4822 116 83195	RESISTOR
			R320	4822 117 10051	RESISTOR
C201	4822 126 11601	CAPACITOR	R321	4822 116 83171	RESISTOR
C202	4822 126 11602	CAPACITOR	R322	4822 116 83146	RESISTOR
C203	4822 126 11601	CAPACITOR	R323	4822 116 83146	RESISTOR
C204	4822 126 11601	CAPACITOR	R324	4822 116 83184	RESISTOR
C205	4822 124 23825	E CAPACITOR	R325	4822 116 83196	RESISTOR
C206	4822 126 11601	CAPACITOR	R326	4822 116 83169	RESISTOR
C207	4822 126 11601	CAPACITOR	R327	4822 116 81537	RESISTOR
C208	4822 126 11601	CAPACITOR	R328	4822 050 23903	RESISTOR
C209	4822 126 11601	CAPACITOR	R329	4822 116 83144	RESISTOR
C210	4822 126 11601	CAPACITOR	R330	4822 116 83335	RESISTOR
C212	4822 124 80346	E CAPACITOR	R331	4822 116 83156	RESISTOR

R332	4822 111 30974	RESISTOR	R431	4822 116 83146	RESISTOR
R333	4822 117 10018	RESISTOR	R433	4822 116 83148	RESISTOR
R344	4822 111 30974	RESISTOR	R434	4822 116 83169	RESISTOR
R345	4822 117 10053	\$ FUSIBLE RESISTOR	R440	4822 116 83145	RESISTOR
R348	4822 111 30986	RESISTOR	R450	4822 111 30978	RESISTOR
			R451	4822 116 83145	RESISTOR
C301	4822 126 11646	CAPACITOR	R452	4822 116 83175	RESISTOR
C302	4822 121 70195	M CAPACITOR	R453	4822 116 83168	RESISTOR
C303	4822 124 80313	E CAPACITOR	R458	4822 116 83152	RESISTOR
C304	4822 126 11654	CAPACITOR			
C305	4822 126 12389	CAPACITOR	C401	4822 121 70211	M CAPACITOR
C306	4822 126 12427	CAPACITOR	C402	4822 126 11612	CAPACITOR
C307	4822 126 12389	CAPACITOR	C403	4822 126 11654	CAPACITOR
C308	4822 126 12391	CAPACITOR	C405	4822 126 11611	CAPACITOR
C309	4822 126 11613	CAPACITOR	C407	4822 126 11613	CAPACITOR
C310	4822 124 23867	E CAPACITOR	C409	4822 126 11611	CAPACITOR
C311	4822 124 23822	E CAPACITOR	C411	4822 124 80306	E CAPACITOR
C312	4822 124 23873	E CAPACITOR	C412	4822 124 80306	E CAPACITOR
C313	4822 126 11649	CAPACITOR	C413	4822 126 11652	CAPACITOR
C314	4822 124 23832	E CAPACITOR	C414	4822 126 12456	CAPACITOR
C315	4822 124 23827	E CAPACITOR	C415	4822 121 70214	TF CAPACITOR
C316	4822 124 23873	E CAPACITOR	C416	4822 126 11832	CAPACITOR
C317	4822 124 23874	E CAPACITOR	C417	4822 126 11612	CAPACITOR
C318	4822 124 23863	E CAPACITOR	C418	4822 124 23826	E CAPACITOR
C319	4822 121 70208	M CAPACITOR	C419	4822 126 12374	CAPACITOR
C320	4822 121 70209	M CAPACITOR	C420	4822 124 23826	E CAPACITOR
C321	4822 124 80345	TF CAPACITOR	C421	4822 124 80353	E CAPACITOR
C327	4822 126 11647	CAPACITOR	C422	4822 126 11612	CAPACITOR
			C423	4822 126 11612	CAPACITOR
L301	4822 157 70185	COIL	C424	4822 124 80305	E CAPACITOR
T301	4822 148 81187	OSC TRANSFORMER	C425	4822 126 12437	CAPACITOR
CN301	4822 265 30912	CONNECTOR	C426	4822 121 70212	M CAPACITOR
CN302	4822 265 20527	CONNECTOR	C427	4822 124 23826	E CAPACITOR
IC401	4822 209 31827	IC	C428	4822 124 23826	E CAPACITOR
IC402	4822 209 80587	IC	C429	4822 126 12375	CAPACITOR
IC451	4822 209 30234	IC	C452	4822 126 11611	CAPACITOR
			C454	4822 126 12372	CAPACITOR
D402	4822 130 32778	\$ DIODE	C455	4822 126 11611	CAPACITOR
D403	4822 130 32778	\$ DIODE	C456	4822 121 70213	M CAPACITOR
D405	4822 130 32778	\$ DIODE	C457	4822 126 11611	CAPACITOR
D406	4822 130 81737	ZENER DIODE	C458	4822 124 80305	E CAPACITOR
D409	4822 130 32778	\$ DIODE	C459	4822 126 11611	CAPACITOR
R401	4822 116 83183	RESISTOR	L451	4822 157 90157	COIL
R402	4822 100 11928	V RESISTOR, SW PT	CN401	4822 265 20527	CONNECTOR
R403	4822 116 83145	RESISTOR	CN402	4822 265 30912	CONNECTOR
R404	4822 116 81694	RESISTOR	CP401	5322 157 53342	\$ CIRCUIT PROTECTOR
R406	4822 111 50565	RESISTOR	IC601	4822 209 32128	IC
R408	4822 116 81694	RESISTOR	IC602	4822 209 30236	IC
R410	4822 116 83165	RESISTOR	Q601	4822 130 62503	TRANSISTOR
R412	4822 116 83148	RESISTOR			
R413	4822 116 83169	RESISTOR	D601	4822 130 32778	\$ DIODE
R414	4822 116 83182	RESISTOR	D602	4822 130 80684	ZENER DIODE
R415	4822 116 83182	RESISTOR	D603	4822 130 32778	\$ DIODE
R416	4822 050 11004	RESISTOR	D604	4822 130 32778	\$ DIODE
R417	4822 116 83151	RESISTOR	D605	4822 130 32778	\$ DIODE
R418	4822 116 83166	RESISTOR	D606	4822 130 32778	\$ DIODE
R419	4822 117 10019	RESISTOR			
R420	4822 116 83164	RESISTOR	R602	4822 116 83145	RESISTOR
R421	4822 116 83163	RESISTOR	R603	4822 116 83145	RESISTOR
R422	4822 116 83145	RESISTOR	R604	4822 116 83145	RESISTOR
R423	4822 116 83145	RESISTOR	R605	4822 116 83182	RESISTOR
R424	4822 116 83154	RESISTOR	R606	4822 116 83182	RESISTOR
R425	4822 116 83146	RESISTOR	R607	4822 116 81641	RESISTOR
R426	4822 116 83183	RESISTOR	R608	4822 116 83182	RESISTOR
R429	4822 116 83184	RESISTOR	R609	4822 116 83145	RESISTOR
R430	4822 117 10023	RESISTOR	R610	4822 116 83182	RESISTOR

C57	4822 124 23847	E CAPACITOR
C58	4822 124 23848	E CAPACITOR
C59	4822 126 11619	CAPACITOR
C60	4822 126 11621	CAPACITOR
C61	4822 124 23854	E CAPACITOR
C62	4822 126 11618	CAPACITOR
C63	4822 126 11621	CAPACITOR
C64	4822 124 23849	E CAPACITOR
C65	4822 126 11621	CAPACITOR
C66	4822 124 23849	E CAPACITOR
C67	4822 126 11619	CAPACITOR
C69	4822 126 11573	CAPACITOR
C71	4822 126 10017	CAPACITOR
C72	4822 124 23848	E CAPACITOR
C73	4822 124 23287	E CAPACITOR
C74	4822 124 23839	E CAPACITOR
C75	4822 126 11621	CAPACITOR
C76	4822 126 11621	CAPACITOR
C77	4822 124 23849	E CAPACITOR
C78	4822 126 11647	CAPACITOR
C79	4822 126 11621	CAPACITOR
C80	4822 126 11627	CAPACITOR
C82	4822 124 23852	E CAPACITOR
C84	4822 126 10025	CAPACITOR
C91	4822 126 11628	CAPACITOR
C93	4822 126 11621	CAPACITOR
C96	4822 126 11621	CAPACITOR
C97	4822 126 11618	CAPACITOR
C98	4822 126 10015	CAPACITOR
C99	4822 126 10025	CAPACITOR
C100	4822 126 11625	CAPACITOR
C102	4822 126 10496	CAPACITOR
L1	4822 157 70189	COIL
L3	4822 153 10397	COIL
L4	4822 153 10397	COIL
L6	4822 157 90199	COIL
L7	4822 157 60066	COIL
L8	4822 157 60104	COIL
L9	4822 157 60104	COIL
L10	4822 157 62381	COIL
L11	4822 157 60104	COIL
L12	4822 157 60104	COIL
L13	4822 157 63398	COIL
L15	4822 157 62374	COIL
L16	4822 157 90199	COIL
LPF1	4822 156 21698	LOW PASS FILTER
LPF2	4822 156 21696	LOW PASS FILTER
LPF3	4822 156 21697	LOW PASS FILTER
DL1	4822 320 50315	COMB FILTER
X1	4822 242 81409	CRYSTAL RESONATOR
CN1	4822 265 41135	PIN HEADER
CN2	4822 265 41135	PIN HEADER
CN3	4822 265 41135	PIN HEADER

AUDIO/CONTROL/ERASE HEAD PCB ASSEMBLY

PWBA	4822 214 33812	A/CONTR.HEAD PCB
CN2	4822 267 31542	WIRE TRAP
PWBA4	4822 214 33784	FULL ERASE HEAD PCB
CN1	4822 267 31541	WIRE TRAP

TIMER/DISPLAY/SWITCH PCB ASSEMBLY

PWBA	4822 214 33891	T/D/S PCB ASSY (/95)
PWBA	4822 214 33884	T/D/S PCB ASSY (/57/75)
IC1	4822 209 32129	IC
IC2	4822 209 30238	IC
IC101	4822 209 31733	IR DETECT UNIT
Q1	4822 130 42483	TRANSISTOR
D1	4822 130 80793	ZENER DIODE
D2	\$ 4822 130 32778	DIODE
D3	\$ 4822 130 32778	DIODE
D4	4822 130 81748	DIODE
D5	4822 130 81748	DIODE
D6	4822 130 83196	ZENER DIODE
D7	\$ 4822 130 32778	DIODE
D111	4822 130 80589	DIODE
D112	4822 130 80589	DIODE
D113	4822 130 80589	DIODE
D124	4822 130 80589	DIODE (/57/75)
R1	4822 116 81636	RESISTOR
R2	4822 116 81641	RESISTOR
R3	4822 050 12703	RESISTOR
R4	4822 050 16802	RESISTOR
R5	4822 116 81638	RESISTOR
R6	4822 116 81638	RESISTOR
R7	4822 116 81536	RESISTOR
R8	4822 116 81636	RESISTOR
R9	4822 116 81636	RESISTOR
R10	4822 116 81636	RESISTOR
R11	4822 116 81636	RESISTOR
R12	4822 116 81638	RESISTOR
R13	4822 116 82083	RESISTOR
R14	4822 116 82083	RESISTOR
R15	4822 116 81636	RESISTOR
R16	4822 116 81636	RESISTOR
R17	4822 116 81641	RESISTOR
R18	4822 116 81638	RESISTOR
R19	4822 116 81638	RESISTOR
R20	4822 116 81638	RESISTOR
R21	4822 116 81638	RESISTOR
R24	4822 111 50565	RESISTOR
R27	4822 116 81638	RESISTOR
RA1	4822 111 92135	RESISTOR ARRAY
C2	4822 126 11647	CAPACITOR
C3	4822 126 11647	CAPACITOR
C4	4822 124 23286	E CAPACITOR
C5	4822 124 23823	E CAPACITOR
C6	4822 125 60186	TRIMMER CAPACITOR
C7	4822 126 11642	CAPACITOR
C8	4822 124 80315	E CAPACITOR
C9	4822 124 80318	E CAPACITOR
C10	4822 124 23286	E CAPACITOR
C13	4822 126 11638	CAPACITOR
C14	4822 126 11647	CAPACITOR

X1	\$	4822 242 80341	XTAL (M)
S1		4822 276 13309	TACT SWITCH, POWER
S2		4822 276 13386	TACT SWITCH, STOP/95
S2		4822 276 13309	TACT SWITCH, (/57/75)
S3		4822 276 13309	TACT SWITCH, FF
S4		4822 276 13386	TACT SWITCH, REW
S5		4822 276 13309	TACT SWITCH, CH+
S6		4822 276 13309	TACT SWITCH, REC

S7	4822 276 13309	TACT SWITCH, PLAY
S8	4822 276 13309	TACT SWITCH, CH- (/95)
S8	4822 276 13386	TACT SWITCH, (/57/75)
S9	4822 276 13309	TACT SWITCH, PAUSE
FDP1	4822 130 91189	FLUORESCENT DISPLAY
HD1	4822 256 91979	FDP HOLDER(L)
HD2	4822 256 91981	FDP HOLDER(R)
CN1	4822 403 70458	WIRE TRAP

DECK TERMINAL PCB ASSEMBLY

PWBA1	4822 214 33813	DECK TERMINAL PCB
Q1	4822 130 82706	END SENSOR
D1	4822 130 83159	ZENER DIODE
R1	4822 116 81536	RESISTOR
R3	4822 116 82084	RESISTOR
R4	4822 116 82084	RESISTOR
C1	4822 126 10039	CAPACITOR
C2	4822 126 11637	CAPACITOR
PS1	4822 130 82705	PH INTERRUPTER
CN1	4822 265 41253	FFC CONNECTOR
CN2	4822 265 41137	7PIN CONNECTOR
CN3	4822 265 30908	4PIN CONNECTOR

LOADING MDA PCB ASSEMBLY

PWBA2	4822 214 33782	LOADING MDA ASSY
IC1	\$ 4822 209 30245	IC
IC1	4822 209 31732	IC
C1	4822 124 80322	E CAPACITOR
SPC1	4822 462 41856	SPACER
CN1	4822 403 70462	WIRE TRAP

CASSETTE HOUSING PCB ASSEMBLY

PWBA3	4822 214 33783	CASS HOUSING PCB
Q2	4822 130 62798	PHOTO TRANSISTOR
C1	4822 126 11631	CAPACITOR
PS3	4822 130 82707	CASSETTE SENSOR

ALIGNMENT TOOLS

4822 397 30262	TAPE MH2
4822 395 80196	WRENCH TOR GAUGE
4822 395 90615	TAPE TENSION CASS
4822 395 90916	A/C HEAD BIT
4822 395 90904	ROLLER DRIVER
4822 395 90915	SLP AUTO TRACKING

----- END -----

R611	4822 116 83182	RESISTOR	C801	4822 126 11647	CAPACITOR
R612	4822 116 83182	RESISTOR	C802	4822 124 80308	E CAPACITOR
R613	4822 116 81641	RESISTOR	C803	4822 124 80308	E CAPACITOR
R615	4822 116 83182	RESISTOR	C804	4822 124 23873	E CAPACITOR
R616	4822 116 83182	RESISTOR	C805	4822 124 23839	E CAPACITOR
R617	4822 116 81641	RESISTOR	C806	4822 124 80311	E CAPACITOR
R618	4822 116 83182	RESISTOR	L801	4822 157 60104	COIL
R619	4822 116 83182	RESISTOR	CN801	4822 265 41262	WIRE TRAP
R620	4822 116 83181	RESISTOR	CN802	4822 403 70458	WIRE TRAP
R621	4822 116 81641	RESISTOR	CP801	4822 209 63611	\$ CIRCUIT PROTECTOR
R622	4822 116 81641	RESISTOR			
R623	4822 116 83148	RESISTOR			
R624	4822 116 81641	RESISTOR	PRE/REC BOARD ASSEMBLY		
R625	4822 116 83146	RESISTOR			
R626	4822 116 81694	RESISTOR	PWBA2	4822 214 33814	PRE/REC BOARD ASSY
R627	4822 116 83157	RESISTOR	IC701	4822 209 31731	IC
R628	4822 116 83176	RESISTOR	Q701	4822 130 60862	TRANSISTOR
R629	4822 116 81636	RESISTOR	Q702	4822 130 60669	TRANSISTOR
R630	4822 116 81636	RESISTOR	Q703	4822 130 60669	TRANSISTOR
R631	4822 116 81636	RESISTOR	Q704	4822 130 60997	TRANSISTOR
R632	4822 050 15603	RESISTOR	Q705	4822 130 60997	TRANSISTOR
R633	4822 116 83181	RESISTOR	Q706	4822 130 60997	TRANSISTOR
R634	4822 116 83176	RESISTOR			
R635	4822 116 81636	RESISTOR	D701	4822 130 32778	\$ DIODE
R636	4822 116 83191	RESISTOR	D702	4822 130 32778	\$ DIODE
R637	4822 116 83146	RESISTOR	D703	4822 130 32778	\$ DIODE
R640	4822 116 83146	RESISTOR	D704	4822 130 32778	\$ DIODE
C601	4822 126 11636	CAPACITOR	R701	4822 116 83145	RESISTOR
C602	4822 124 80355	E CAPACITOR	R702	4822 116 83163	RESISTOR
C604	4822 124 23832	E CAPACITOR	R703	4822 116 83163	RESISTOR
C605	4822 126 11639	CAPACITOR	R704	4822 116 83178	RESISTOR
C606	4822 124 23824	E CAPACITOR	R705	4822 116 83178	RESISTOR
C607	4822 126 12445	CAPACITOR	R706	4822 117 10056	RESISTOR
C615	4822 126 12436	CAPACITOR	R707	4822 116 83182	RESISTOR
C616	4822 126 11612	CAPACITOR	R708	4822 116 83182	RESISTOR
C617	4822 126 11832	CAPACITOR	R709	4822 116 83195	RESISTOR
C618	4822 126 11832	CAPACITOR	R710	4822 116 83195	RESISTOR
C619	4822 126 10419	CAPACITOR	R711	4822 117 10016	RESISTOR
			R712	4822 116 83185	RESISTOR
L601	4822 157 62372	COIL	R714	4822 117 10016	RESISTOR
CF601	4822 242 81305	RESONATOR	R715	4822 116 83186	RESISTOR
CN601	4822 265 41257	FFC CONNECTOR	R716	4822 116 83156	RESISTOR
CN602	4822 265 30912	CONNECTOR	R717	4822 116 83186	RESISTOR
CP601	4822 209 63612	\$ CIRCUIT PROTECTOR	R718	4822 116 81751	RESISTOR
R953	4822 116 83142	RESISTOR	R719	4822 116 83177	RESISTOR
L901	4822 157 60438	COIL	R720	4822 116 83146	RESISTOR
L904	4822 157 60438	COIL	R721	4822 117 10019	RESISTOR
L965	4822 157 62372	COIL	R722	4822 116 83156	RESISTOR
			R723	4822 117 10026	RESISTOR
Q801	4822 130 62794	TRANSISTOR	R724	4822 117 10055	RESISTOR
Q802	4822 130 62801	TRANSISTOR	R725	4822 116 83186	RESISTOR
Q803	4822 130 42431	TRANSISTOR	R726	4822 117 10051	RESISTOR
Q804	4822 130 42431	TRANSISTOR	R727	4822 116 83174	RESISTOR
Q805	4822 130 60591	TRANSISTOR	R728	4822 116 83167	RESISTOR
Q806	4822 130 61892	TRANSISTOR	R729	4822 116 83167	RESISTOR
			R730	4822 116 83147	RESISTOR
			R731	4822 116 83157	RESISTOR
R801	4822 116 81729	RESISTOR			
R802	4822 116 81536	RESISTOR			
R803	4822 116 81637	RESISTOR	C701	4822 124 23837	E CAPACITOR
R804	4822 116 81729	RESISTOR	C702	4822 126 11601	CAPACITOR
R805	4822 100 11902	V RESISTOR, SWD 5V	C703	4822 126 12444	CAPACITOR
R806	4822 116 81729	RESISTOR	C704	4822 126 12397	CAPACITOR
R807	4822 116 82085	RESISTOR	C705	4822 126 11601	CAPACITOR
R808	4822 116 81729	RESISTOR	C706	4822 126 11833	CAPACITOR
R809	4822 116 81639	RESISTOR	C707	4822 126 11601	CAPACITOR
			C708	4822 126 12428	CAPACITOR

C709	4822 126 11858	CAPACITOR	Q31	4822 130 60854	TRANSISTOR
C710	4822 126 12442	CAPACITOR	Q32	4822 130 60997	TRANSISTOR
C711	4822 126 12443	CAPACITOR	Q33	4822 130 63164	TRANSISTOR
C712	4822 126 12378	CAPACITOR			
C713	4822 126 11647	CAPACITOR	D1	4822 130 82708	DIODE
C714	4822 126 12404	CAPACITOR	D3	4822 130 32778	\$ DIODE
C715	4822 124 80319	E CAPACITOR	D4	4822 130 32778	\$ DIODE
C717	4822 126 11601	CAPACITOR	D5	4822 130 32778	\$ DIODE
C718	4822 126 12378	CAPACITOR	D6	4822 130 32778	\$ DIODE
C719	4822 126 11832	CAPACITOR	D11	4822 130 32778	\$ DIODE
C720	4822 126 12398	CAPACITOR	D12	4822 130 32778	\$ DIODE
C721	4822 126 10874	CAPACITOR	D14	4822 130 32778	\$ DIODE
C722	4822 126 10874	CAPACITOR	D15	4822 130 32778	\$ DIODE
C723	4822 126 11601	CAPACITOR	D17	4822 130 80375	DIODE
C724	4822 126 11601	CAPACITOR	D19	4822 130 32778	\$ DIODE
C725	4822 126 11832	CAPACITOR	D20	4822 130 32778	\$ DIODE
C726	4822 126 11832	CAPACITOR	D21	4822 130 32778	\$ DIODE
C727	4822 126 10874	CAPACITOR	D202	4822 130 80375	DIODE
C728	4822 126 10874	CAPACITOR			
C729	4822 124 80358	E CAPACITOR	R1	4822 051 30681	RESISTOR
C730	4822 126 12395	CAPACITOR	R2	4822 051 30475	RESISTOR
C731	4822 126 11601	CAPACITOR	R3	4822 051 30475	RESISTOR
C733	4822 126 12439	CAPACITOR	R5	4822 051 30103	RESISTOR
C735	4822 126 12441	CAPACITOR	R6	4822 051 30361	RESISTOR
C745	4822 126 10496	CAPACITOR	R10	4822 051 30102	RESISTOR
			R11	4822 051 30681	RESISTOR
L701	4822 157 70134	COIL	R12	4822 116 83128	RESISTOR
L702	4822 157 62379	COIL	R13	4822 051 30102	RESISTOR
L703	4822 157 62377	COIL	R16	4822 051 30392	RESISTOR
L704	4822 157 62379	COIL	R17	4822 101 10891	V.RESISTOR, PB Y LVL
L705	4822 157 62378	COIL	R18	4822 051 30333	RESISTOR
L706	4822 157 62373	COIL	R19	4822 051 30823	RESISTOR
L707	4822 153 10397	COIL	R21	4822 051 30331	RESISTOR
L708	4822 157 70135	COIL	R22	4822 051 30621	RESISTOR
			R23	4822 051 30561	RESISTOR
SLD1	4822 466 62265	SHIELD CASE	R24	4822 051 30182	RESISTOR
SLD2	4822 466 62266	SHIELD COVER	R25	4822 051 30222	RESISTOR
CN701	4822 267 31543	CONNECTOR	R26	4822 051 30102	RESISTOR
CN703	4822 265 41261	CONNECTOR	R27	4822 051 30183	RESISTOR
			R28	4822 051 30822	RESISTOR
			R29	4822 051 30562	RESISTOR
			R30	4822 051 30562	RESISTOR
			R31	4822 051 30183	RESISTOR
			R32	4822 051 30562	RESISTOR
			R33	4822 051 30562	RESISTOR
			R37	4822 051 30162	RESISTOR
			R38	4822 051 30332	RESISTOR
			R40	4822 051 30102	RESISTOR
			R41	4822 101 10892	V RESISTOR, CARRIER
			R42	4822 101 10851	V RESISTOR, DEV.
			R43	4822 051 30222	RESISTOR
			R44	4822 051 30432	RESISTOR
			R45	4822 051 30122	RESISTOR
			R46	4822 116 81482	RESISTOR
			R47	4822 051 30103	RESISTOR
			R48	4822 051 30911	RESISTOR
			R49	4822 051 30103	RESISTOR
			R51	4822 051 30102	RESISTOR
			R52	4822 051 30102	RESISTOR
			R53	4822 051 30102	RESISTOR
			R54	4822 051 30242	RESISTOR
			R55	4822 051 30392	RESISTOR
			R56	4822 101 30673	V RESISTOR, NC BALAN
			R57	4822 051 30102	RESISTOR
			R58	4822 051 30821	RESISTOR
			R59	4822 051 30102	RESISTOR

VIDEO UNIT BOARD ASSEMBLY

PWBA	4822 214 33811	VIDEO UNIT BD ASSY
SLD1	4822 466 62069	SHIELD PLATE
SLD2	4822 466 62284	SHIELD CASE
IC1	4822 209 31735	IC
IC2	4822 209 30243	IC

R60	4822 101 10851	V RESISTOR, EE Y LVL	C49	4822 122 90058	CAPACITOR
R61	4822 051 30102	RESISTOR			
R62	4822 051 30334	RESISTOR	C50	4822 126 11621	CAPACITOR
R64	4822 101 10894	V.RESISTOR, WHITE CL	C51	4822 126 11621	CAPACITOR
R66	4822 051 30434	RESISTOR	C52	4822 124 23287	E CAPACITOR
R67	4822 051 30102	RESISTOR	C53	4822 124 23286	E CAPACITOR
R68	4822 051 30102	RESISTOR	C54	4822 126 11621	CAPACITOR
R69	4822 051 30102	RESISTOR	C56	4822 124 80357	NP E CAPACITOR
R70	4822 051 30471	RESISTOR	C57	4822 124 23847	E CAPACITOR
R71	4822 051 30122	RESISTOR	C58	4822 124 23848	E CAPACITOR
R72	4822 051 30333	RESISTOR	C59	4822 126 11619	CAPACITOR
R73	4822 051 30333	RESISTOR	C60	4822 126 11621	CAPACITOR
R74	4822 051 30681	RESISTOR	C61	4822 124 23854	E CAPACITOR
R75	4822 051 30561	RESISTOR	C62	4822 126 11618	CAPACITOR
R76	4822 051 30102	RESISTOR	C63	4822 126 11621	CAPACITOR
R77	4822 051 30562	RESISTOR	C64	4822 124 23849	E CAPACITOR
R78	4822 051 30681	RESISTOR	C65	4822 126 11621	CAPACITOR
R79	4822 051 30222	RESISTOR	C66	4822 124 23849	E CAPACITOR
R81	4822 051 30475	RESISTOR	C67	4822 126 11619	CAPACITOR
R83	4822 051 30272	RESISTOR	C69	4822 126 11573	CAPACITOR
R84	4822 051 30105	RESISTOR			
R85	4822 051 30155	RESISTOR	C71	4822 126 10017	CAPACITOR
R88	4822 116 81481	RESISTOR	C72	4822 124 23848	E CAPACITOR
R89	4822 116 81519	RESISTOR	C73	4822 124 23287	E CAPACITOR
R90	4822 116 81521	RESISTOR	C74	4822 124 23839	E CAPACITOR
R208	4822 051 30472	RESISTOR	C75	4822 126 11621	CAPACITOR
			C76	4822 126 11621	CAPACITOR
C1	4822 126 10027	CAPACITOR	C77	4822 124 23849	E CAPACITOR
C2	4822 126 10026	CAPACITOR	C78	4822 126 11647	CAPACITOR
C4	4822 126 11626	CAPACITOR	C79	4822 126 11621	CAPACITOR
C8	4822 126 10489	CAPACITOR	C80	4822 126 11627	CAPACITOR
C9	4822 126 11623	CAPACITOR	C82	4822 124 23852	E CAPACITOR
C11	4822 126 10034	CAPACITOR	C84	4822 126 10025	CAPACITOR
C12	4822 126 10026	CAPACITOR	C91	4822 126 11628	CAPACITOR
C13	4822 126 11622	CAPACITOR	C93	4822 126 11621	CAPACITOR
C14	4822 126 11621	CAPACITOR	C96	4822 126 11621	CAPACITOR
C17	4822 126 11621	CAPACITOR	C97	4822 126 11618	CAPACITOR
C18	4822 122 33991	CAPACITOR	C98	4822 126 10015	CAPACITOR
C19	4822 124 23854	E CAPACITOR	C99	4822 126 10025	CAPACITOR
C20	4822 126 11621	CAPACITOR	C100	4822 126 11625	CAPACITOR
C21	4822 124 23854	E CAPACITOR	C102	4822 126 10496	CAPACITOR
C22	4822 124 23848	E CAPACITOR			
C23	4822 124 23286	E CAPACITOR	L1	4822 157 70189	COIL
C24	4822 124 80356	NP E CAPACITOR	L3	4822 153 10397	COIL
C25	4822 124 23286	E CAPACITOR	L4	4822 153 10397	COIL
C26	4822 124 23821	E CAPACITOR	L6	4822 157 90199	COIL
C27	4822 126 11621	CAPACITOR	L7	4822 157 60066	COIL
C29	4822 126 11621	CAPACITOR	L8	4822 157 60104	COIL
			L9	4822 157 60104	COIL
C30	4822 124 23852	E CAPACITOR	L10	4822 157 62381	COIL
C31	4822 124 23854	E CAPACITOR	L11	4822 157 60104	COIL
C32	4822 126 11624	CAPACITOR	L12	4822 157 60104	COIL
C33	4822 126 11393	CAPACITOR	L13	4822 157 63398	COIL
C34	4822 124 23848	E CAPACITOR	L15	4822 157 62374	COIL
C35	4822 126 11623	CAPACITOR	L16	4822 157 90199	COIL
C36	4822 122 10532	CAPACITOR			
C37	4822 126 11393	CAPACITOR	LPF1	4822 157 63392	LOW PASS FILTER
C38	4822 122 33986	CAPACITOR	LPF2	4822 157 63393	LOW PASS FILTER
C40	4822 122 33988	CAPACITOR	LPF3	4822 157 63405	LOW PASS FILTER
C41	4822 126 11618	CAPACITOR	DL1	4822 320 50315	COMB FILTER
C42	4822 124 23843	E CAPACITOR	X1	4822 242 80339	CRYSTAL RESONATOR
C43	4822 124 23286	E CAPACITOR			
C44	4822 126 11621	CAPACITOR	CN1	4822 265 41135	PIN HEADER
C45	4822 124 23286	E CAPACITOR	CN2	4822 265 41135	PIN HEADER
C46	4822 126 11621	CAPACITOR	CN3	4822 265 41135	PIN HEADER
C47	4822 124 23287	E CAPACITOR			
C48	4822 126 11621	CAPACITOR			

AUDIO/CONTROL BOARD ASSEMBLY

PWBA	4822 214 33812	AUDIO/CONTROL HEAD
CN2	4822 267 31542	WIRE TRAP
PWBA4	4822 214 33784	FULL ERASE HEAD BD
CN1	4822 267 31541	WIRE TRAP

TIMER/DISPLAY/SWITCH ASSEMBLY

PWBA	4822 214 33815	TIMER/DISP/SW BD ASS
IC1	4822 209 32129	IC
IC2	4822 209 30238	IC
IC101	4822 209 31733	IR DETECT UNIT
Q1	4822 130 42431	TRANSISTOR
D1	4822 130 80793	ZENER DIODE
D2	4822 130 32778 \$	DIODE
D3	4822 130 32778 \$	DIODE
D4	4822 130 81748	DIODE
D5	4822 130 81748	DIODE
D6	4822 130 83196	ZENER DIODE
D7	4822 130 32778 \$	DIODE
D111	4822 130 80589	DIODE
D112	4822 130 80589	DIODE
D113	4822 130 80589	DIODE, PAUSE
D126	4822 130 80589	DIODE, SP/LP

R1	4822 116 81636	RESISTOR
R2	4822 116 81641	RESISTOR
R3	4822 050 12703	RESISTOR
R4	4822 050 16802	RESISTOR
R5	4822 116 81638	RESISTOR
R6	4822 116 81638	RESISTOR
R7	4822 116 81536	RESISTOR
R8	4822 116 81636	RESISTOR
R9	4822 116 81636	RESISTOR
R10	4822 116 81636	RESISTOR
R11	4822 116 81636	RESISTOR
R12	4822 116 81638	RESISTOR
R13	4822 116 82083	RESISTOR
R14	4822 116 82083	RESISTOR
R15	4822 116 81636	RESISTOR
R16	4822 116 81636	RESISTOR
R17	4822 116 81641	RESISTOR
R24	4822 111 50565	RESISTOR
R27	4822 116 81638	RESISTOR
RA1	4822 111 92038	RESISTOR ARRAY
RA2	4822 111 92112	RESISTOR ARRAY

C2	4822 126 11647	CAPACITOR
C3	4822 126 11647	CAPACITOR
C4	4822 124 80317	E CAPACITOR
C5	4822 124 23823	E CAPACITOR
C6	4822 125 60186	TRIMMER CAPACITOR
C7	4822 126 11642	CAPACITOR
C8	4822 124 80354	E CAPACITOR
C9	4822 124 80318	E CAPACITOR
C10	4822 124 80317	E CAPACITOR
C13	4822 126 11638	CAPACITOR
C14	4822 126 11647	CAPACITOR

L1	4822 157 90197	COIL
X1	4822 242 80341 \$	XTAL (M)
S1	4822 276 13309	TACT SWITCH, POWER
S2	4822 276 13309	TACT SWITCH, STOP
S3	4822 276 13309	TACT SWITCH, FF
S4	4822 276 13309	TACT SWITCH, REW

S5	4822 276 13309	TACT SWITCH, CH+
S6	4822 276 13309	TACT SWITCH, REC
S7	4822 276 13309	TACT SWITCH, PLAY
S8	4822 276 13309	TACT SWITCH, CH-
S9	4822 276 13309	TACT SWITCH, PAUSE
FDP1	4822 130 91189	FLUORESCENT DISPLAY
HD1	4822 256 91979	FDP HOLDER(L)
HD2	4822 256 91981	FDP HOLDER(R)
PWB	4822 214 33816	UPPER DRUM BOARD

DECK TERMINAL BOARD ASSEMBLY

PWBA1	4822 214 33813	DECK TERMINAL BOARD
Q1	4822 130 82706	END SENSOR
D1	4822 130 83159	ZENER DIODE
R1	4822 116 81536	RESISTOR
R3	4822 116 82084	RESISTOR
R4	4822 116 82084	RESISTOR
C1	4822 126 10039	CAPACITOR
C2	4822 126 11637	CAPACITOR
PS1	4822 130 82705	PH INTERRUPTER
CN1	4822 265 41253	FFC CONNECTOR
CN2	4822 265 41137	7PIN CONNECTOR
CN3	4822 265 30908	4PIN CONNECTOR

PWBA2	4822 214 33782	LOADING MDA BD ASSY
IC1	4822 209 31732 \$	IC
C1	4822 124 80322	E CAPACITOR
SPC1	4822 462 41856	SPACER
CN1	4822 403 70462	WIRE TRAP

PWBA3	4822 214 33783	CASSETTE HOUSING BD
Q2	4822 130 62798	PHOTO TRANSISTOR
C1	4822 126 11631	CAPACITOR
PS3	4822 130 82707	CASSETTE SENSOR

ALIGNMENT TOOLS

4822 397 30262	TAPE MH2
4822 397 30261	TAPE MH2L
4822 395 80196	WRENCH
	TORQUE GAUGE
4822 395 90615	TAPE TENSION CASS
4822 395 90916	A/C HEAD BIT
4822 395 90904	ROLLER DRIVER
4822 395 90915	SLP AUTO TRACKING

