SL-C9ES
RMT-212

SERVICE MANUAL

West Germany Model

711D SYSTEM

November, 1982

SPECIFICATIONS

Also refer to ADJUSTMENT MANUAL.

System

Video recording system	Rotary two-head helical scanning
Video signal	CCIR standards, PAL colour
Aerial input	75-ohm, asymmetrical aerial socket
Zweiton system	Two-carrier system
Channel coverage	VHF: Western European channels E2—12 UHF: Western European channels E21—68 (Up to 30 stations can be preset.)
RF output signal	UHF channels E30 to E39 (variable) 75 ohms, unbalanced

Video

Input	VIDEO IN: BNC connector 1 V p-p $^{+1.0}_{-0.5}$ V p-p 75 ohms unbalanced, sync negative
Output	VIDEO OUT: BNC connector 1.0 V (p-p) ±0.1 V (p-p) 75 ohms unbalanced, sync negative
Horizontal resolution	Colour: 260 lines B/W: 300 lines
Signal-to-noise ratio	Colour: Better than 40 dB B/W: Better than 43 dB

Audio

Input	AUDIO IN: phono jacks 47 kilohms, −10 dBs (0 dBs = 0.775 V rms) MIC: mini jacks −60 dBs, suitable for microphones with 600 ohm impedance
Output	AUDIO OUT: phono jacks Load impedance less than 10 kilohms −5 dBs with 47 kilohms load unbalanced
Frequency response	50 Hz to 10 kHz
Signal-to-noise ratio	Better than 43 dB (BNR ON)
Audio distortion	Less than 4% at 400 Hz

Tape transport

Tape speed	18.73 mm/sec.
Maximum recording time	2 hours 10 min. (with Sony L-500 cassette) 3 hours 15 min. (with L-750)
Fast forward/rewind time	Within 3½ min. (with L-500)

Timer

Clock	Crystal lock
Control time	24-hour cycle
Timer setting	Only for recording 9 events within 14 days can be set.
Power back-up	Incorporated self-charging battery Back-up duration: up to 5 minutes at one time (after the battery has been charged at least 30 hours).

— Continued on next page —

Beta

VIDEO CASSETTE RECORDER

SONY®

MICROFILM

Consumer VIDEO

General

Power requirements	110–240 V ac ±10%, 50/60 Hz
Power consumption	35 W
Storage temperature	−20°C to + 65°C (−4°F to + 149°F)
Operating temperature	5°C to 40°C (41°F to 104°F)
Dimensions	Approx. 430 × 105 × 362 mm (w/h/d) (17 × 4 1/4 × 14 3/8 inches) including projecting parts and controls
Weight	Approx. 10 kg (22 lbs 1 oz) net

Accessories supplied

75-ohm coaxial cable for recorder to TV connection 1
Remote control unit RMT-212 with two size AA batteries 1
RF channel adjustment tool 1
Betamax video cassette tape 1

Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

TABLE OF CONTENTS

FEATURES

Space-saving front loading design

Stereo and bilingual programmes
Stereo and bilingual programmes can be recorded and played back. With a bilingual programme, the language which you want to listen to is selected by the BILINGUAL SELECT switch.

Ease of operation
Recording can be made by simply inserting a video cassette and depressing one button.
Feather-touch logic-controlled function buttons switch the recorder directly from one mode to another.

Variable playback speed
Tape speed can be changed to any of these modes: still, frame-by-frame advance, slow-motion and double speed.

Unique picture search function
To locate a particular portion rapidly, the tape may be advanced or rewound at high speed while it displays the pictures on the TV screen.

Timer recording
With the aid of the built-in digital timer, a TV programme can be recorded while the recorder is unattended. Recording may be started at any time and stopped after a predetermined interval on any of the next fourteen days. In addition, programming of up to 9 timer settings is possible.
The timer is simple to set.

Easy tape location
APS function: To locate the starting point of any recorded programme.
GO TO ZERO function: To locate any point on a tape for repeat viewing of a particular scene.

Audio dubbing—an audio programme can be added to any existing video recording.
Remote control—with the supplied remote control unit, tape transport can be remotely controlled.
14-pin camera connector—when connecting a Sony video camera equipped with the K-type connector, a single cable can be used for the video, audio and tape run/stop signals, as well as for camera power.

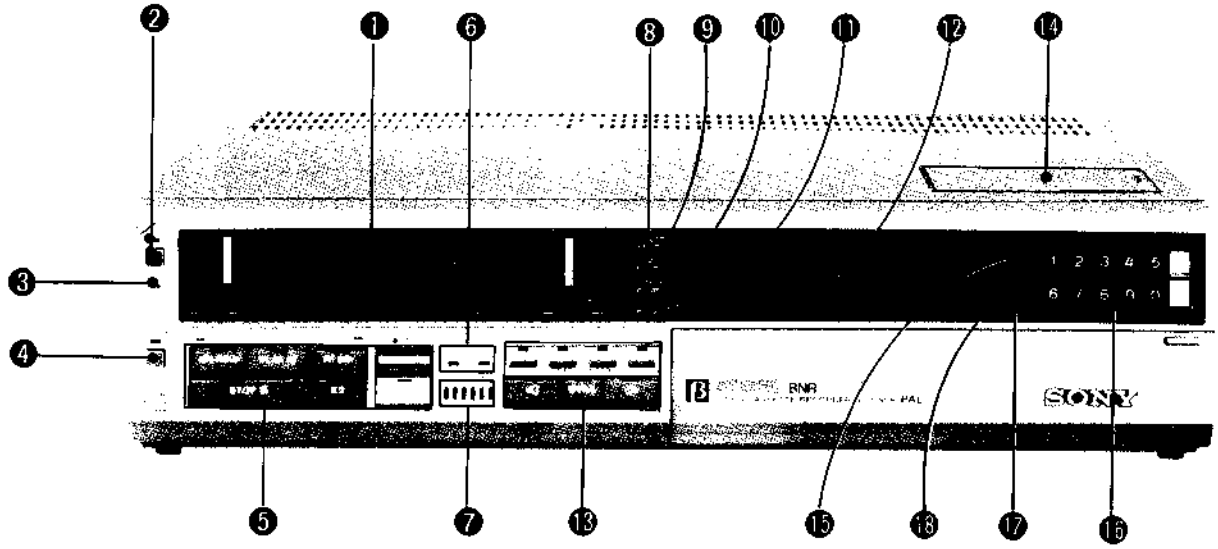
WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

LOCATION AND FUNCTION OF CONTROLS

Front panel



❶ Cassette compartment
Insert a cassette to be recorded or played back after turning on the recorder.

❷ ON/STANDBY button and lamp
Press to turn on the unit after depressing the POWER switch to ON. The lamp will light up. Press again so that the recorder is in the standby mode and the lamp goes off.
The timer section will continue to operate and the time will be displayed even if the ON/STANDBY button is off so long as the POWER switch is depressed to ON.

❸ TIMER lamp
This lamp lights up when the TIMER REC button is pressed to activate the timer recording standby mode.

❹ EJECT button and lamp
Press to remove the cassette.
This button does not function when the recorder is turned off.

❺ Function buttons

▶ PLAY button:	Press to play the tape back.
◀◀ REW button:	Press to rewind the tape. Also used for the reverse picture search operation.
▶▶ FF button:	Press to advance the tape rapidly. Also used for the forward picture search operation.
■ STOP button:	Press to stop the tape.
×2 button:	Press to obtain a double-speed playback picture.
● REC button:	Press to start recording.
❙❙ PAUSE button:	Press to stop the tape for a moment during recording or playback. A still picture will be seen during playback. Press again to release the pause mode.

❻ AUDIO DUB CH-1/L and CH-2/R lamps
These lamps light up when the AUDIO DUB buttons behind the front panel is pressed.

❼ TAPE REMAINING indicator
This shows the amount of tape remaining.

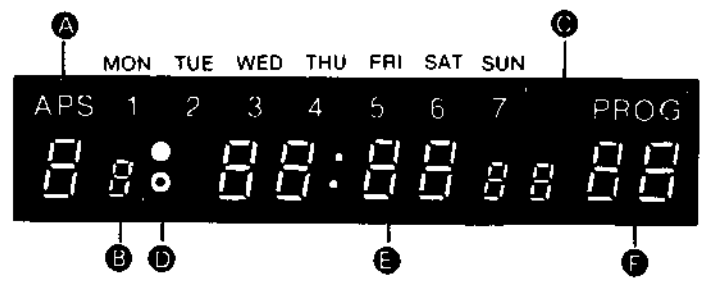
❽ COUNTER/TIMER select button
This is used to select either clock or time counter display.
Press the button to set the display to time counter. Press it again to reset to clock.

❾ COUNTER RESET button
Press to set the time counter reading to "0:00ₒₒ".

❿ GO TO ZERO button
Press this button in the stop mode to return the tape to the "0:00ₒₒ" point on the time counter.
• To activate the GO TO ZERO function, press the COUNTER/TIMER button to set the display to time counter.

⓫ APS button
Press to activate the Automatic Programme Search function and to set the number of the recorded programme you want to view. The selected number will be displayed on the time display.
If it is known, the present selection number will appear when this button is pressed once.

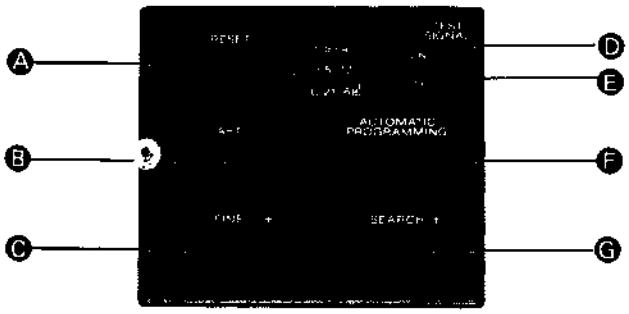
⓬ Time display
This indicates the present time. When the COUNTER/TIMER button is pressed when the recorder is on, the display shows the tape running time at the normal playback speed. To revert to the time display, press the button again. The display always shows the present time when the recorder is turned off.
Timer programmes, programme number and APS number are shown here.



Ⓐ APS indication and number: The "APS" indication appears when the APS button is pressed. The number shows the present APS number or the number selected with the APS button.
Ⓑ Event number
Ⓒ Day of week indications: Show the day of the week or days the timer-activated recording will take place.The boxed numbers show the second week.
Ⓓ Turn-on and turn-off setting indications: The "●" mark shows you are setting the turn-on time and the "O" mark shows the turn-off time.
Ⓔ Time and counter display: Shows the clock time. When the COUNTER/TIMER button is pressed to COUNTER, the display shows the counter number.
Ⓕ Programme number: Shows the programme number selected with the programme select buttons.

⓭ SPEED CONTROL buttons
FRAME, 1/10, 1/5 and 1 buttons: Select the speed of the speed control playback.
▷ and ◁ buttons: Select the direction of the speed control playback: ▷ for forward, ◁ for reverse direction.
STILL button: Press to momentarily stop the tape motion.

⓮ Tuning compartment
All the switches and buttons for presetting stations are in this compartment.



Ⓐ RESET button: To clear the preset station, press this button.
Ⓑ AFT button and ON lamp: After the station presetting is finished, the ON lamp lights.
This button is automatically set to OFF (and the lamp goes off) when the FINE buttons are pressed.
Ⓒ FINE + and – buttons: Press to fine tune the station.
Ⓓ Tuning indicator: Indicates the approximate position of the tuned station within the tuning band scanned.
Ⓔ TEST SIGNAL switch: Set to ON to obtain a test pattern.
Ⓕ AUTOMATIC PROGRAMMING button and lamp: To preset the receivable stations automatically, press this button. The corresponding lamp blinks during automatic and manual programming.
Ⓖ SEARCH + and – buttons: Press to tune in a station. Press the – button to get a station of lower frequency and the + button to get a station of higher frequency.

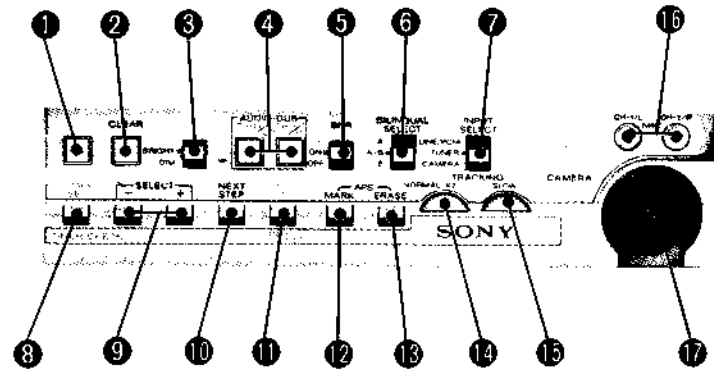
⓯ Remote control detector
Point the infrared transmitter of the supplied remote control unit here.

⓰ Programme select buttons
Select the number of the programme to be recorded or to be viewed. The selected programme number will appear on the display window.

⓱ BILINGUAL lamp
Lights up when a bilingual programme is received, when a tape recorded in bilingual is played back or when the PILOT SIGNAL switch is set to BILINGUAL.

⓲ STEREO lamp
Lights up when a stereo programme is received, when a tape recorded in stereo is played back or when the PILOT SIGNAL switch is set to STEREO.

Behind the front panel



❶ CLOCK SET button
Press to set the clock.

❷ CLEAR button
Press to clear the timer programme memorized.

❸ BRIGHT/DIM switch
Select the brightness of the time display.

❹ AUDIO DUB buttons
Press to record new audio on a tape on which the video programme has been previously recorded. Press the CH-1,2/L,R button to replace all the previously recorded sound.
Press the CH-2/R button to replace the audio of channel 2 with new sound.

❺ BNR (Beta Noise Reduction) switch
ON: To record and playback sound with the BNR system
OFF: To record and playback sound without the BNR system

❻ BILINGUAL SELECT switch
When a bilingual programme is received or when a programme recorded in bilingual is played back, set this switch as follows.
To record or play back the local language.....set to A
To record the local and original languages and play back the local language or the original language or both languages simultaneously.....set to A/B
To record or play back the original language.....set to B

❼ INPUT SELECT switch
Select the programme to be recorded
LINE/PCM: for recording signals connected to the VIDEO IN and AUDIO IN jacks.
TUNER: for recording TV programmes
CAMERA: for recording camera signals connected to the CAMERA connector.

❽ TIMER SET/TIMER CHECK button
Press to set the timer for recording.
To check the contents of a timer programme, press this button.

❾ SELECT + and – buttons
Used to set the clock time, the day of the week and timer programmes.

❿ NEXT STEP button
Used for memorizing the clock time, the day of the week and timer programmes set by the SELECT buttons.

⓫ TIMER REC button
Press to activate the timer recording standby mode. The TIMER lamp will light up.

⓬ APS MARK button
Press to record a cue signal at the desired point on the tape for the APS operation.

⓭ APS ERASE button
Press to erase the cue signal recorded on the tape.

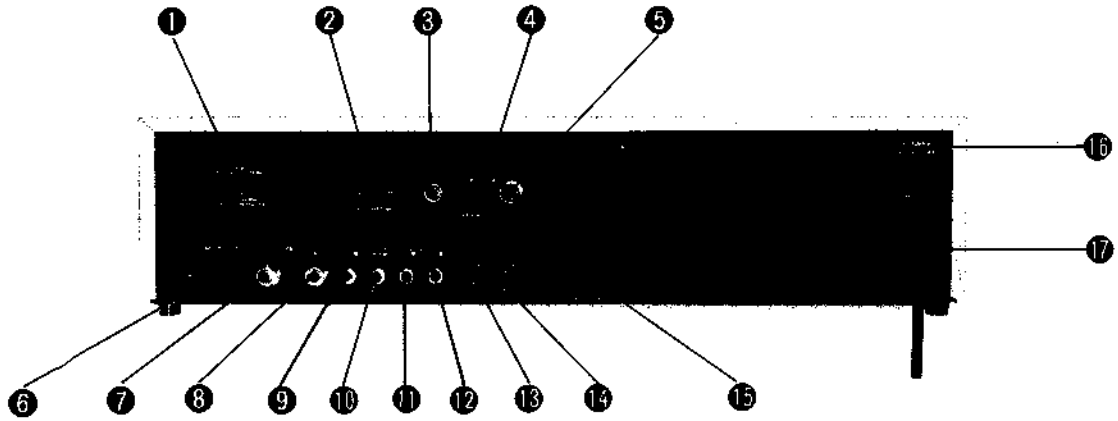
⓮ TRACKING NORMAL/x2 control
Turn to eliminate the streaks or snow in a double speed playback picture or for playback of a cassette recorded on another video cassette recorder.
● Return the control to its centre position after viewing the particular cassette.

⓯ TRACKING SLOW control
Turn to eliminate the streaks or snow in a still, a frame-by-frame or slow motion playback.
● Return the control to its centre position after playback.

⓰ MIC jacks
Connect low impedance microphones. The microphone connected to the CH-1/L jack is recorded on channel 1, and the microphone on the CH-2/R jack is recorded on channel 2.

⓱ CAMERA connector (14-pin, K-type)
Connect a video camera, such as a HVC-4000P.

Rear panel



❶ PILOT SIGNAL switch
When the INPUT SELECT switch is set to the LINE/PCM or CAMERA position, set this switch as follows.
For monaural recording.....set to MONO
For stereo recording.....set to STEREO
For bilingual recording.....set to BILINGUAL
When this switch is set to STEREO, the STEREO lamp lights up and when this switch is set to BILINGUAL, the BILINGUAL lamp lights up. During the playback of a recorded tape, the position of this switch does not matter.

❷ RF CHANNEL screw
If there is interference on the factory preset channel for RF output and the signal of this recorder unit cannot be displayed clearly on the TV screen, adjust this screw with the supplied screwdriver.

❸ AERIAL OUT socket
Connect the aerial input of the TV receiver using the supplied cable.

❹ DX/LOCAL switch
Normally set this switch to DX. If the TV signal is very strong, set the switch to LOCAL.

❺ AERIAL IN socket
Connect the aerial cable.

❻ MULTI OUT connector (8-pin)
Connect the multi input of a colour monitor, such as the Sony KX-20PS1, or a TV receiver such as the Sony KV-2212ES, with VK-2D multi cable (optional).

❼ VIDEO OUT jack (BNC type)
Connect to the video input of another video cassette recorder or of a video monitor.

❽ VIDEO IN jack (BNC type)
Connect to the video output of a camera, another video cassette recorder, etc.

❾ AUDIO OUT CH-2/R jack (phono type)
Connect to the right input jack of an audio system, a video monitor or a video cassette recorder.

❿ AUDIO OUT CH-1/L jack (phono type)
Connect to the left input jack of an audio system, a video monitor or a video cassette recorder.

⓫ AUDIO IN CH-2/R jack (phono type)
Connect to the right output jack of a cassette recorder or an audio amplifier, or to the audio output of a camera or another video cassette recorder.

⓬ AUDIO IN CH-1/L jack (phono type)
Connect to the left output jack of a cassette recorder or an audio amplifier, or to the audio output of a camera or another video cassette recorder.

⓭ PCM switch
Normally set to the right position. For PCM recording and playback using a PCM adaptor, set this switch to the left position.

⓮ TV VERT LOCK (TV vertical lock) control
If a jitter appears in the still, frame-by-frame or slow motion picture, first obtain a still picture and turn this control until the picture is stable.

⓯ CHANGER connector
Used to connect an auto cassette changer which will be available in the near future.

⓰ POWER switch
This is the mains power on/off switch. Keep this button depressed so the timer section will stay active even after the ON/STANDBY button is off. When this switch is released (OFF), the present time and timer settings are all cleared.

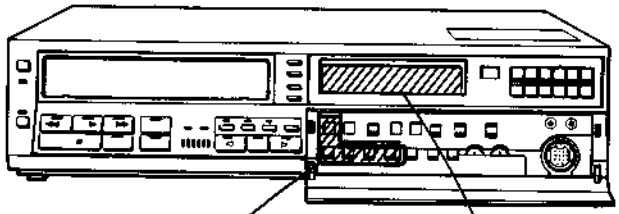
⓱ AC mains lead

CLOCK SETTING

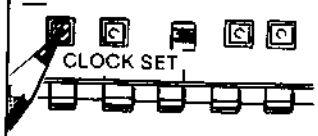
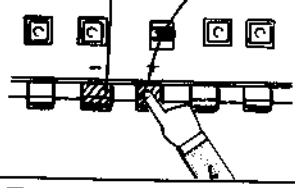
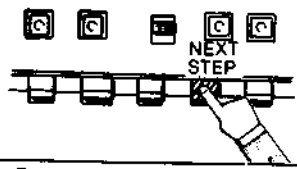
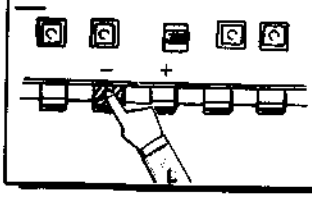
Example: To set the clock to **7:30 on Tuesday.***

***Day indication**

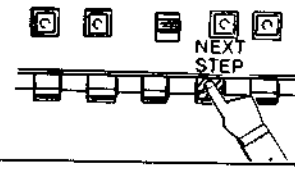
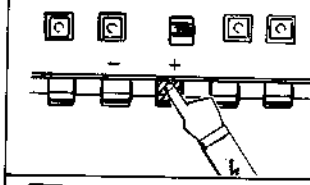
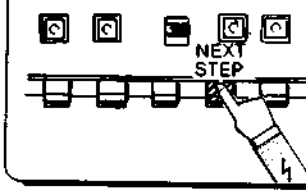
1	Monday	5	Friday
2	Tuesday	6	Saturday
3	Wednesday	7	Sunday
4	Thursday		



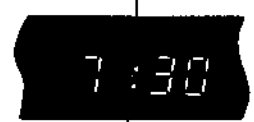
Open the lid.

Button to be pressed	Time display
1 Keep pressed more than a second. 	Display blinking indicates the segment to be set. 
2 Set the day of the week. to go back to advance 	
3 When today's day is displayed. 	
4 Set the hour digit(s). 	

The + and – buttons can be pressed in two ways:
When you hold a button down, the segments will be advanced continuously until the button is released.
When you press and immediately release a button, the segment will be advanced by one.

5 When the current hour is displayed, 	
6 Set the minute digits. 	
7 With the time signal 	The clock now starts operating, showing the correct time. 

Blinks during the first half of each minute.



Blinks during the second half of each minute.

Zero second adjustment
Press the CLOCK SET button quickly (less than a second).
While the upper dot is blinking, the clock is set to the time displayed 00 second. For example, if the clock time is 7:30, it is set to 7:30, 00 second.
While the lower dot is blinking, the clock advances one minute and is set to the time displayed 00 second. For example, if the clock time is 7:30, it is set to 7:31, 00 second.

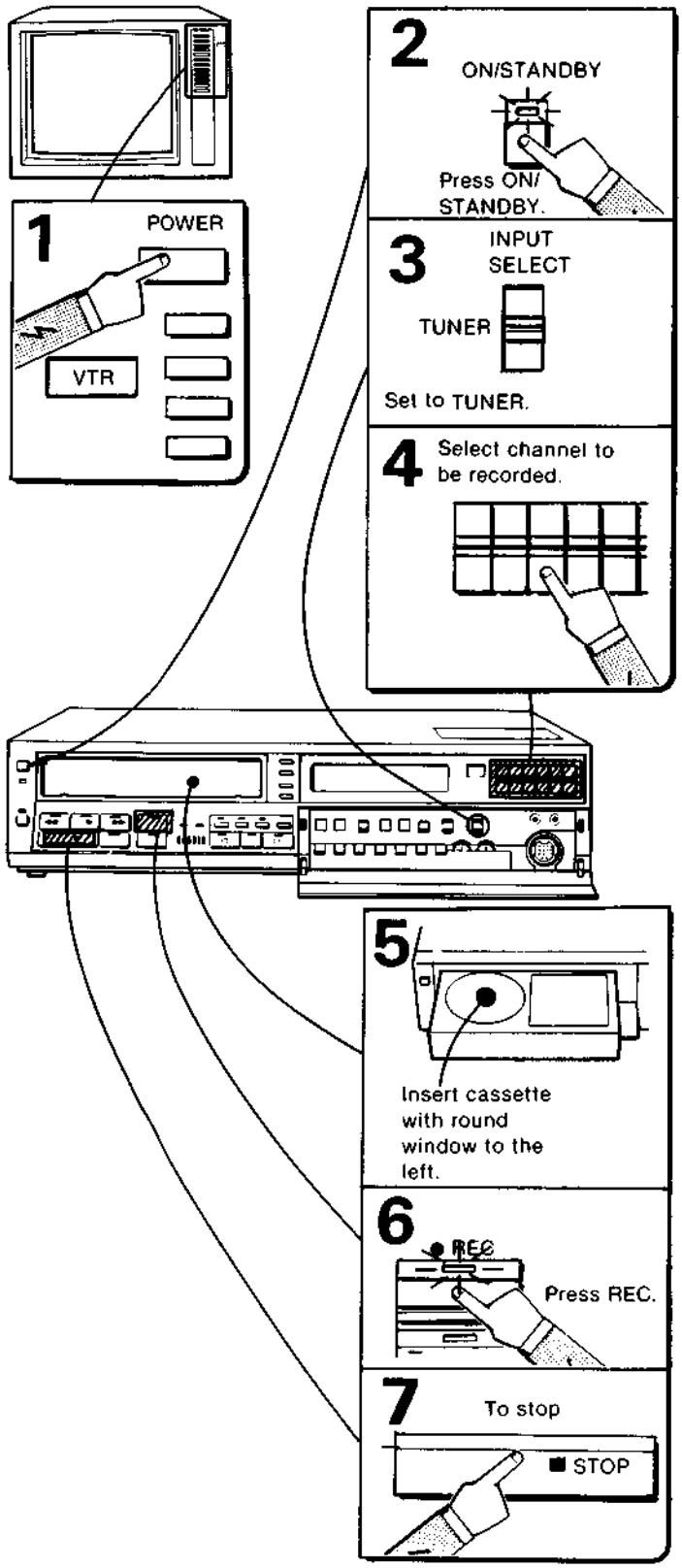
If you press the CLOCK SET button for more than a second, clock adjustment is required again and memorized timer settings are cleared.

When a power interruption has occurred
If power is resumed within about 5 minutes, during timer recording, the colon blinks quickly to indicate the power interruption. A rechargeable battery inside the unit will supply power so that the clock continues to keep time and any timer setting is maintained. The timer activated recording will stop during interruption and be resumed when the power is restored. The battery will be automatically fully recharged when the power cord of the unit has been connected for at least 30 hours. To reset the colon blinking, press any button for clock or timer setting.

If the power interruption continues for more than 5 minutes or if the battery is not fully charged, clock stops, showing "1 (Monday) 0:00". If this happens, set the clock and timer again.
NOTE: If the main POWER switch is pressed to OFF, the same result will be obtained as in power interruption.

BASIC OPERATION
TV PROGRAMME RECORDING
OPERATING PROCEDURE

1. Turn on the TV and tune it to the channel preset for the video recorder. If your TV is equipped with a TV/VTR select button, turn on the TV and set this button to VTR.
2. Press the ON/STANDBY button on the recorder.
3. Set the INPUT SELECT switch to TUNER.



4. With the programme select button, select the programme to be recorded. The selected number will be displayed on the time display.
For information how to select the programme number, see "How to select the programme number".
5. Insert a cassette into the recorder correctly.
6. Press the ● REC button. Recording will begin.
7. To stop recording, press the ■ STOP button.

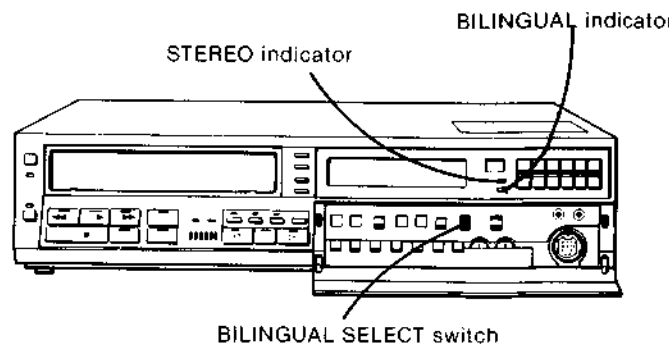
HOW TO SELECT THE PROGRAMME NUMBER

Stations are selected by pressing the programme select buttons: 1 to 29 and 0.
For programmes 1 to 9, press the appropriate single-digit button.
For programmes 10 to 19, first press the [10] button, then the button corresponding to the last digit of the programme number.
For example: for programme 10, press [10] and [0].
for programme 11, press [10] and [1].
Similarly **for programmes 20 to 29**, press the [20] button and then the single-digit button.
For programme 0, press the [0] button only.
● If you don't press any single-digit button within several seconds after pressing the [10] or [20] button, the previous programme setting will be automatically recalled.

CAUTION
Television programmes, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provision of the copyright laws.

RECORDING A STEREO OR BILINGUAL PROGRAMME

When a stereo signal is being received, the STEREO indicator will light up. To record the stereo programme, proceed according to the usual recording steps.
When a bilingual signal is being received, the BILINGUAL indicator will light up. Set the BILINGUAL SELECT switch as follows.
To record the local language.....set to A
To record the original language.....set to B
To record both languages.....set to A/B



RECORDING ONE TV PROGRAMME WHILE VIEWING ANOTHER

You can enjoy one TV programme while recording another TV programme as follows:

1. Start recording the desired TV programme in the usual way.
2. Select the station you want to view with the TV's programme selector. If your TV is equipped with a TV/VTR select button, set this button to TV and select the station you want to view with the TV's programme selector.

TO KEEP A RECORDED PROGRAMME FROM BEING ACCIDENTALLY ERASED

When a new recording is made on a previously recorded cassette, the previous recording will be automatically erased.

To avoid erasing a recording
Break off the safety tab using a screwdriver or similar object.

To re-record on a cassette which has had the safety tab removed
Cover the slot with a piece of plastic tape.

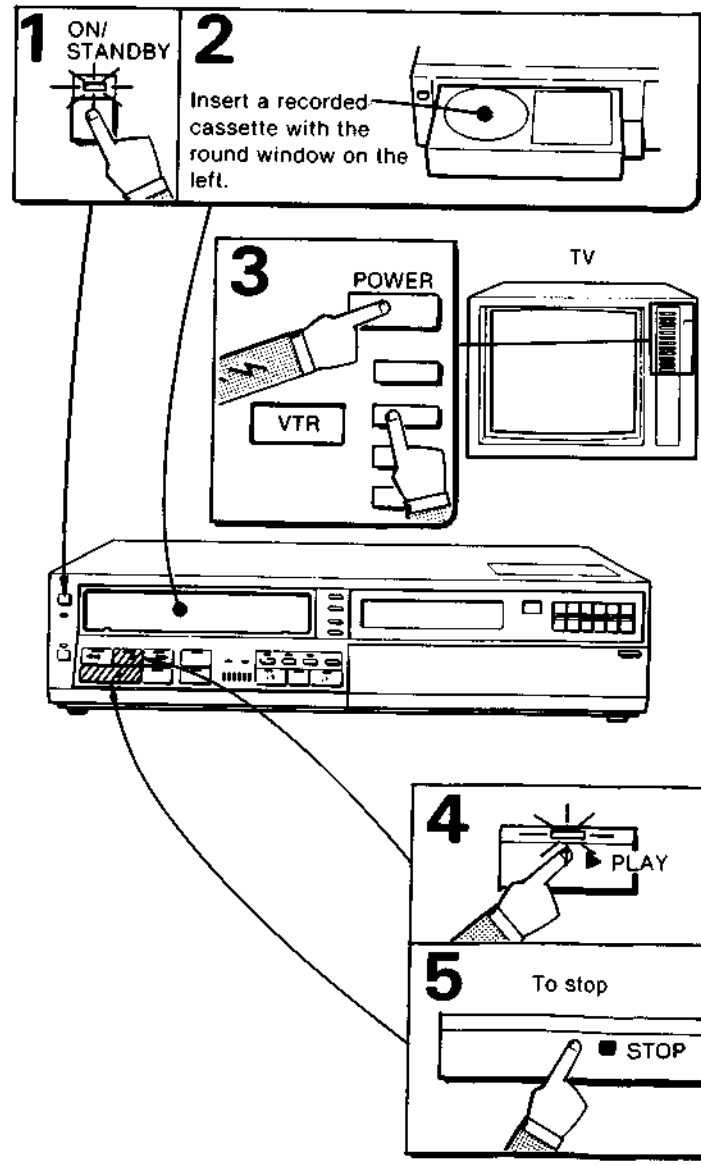
PLAYBACK

OPERATING PROCEDURE

1. Press the ON/STANDBY button on the recorder. The lamp above the button will light up.
2. Insert a recorded cassette correctly.
3. Turn on the TV and tune it to the channel preset for the video recorder. If your TV is equipped with a TV/VTR select button, turn on the TV and set this button to VTR.
4. Press the ▶ PLAY button. The lamp will light up and playback will begin.
5. To stop playback, press the ■ STOP button.

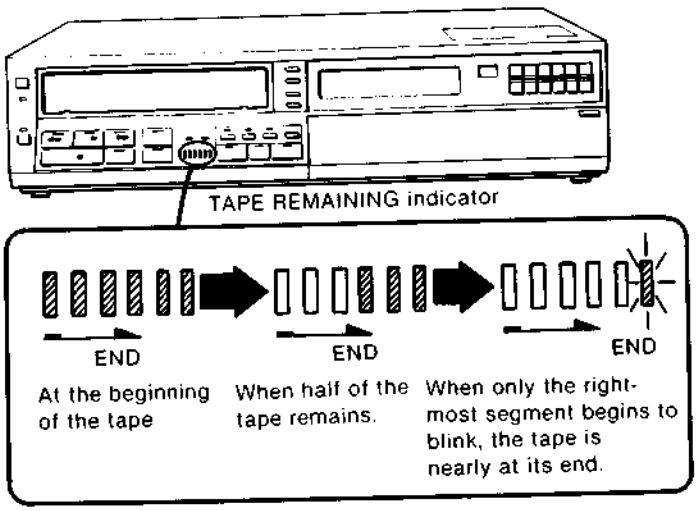
When the tape reaches the end, it will be automatically rewound.

• When the ■ STOP button is pressed, the programme determined by the INPUT SELECT switch position will appear on the TV screen.



TO CHECK THE AMOUNT OF TAPE REMAINING

The TAPE REMAINING indicator shows the amount of tape remaining.



The indicator only operates during recording or when tape on which a recording has been made is played back, rewound or advanced rapidly. It will not operate with a blank tape or with the unrecorded portion of a tape during playback, rewind and fast forward modes.

Notes

- For the first few seconds the indicator illuminations may fluctuate while the amount of tape is being detected.
- To know the amount of tape remaining during fast forward or rewind mode, play the tape back at normal speed until the illumination stabilizes, then rewind or rapidly advance the tape.

TO PLAY BACK TAPES RECORDED IN STEREO OR BILINGUAL

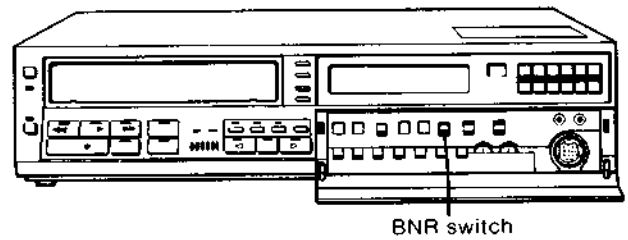
Use a stereo TV or colour monitor with speakers to enjoy programmes recorded in stereo or bilingual.
To listen to tapes recorded in stereo, proceed according to the usual playing back step.
To listen to tapes recorded with the BILINGUAL SELECT switch set to A/B, set the BILINGUAL SELECT switch as follows.

To listen to the local language.....set to A
To listen to the original language.....set to B
To listen to both languages.....set to A/B

When th BILINGUAL SELECT switch is set to A/B, you can select the language with the bilingual channel selector button on the TV.
When only the local language or the original language is recorded, the position of the BILINGUAL SELECT switch does not matter.
When the programme recorded in stereo or bilingual is played back, the STEREO or BILINGUAL indicator will light up.

TO OBTAIN HIGHER QUALITY SOUND

The BNR (Beta Noise Reduction) system reduces tape hiss and improves the signal-to-noise ratio, thus permitting clear sound with low noise.



In recording: The sound is recorded with the BNR system on regardless of the position of this switch.
In playback: For a tape recorded on the SL-C9ES or on any other recorder with the BNR system on, set the BNR switch to ON. For a tape recorded on another recorder which does not have a BNR switch, set the switch to OFF.

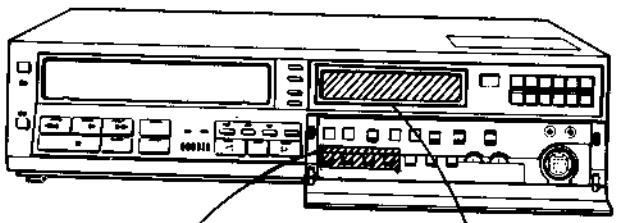
TIMER-ACTIVATED RECORDING

Recording of up to 9 events occurring **within the next two weeks** can be made automatically even when you are not at home.

Check before setting the timer
- Is the clock set to the correct day and correct time? Timer setting can only be made after the clock has been set. If the clock is readjusted after the timer has been set, the memorized timer settings will be cleared.
- Is a cassette inserted in the recorder?
- Is the cassette long enough to record the programmes?
- Does the cassette have a safety tab on the bottom?
- Is the INPUT SELECT switch set to TUNER?

Note: The timer cannot be set during recording.

Example: To record a PROG 2 broadcast from 9:00 to 11:25 on Friday in Event 3.



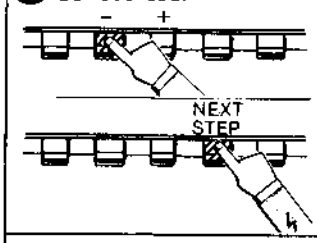
Button to be pressed	Time display The segment to be set will blink.
1 TIMER SET If the recorder is off, it will be turned on automatically.	turn-on indication The lowest vacant event number will be displayed.
2 Select the event. Indication changes in numerical order. – + To advance To go back to the previous indication. NEXT STEP	

3 Select the turn-on day.
To go back to the previous indication.
– +
Indication changes as follows;
every day→Monday (1)
→Tuesday (2) .....
→Monday of the next week (1)
→Tuesday of the next week (2)
.....→every day
NEXT STEP

4 Set the turn-on time.
– + to advance
to go back
NEXT STEP
– +
NEXT STEP
turn-off indication

5 Set the turn-off time.
– +
NEXT STEP
– +
NEXT STEP

6 Select the channel to be recorded.

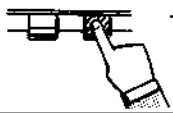


The present time is displayed.
The recorder will be turned off again if it was off before setting the timer.

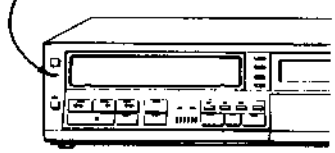
7 Now the Event 3 is set. To set more events, repeat these steps. (If the unit is off, the unit will be turned on when the TIMER SET button is pressed.)

If the bilingual programme is to be recorded, set the BILINGUAL SELECT switch to the appropriate position. See page 9.

8 After all the timer settings are finished,



The TIMER lamp will light up unless an error was made.



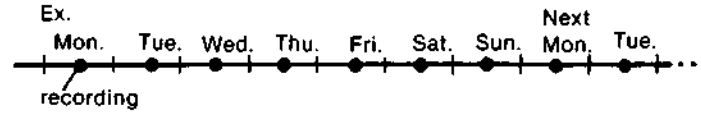
At the preset turn-on time, recording will start automatically and will stop at the preset turn-off time.

ONCE THE TIMER LAMP HAS LIT UP, NO FUNCTION OF THE RECORDER CAN BE ACTIVATED, except for checking the timer setting. To operate the recorder after setting the timer for recording, press the TIMER REC button so that the TIMER lamp goes off.

- After finishing with the recorder, be sure to press the TIMER REC button again to reactivate the timer recording standby mode.

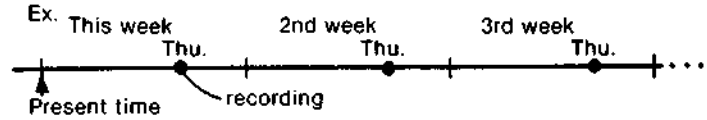
To record an event at the same time everyday

The every day of the week indication is: 1 2 3 4 5 6 7
Press the NEXT STEP button when these indications are blinking.

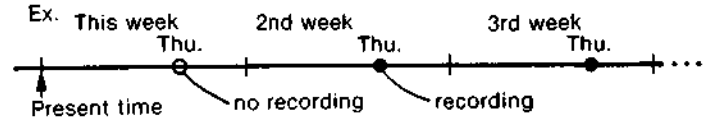


To record an event at the same time every week

Use **Event 9** whose memory will not be erased even after a recording has been made.



If a turn-on day is set seven days ahead, the recording will be done every week at the same time beginning the next week.

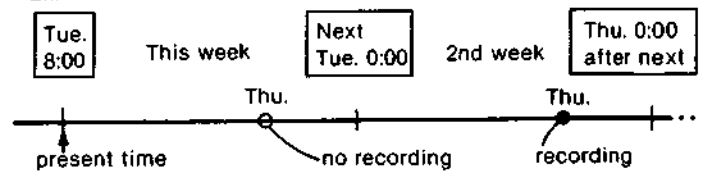


To record an event more than seven days ahead

Day indication more than seven days ahead is: [1], [2], ... [7].
Press the NEXT STEP button when the corresponding day indication is blinking.

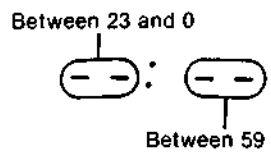
NOTE: Be sure that the next week begins at 0:00 seven days from the present day at whatever the present time is.

Ex.



To record to the end of the tape

Set the turn-off time to a time after the tape will reach its end or to "--:--". To exhibit "--:--", press + or - SELECT button.



- If you set the turn-off time to "--:--", the tape will be rewound to its beginning when the recording is finished, and after about 1 second the recorder will be turned off.

If the tape reaches the end during the timer recording

The recording stops and the tape will be rewound to the beginning and after about 1 second, the recorder will be turned off.

When the timer recording ends

The unit will be turned off automatically after about 30 seconds.

To stop the actual timer recording

Press the TIMER REC button so that the TIMER lamp goes off. The unit will be turned off automatically after about a second.

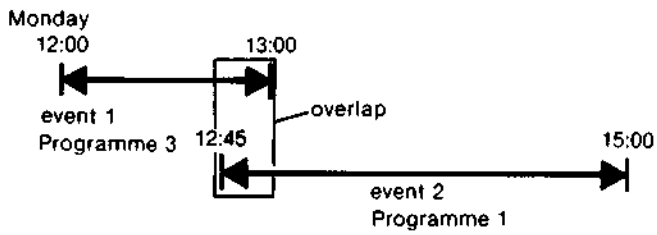
To begin recording manually and end it by the timer

Set the turn-on time earlier than the present time and the turn-off time to the desired time. Begin recording by pressing the TIMER REC button. The recording will end at the preset time.

ERROR INDICATIONS

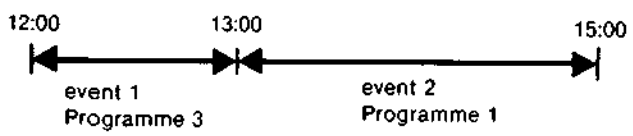
If the ● and ○ indications blink alternately and the event number also blinks when the TIMER REC button is pressed.....
It means that the setting of these events overlap. Check the settings and eliminate the overlap.

Example:
Timer setting



Even with this error indication, recording can be made. In this case, the first preset recording continues to its turn-off point and then the next recording begins.

Realized recording



● If the turn-on time of more than 2 events is the same, recording of the event having the lowest number will be made.

If the "--:--" indication blinks when the TIMER REC button is pressed .....
Check the following points:
● Did you insert a cassette into the recorder?
● Does the cassette inserted have a safety tab on the bottom?
● Make sure that the tape is not at its end.

After correcting the above points, press any timer setting button or ON/STANDBY button, then set the timer and press the TIMER REC button again.
Timer-activated recording cannot be activated if the TIMER lamp does not light.

TO CHECK THE TIMER SETTING

If the TIMER lamp lights up .....
Press the TIMER SET button. Each time you press the button, the indication will change as follows:
Example (Events 1, 2, and 5 have been preset.)

turn-on day and time of Event 1 → turn-off time →
turn-on day and time of Event 2 → turn-off time →
turn-on day and time of Event 5 → turn-off time → present time

● During actual timer recording, only the turn-off time of the event being recorded can be checked.
● To obtain a present time during the checking procedure, press the NEXT STEP button when a turn-off time is displayed.

If the TIMER lamp does not light up .....
To check all events, press the TIMER SET button. From the lowest vacant event number, all nine events are displayed in sequence with both turn-on and -off days and times, advancing one event each time you press the button twice. After the nine events have been displayed, the present time is again displayed.
To check a particualr event, press the TIMER SET button and then press the + or − button to display the desired event number. To check the turn-off time, press the TIMER SET button again.
● To obtain a present time during the checking procedure, turn the recorder off.

TO CLEAR THE TIMER SETTING

The memory of an event will be automatically erased when the recording of that event is finished. Settings for everyday and every week (Event 9) will not be erased, of course. If you want to skip the timer recording preset for everyday or every week temporarily, press the TIMER REC button so that the lamp goes off. To reactivate the timer standby mode of that event, press the TIMER REC button again.

If you want to erase the memory of an event:
1. Press the TIMER SET button and then the + or − button to display the event to be erased.
2. Press the CLEAR button. This event will be erased from the memory.
3. To display a present time, turn the unit off.

ADVANCED OPERATION
TO OBTAIN VARIABLE SPEED PLAYBACK PICTURE

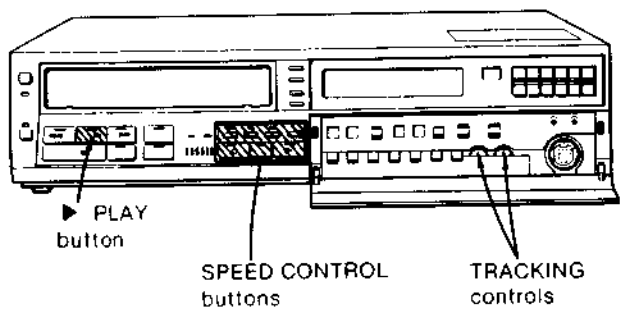
With this video cassette recorder, you can obtain still, frame-by-frame, slow motion, double speed or high speed playback picture in both forward and reverse direction (for double speed playback, forward direction only).

For example...

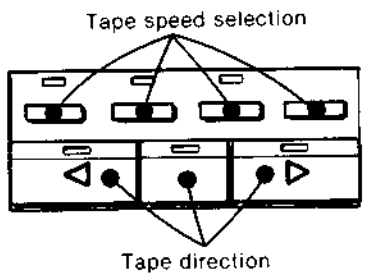
To closely inspect a particular frame→STILL PICTURE
To study your golf or tennis form→FRAME-BY-FRAME PICTURE
To watch a football play slowly unfold→SLOW-MOTION PICTURE
To quickly review a programme→DOUBLE SPEED PICTURE
To visually search for a particular point→PICTURE SEARCH

SPEED CONTROL

For still, frame-by-frame, slow motion and normal speed playback in both forward and reverse direction, use the "SPEED CONTROL" function buttons.



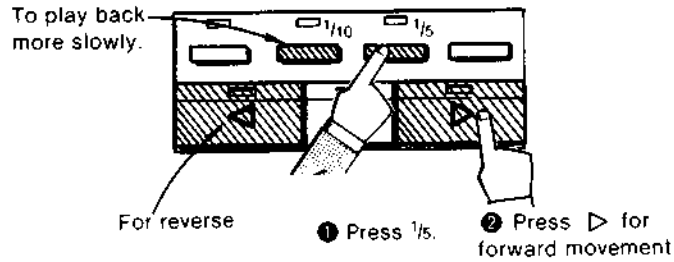
To enter the speed control mode, first press the ▶ PLAY button. Then select the playback speed and tape direction



Notes

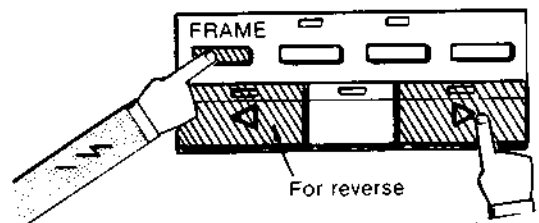
- The audio cannot be monitored in the speed control mode.
- To resume normal playback when the recorder is in the speed control mode, press the ▶ PLAY button.

Slow motion



- To stop the motion, press the STILL button.

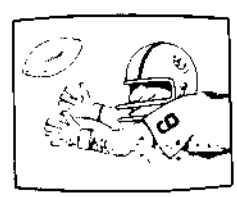
Frame-by-frame playback



- If you keep the ▷ or ◁ button depressed, the picture will advance continuously one frame every second.

Still picture

There are two ways to stop the motion of the picture.
1) Press the PAUSE button.
2) Press the FRAME and STILL buttons.

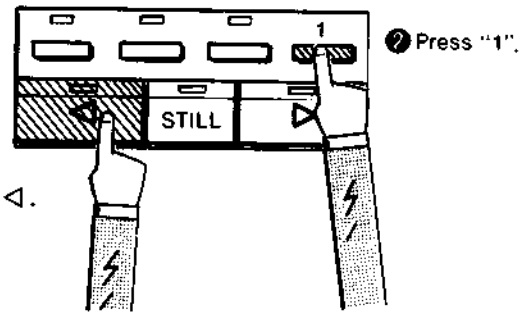


If a vertical jitter appears in the still, frame-by-frame or slow motion picture.

Obtain a still picture and adjust the TV VERT LOCK control at the rear of the recorder for the best possible picture. Then return the recorder to the previous mode.

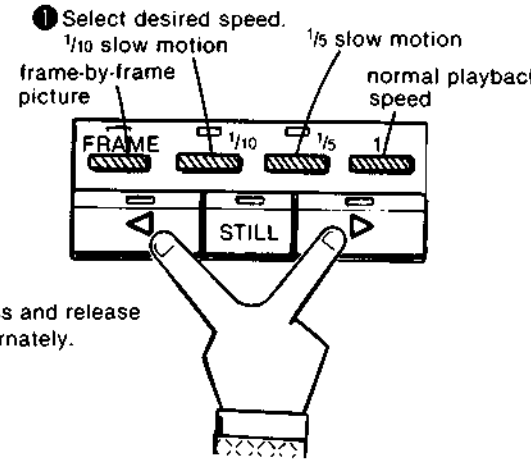
- Once you adjust this control, you do not have to adjust it again unless you change the connected TV receiver.

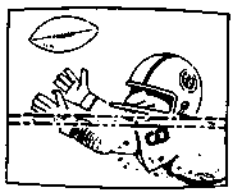
Reverse playback



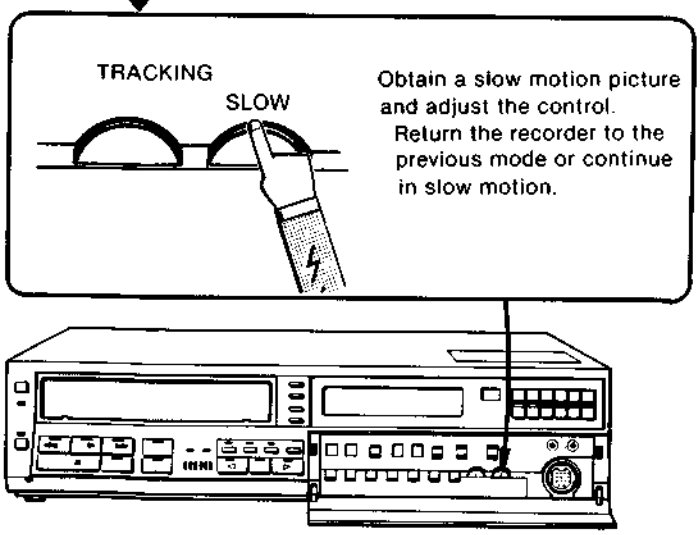
● For forward playback, press the ▷ button. The audio cannot be heard.

Back and forth playback

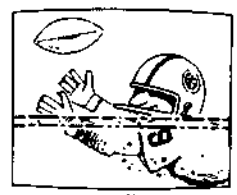




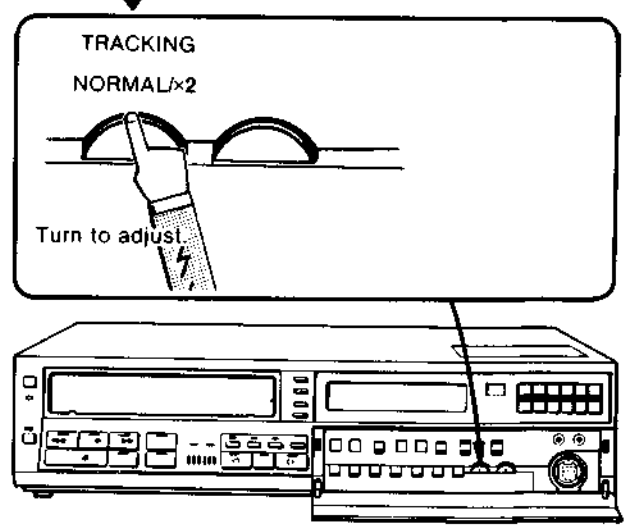
To remove the noise band in the still, frame-by-frame or slow motion picture.



● Return the control to its original (centre) position after playback.



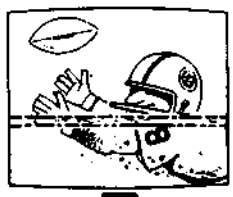
To remove the noise band in the reverse playback picture



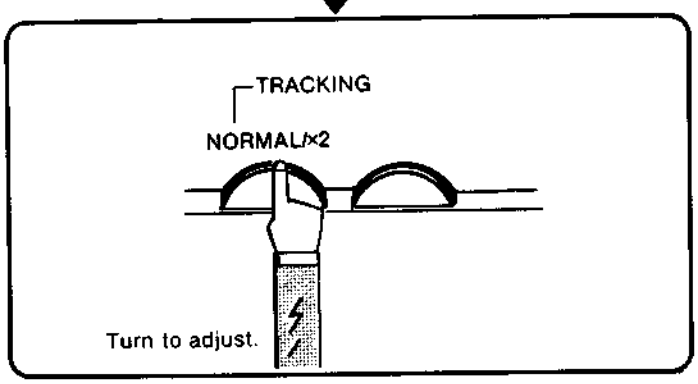
Return the control to its original (centre) position after the reverse normal speed viewing.

DOUBLE SPEED PLAYBACK

Press the ×2 button to view the picture at twice the normal speed. You can change the tape speed directly to slow motion or frame-by-frame advance or reverse the tape direction by selecting the tape speed with the FRAME, 1/10, 1/5 or 1 buttons and then by pressing the ▷ or ◁ button.



To remove the noise band in the double speed picture

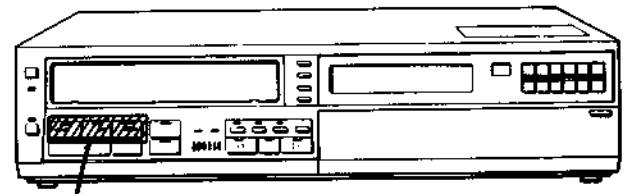


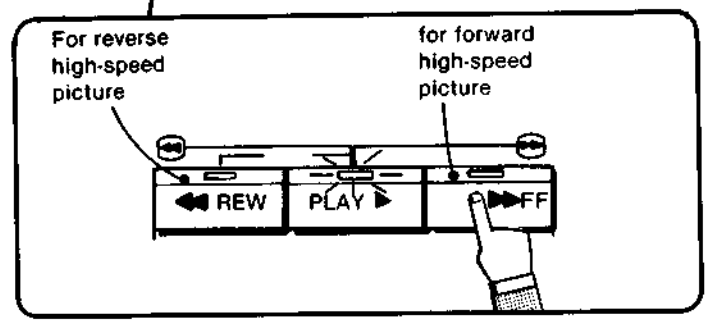
Return the control to its original (centre) position after the double speed viewing.

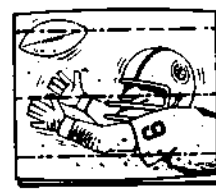
PICTURE SEARCH

Press the ▶▶ FF or ◀◀ REW button during playback mode. While the button is depressed, a high-speed picture in the forward or reverse direction is displayed.
Release the button for previous mode.

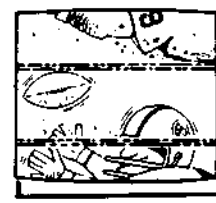
- Picture search mode can also be obtained directly from the frame-by-frame, slow-motion double speed or reverse playback mode.







Streaks will appear in the picture search mode.



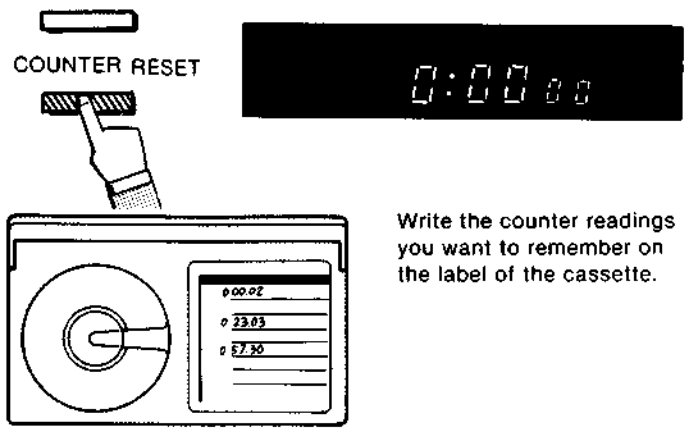
If the picture rolls vertically, adjust the vertical hold control on the TV.

- **If you press and release the ▶▶ FF or ◀◀ REW button repeatedly in a short time, the protection circuit may be activated and the tape will stop.**

TO LOCATE A PARTICULAR SCENE

TO REFERENCE A RECORDED PROGRAMME NUMERICALLY→ TIME COUNTER

When the COUNTER/TIMER button is pressed once, the display works as a time counter indicating how much the tape has advanced at normal speed in hours, minutes and seconds.
Press the COUNTER RESET button to set the counter to "0:00₀₀" before recording or playback. By noting the counter reading at a particular point, you can easily find that point later by referring to the time counter.
When the tape runs in reverse from "0:00₀₀", a minus sign "−" will be displayed to the left of the figures.
● To revert the display to the present time, press the COUNTER/TIMER button again.



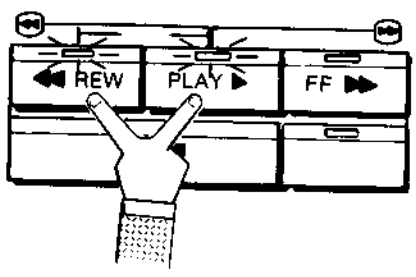
Write the counter readings you want to remember on the label of the cassette.

The counter reading is automatically reset to zero when the power is turned off
While the power is turned off, the display shows the present time, regardless of the COUNTER/TIMER selector.

The time counter does not operate with brand-new tapes except in the record mode
When an unrecorded tape is played back, advanced rapidly forward or rewound, the time counter does not operate.

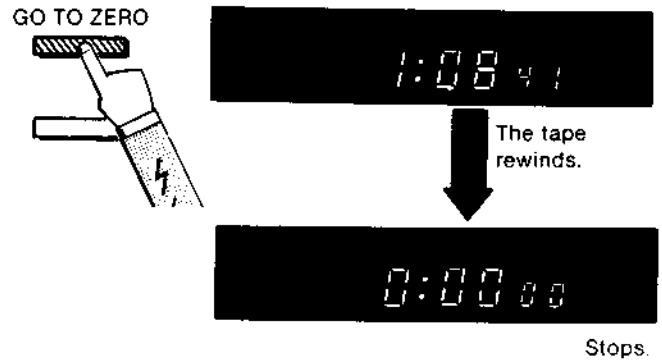
TO PLAY FROM THE BEGINNING OF THE TAPE AFTER REWINDING → AUTO PLAY

Press the ▶ PLAY button and ◀◀ REW button simultaneously while rewinding or in the stop mode. The PLAY and REW lamps blink alternately during rewinding.
After the tape is completely rewound, it will be automatically played back.



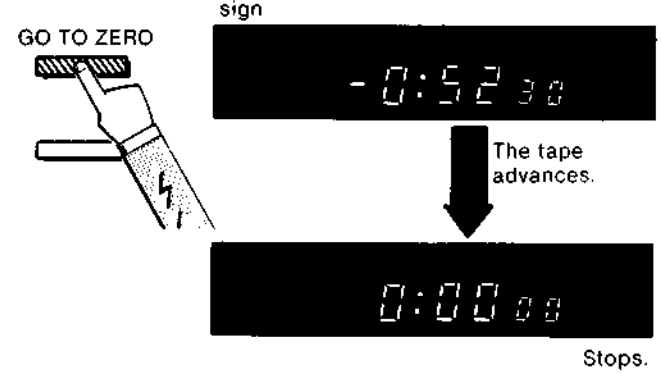
TO RETURN TO A PRE-REGISTERED POINT→GO TO ZERO

Press the COUNTER/TIMER button to display the time counter, then press the COUNTER RESET button at the point you later want to locate. When the recording or playback is finished, stop the tape by pressing the ■ STOP button, then press the GO TO ZERO button. The tape will rewind or advance to the point where the COUNTER RESET button was pressed.



Stops.

When the counter reading has a minus sign

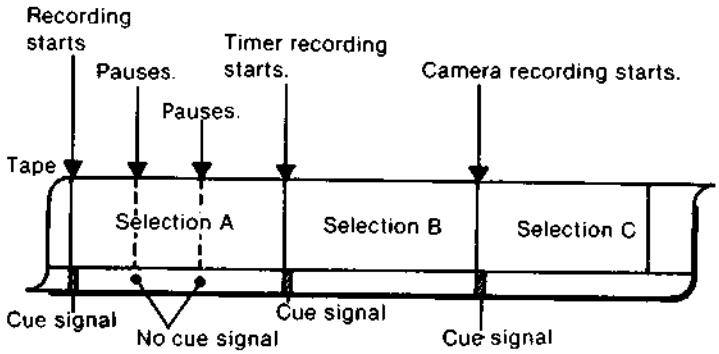


Stops.

● The tape may stop several seconds before or after 0:00₀₀.
● Always display the time counter by pressing the COUNTER/TIMER button to activate the GO TO ZERO function.

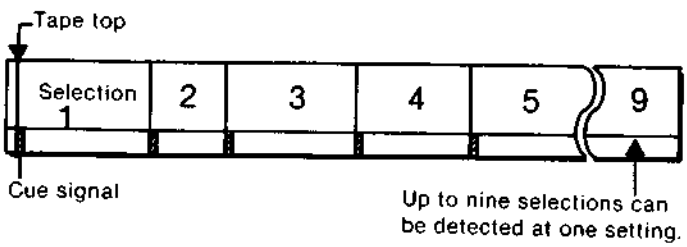
TO PLAY FROM THE START OF A DESIRED SELECTION→AUTO PROGRAMME SEARCH (APS)

The APS function operates by...
detecting the cue signals which are automatically recorded on the tape when the ● REC button is pressed or when timer recording begins.

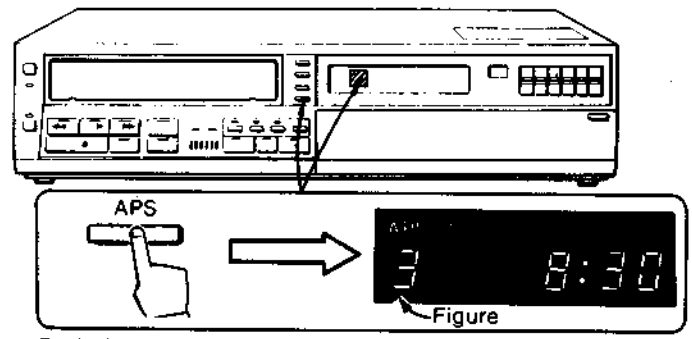


Notes
- Too short selection cannot be detected as one selection. There must be at least 30 seconds of tape at normal playback speed between cue signals.
- The APS function operates with any tape recorded on a machine with an APS function, such as the Sony SL-C7 series recorders.

How to actuate the mechanism
You number each selection on the tape from the beginning in sequence and find your desired selection by designating the number.

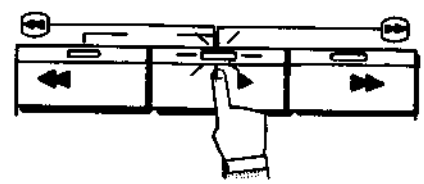


Operation
1. Stop the tape by pressing the ■ STOP button.
2. Press the APS button.
   "APS" appears on the left side of the time display.
   - If the number appears below the "APS" indication, that is the number of the present selection.
3. Press the APS button again.
   "0" appears below the "APS" indication. Press the APS button serveral times until the number of your desired selection appears.



Each time you press the APS button, the number in the time display will increase by 1, up to "9". If you press the button when "9" is displayed, "9" will disappear and the index function will not operate.

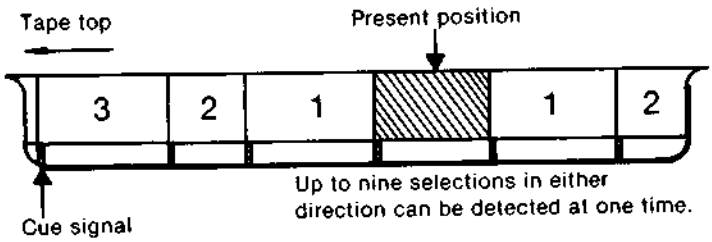
4. Press the PLAY button.



The recorder will search for the starting point of your desired selection in either of the rewind or fast forward mode. When located, playback of the programme will start automatically.

How can you know what the present selection number is?
When you rewind the tape to the tape top or proceed with the APS function, the present selection number will be displayed below the APS indication on the time display when the APS button is pressed once.
The recorder will hold the selection numbers until the cassette is removed, the power is turned off, or playback in slow motion is actuated.

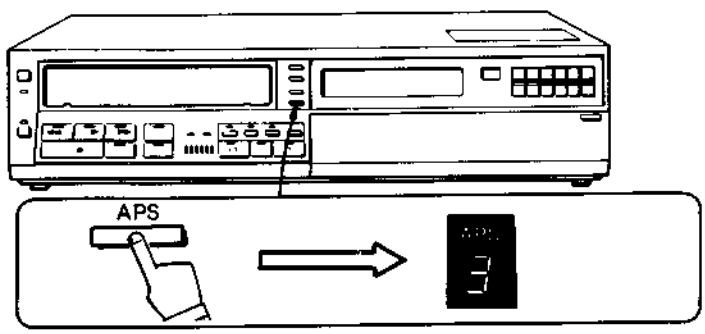
You can also search for a desired selection, which has been numbered in sequence, from the present position, by pressing the APS button.



Operation

1. Stop the tape by pressing the ■ STOP button.
2. Press the APS button.
   "APS" appears on the left side of the time display.
   ● If the number appears below the "APS" indication, that is the number of the present selection.
3. Press the APS button again.
   "0" appears below the "APS" indication. If you want to see from the top of the selection you were just watching, leave the figure at "0".
4. Press the APS button several times until the number of the selection you want to go back or forth to appear.

   For example, if you want to see the third selection ahead of one you were watching, press the APS button three times so that the figure "3" appears.



5. Press the ▶▶ FF button when locating a selection ahead, such as in case of above example. When locating a selection behind, press the ◀◀ REW button.

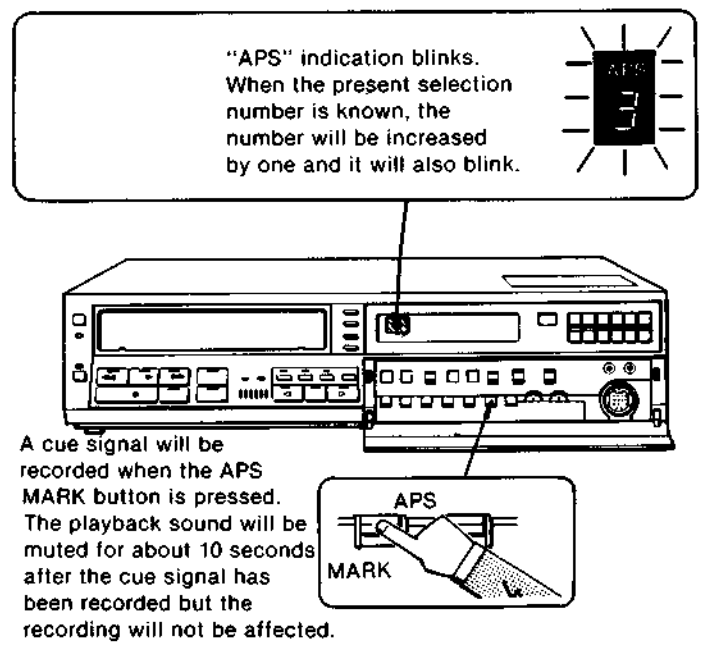
The recorder will search for the starting point of your desired selection in either the fast forward or rewind mode. When located, playback of the selection will start automatically.

To insert a cue signal on a recorded tape

The cue signal is automatically recorded on the tape when the ● REC button is pressed or when timer recording begins. If two selections have been recorded without interruption, no cue signal will be recorded between the selections. Consequently, beginning of the second selection cannot be located. In this case, you can insert a cue signal.
Also during recording, you can insert a cue signal at any point on the tape so that you can easily find that point later.

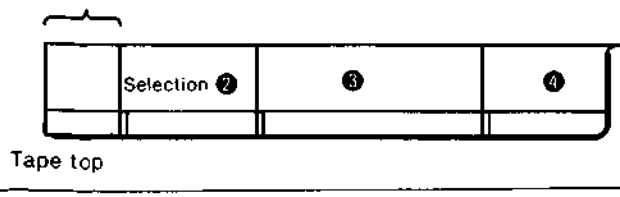
1. Play the tape back or start recording.
2. At the point where a cue signal is to be recorded, press the APS MARK button in the front compartment.

Note: Wait for more than 1 minute after one cue signal is inserted before recording the next cue signal.



When the desired selection cannot be played back with the APS function, check the following:

● Is there a blank space of over one minute at the very beginning of the tape? If so, the first selection will be counted as selection number two.

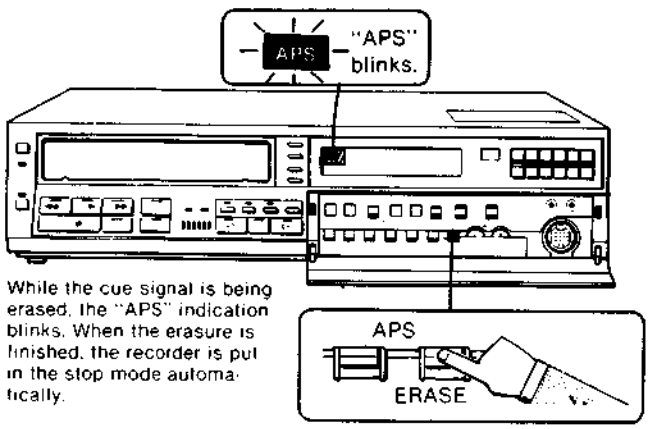


● Is there a selection of less than one minute? Such a selection may not be counted as one selection.

● Have you performed the APS operation within one minute before or after a cue signal? In this case, the first cue signal to be detected may not be counted.

To erase a cue signal

1. Stop the tape by pressing the ■ STOP button.
2. Proceed with the APS operation to search for the cue signal you want to erase.
   When the tape reaches the point where the cue signal you want to erase is located, playback will begin.
3. Press (within about 20 seconds) the APS ERASE button behind the front compartment while the APS indication and the selection number are displayed on the left side of the time display.



While the cue signal is being erased, the "APS" indication blinks. When the erasure is finished, the recorder is put in the stop mode automatically.

● The cue signal will not be erased if you press the APS ERASE button after the APS indication on the time display disappears.

HOW TO RECORD WITH SMOOTHER TRANSITIONS BETWEEN SCENES

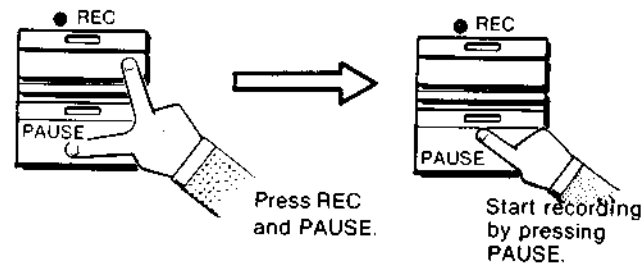
For a smooth transition between scenes, always start recording when the recorder is in the recording pause mode. Even if you use the ■ STOP button to stop recording or if you turn off the recorder, picture transition will be smoother if you start recording after first setting the recorder to the recording pause mode.

When recording with a camera

The recorder will automatically enter the recording pause mode when the REC button is pressed so that the transition between scenes will be smooth.

When recording TV programmes

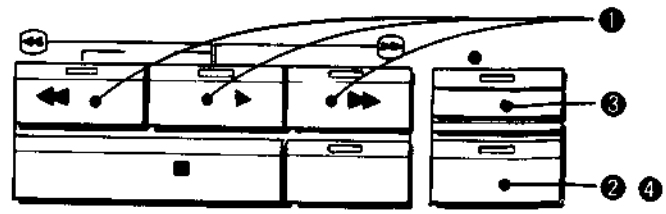
Press the PAUSE button then the REC button to set the recorder in the recording pause mode. When you want to start recording, press the PAUSE button again. Recording will start and the picture transition will be smooth.



TO START RECORDING FROM A PARTICULAR POINT

You can start recording from any desired point by searching for that point using the picture search (→page 17) and speed control (→page 15) functions.

1. Search for the point where you wish to start recording on the tape using the picture search function.
2. Stop the tape at the point where you wish to start recording the next scene by pressing the STILL button. You will find it convenient to search for the point precisely using the slow motion playback.
3. Press the REC button. The recorder will enter the record pause mode.
4. Press the PAUSE button. Recording will start.



Why is picture transition smoother when recording is started from the recording pause mode?

When the recorder enters the recording pause mode, the tape will be automatically rewound for about 0.5 second, then stop. When the pause mode is released to start recording, the tape runs in the playback mode to synchronize the segment to be recorded next with the last segment recorded. When the tape reaches the point where the recorder entered the recording pause mode, recording starts.

BEFORE OPERATING
PRECAUTIONS

On safety

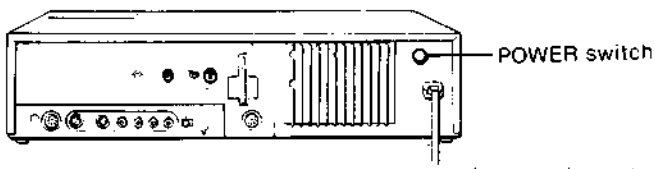
- This unit operates on 110 – 240 V ac, 50/60 Hz.
- Should any solid object or liquid fall into the cabinet, turn off the unit and have it checked by qualified personnel before operating it any further.

On installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation grille.
- Do not install the unit near heat sources such as radiators or air ducts or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- The unit is designed for operation in a horizontal position. Do not install it in an inclined position.
- Do not install the unit near an AM receiver, since a noise may be heard when listening to the AM programme.

On operation

- When the unit is not to be used for a long period, turn the power off to conserve energy and to extend the useful life of your unit. If you turn off the POWER switch located at the rear, power for all circuit, including the clock section will be shut off.



- Keep the unit and cassette tapes away from equipment with strong magnets, as for example, a microwave oven or a large loudspeaker.
- Remove and store video cassettes after recording or playback.

On cleaning

Clean the cabinet, panel and controls with a dry soft cloth. Do not use a moistened cloth or any type of solvent, such as alcohol or benzine, which might damage the finish.

On repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it as illustrated on the carton.

On colour broadcasting systems

This machine is designed to record and play back using the PAL colour standard. Recording and playback of video sources based on other colour systems cannot be guaranteed.

If you have any questions about this unit, contact your Sony dealer.

PREPARATION
CONNECTIONS

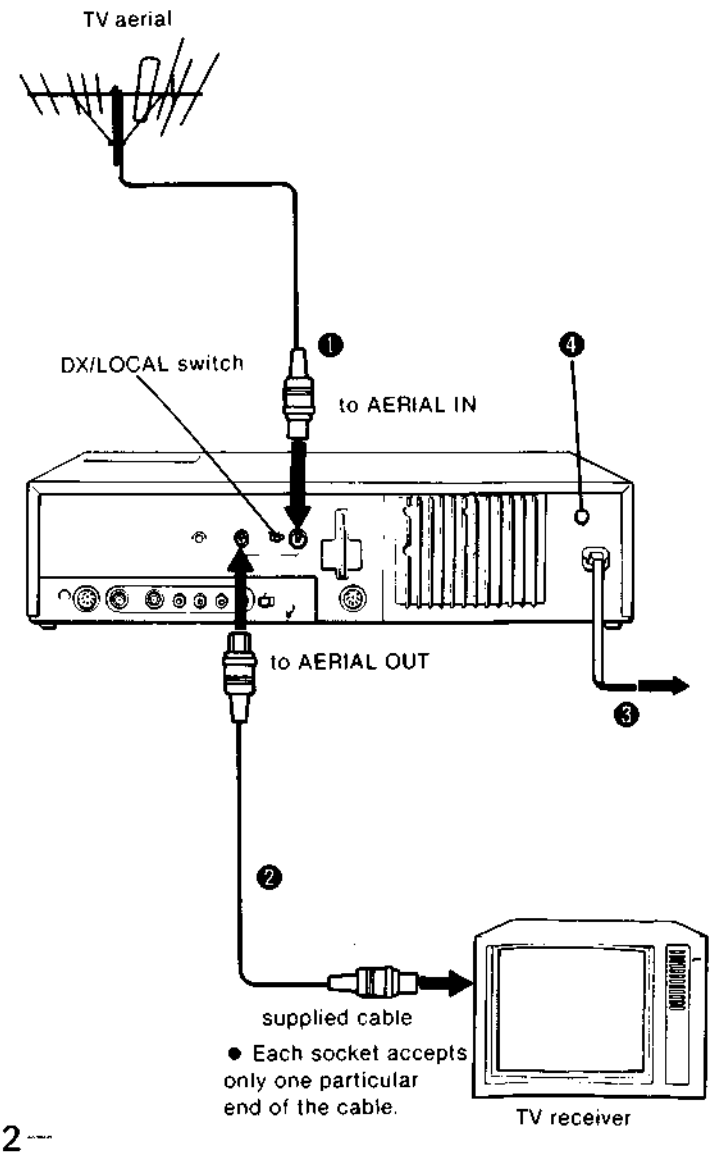
Cautions

- Unplug the TV from the mains outlet before making the following connections.
- Reconnect the mains lead after all the other connections of the video cassette recorder and the TV have been completed.
- Make sure the connections are secure. A loose connection may cause a noisy picture.

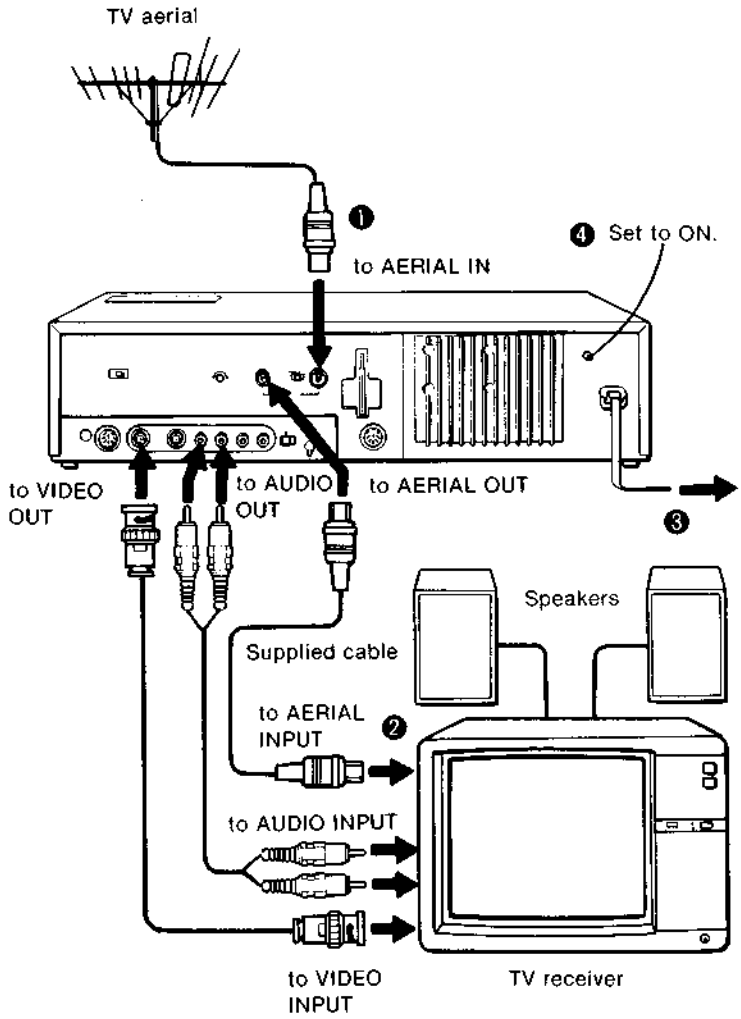
CONNECTING TO THE TV

Remove the aerial cable from its socket in the back of the TV, then connect the aerial, recorder and TV following in the numbered sequence.

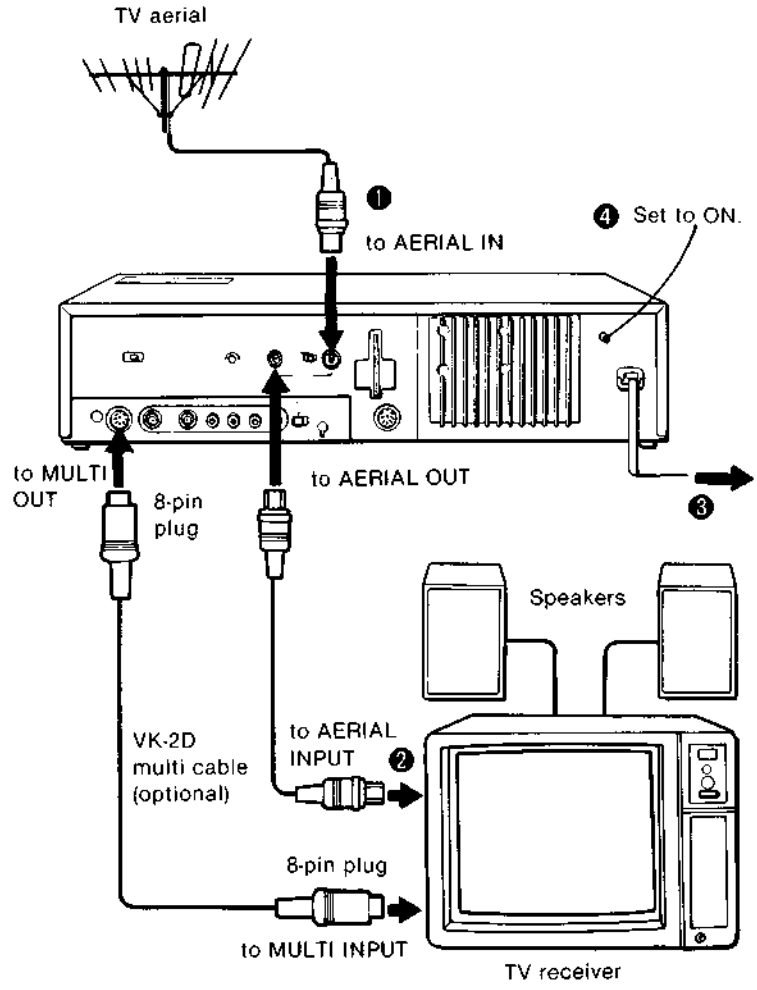
1. Remove the aerial cable from its socket in the back of the TV. Then connect the aerial cable to the AERIAL IN socket at the rear of the recorder.
2. Connect the aerial input of the TV receiver to the AERIAL OUT socket of the recorder, using the supplied cable.
3. Connect the recorder and the TV receiver to the mains supply with their own mains leads.
4. Press the POWER switch to ON.



When connecting the TV receiver to VIDEO OUT and AUDIO OUT on the recorder
You can enjoy recording and playing back of the stereo or bilingual programme.

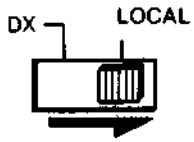


When connecting the TV receiver to MULTI OUT on the recorder
The video and audio signal connection to the TV can be made by a single video monitor cable. You can enjoy recording and playing back of the stereo-sound or bilingual programme.



Now the recorder is set up to intercept all signals from the aerial on their way to the TV receiver. The recorder then passes on the signals to the TV. This is why you can record a programme while it is being shown on the TV, or while the TV is showing another programme, or even when the TV is turned off.

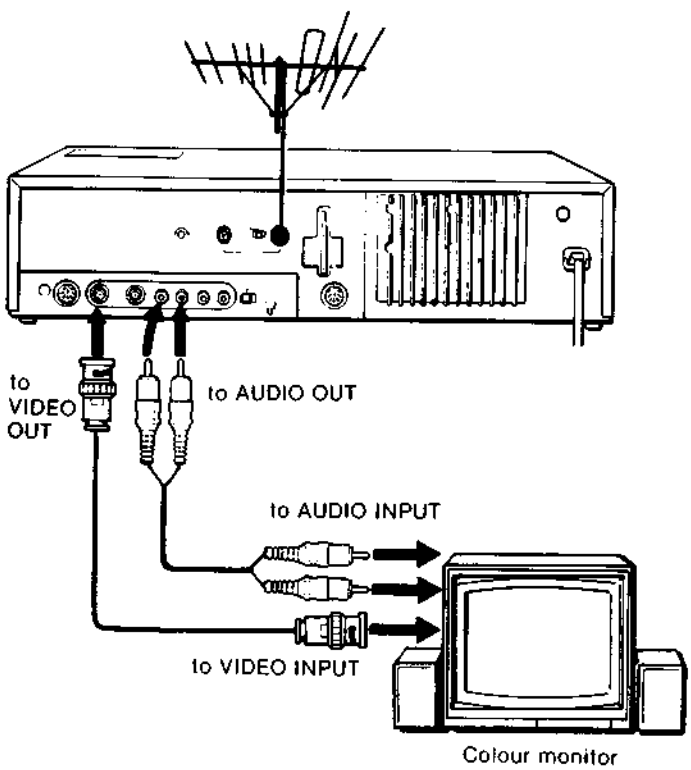
Notice for customers in a strong signal area
The recorder has a booster to assure stable TV reception. However, in areas near TV stations, where the TV signal is very strong, the picture may be affected by the booster. If this happens, set the DX/LOCAL switch on the rear panel to LOCAL.



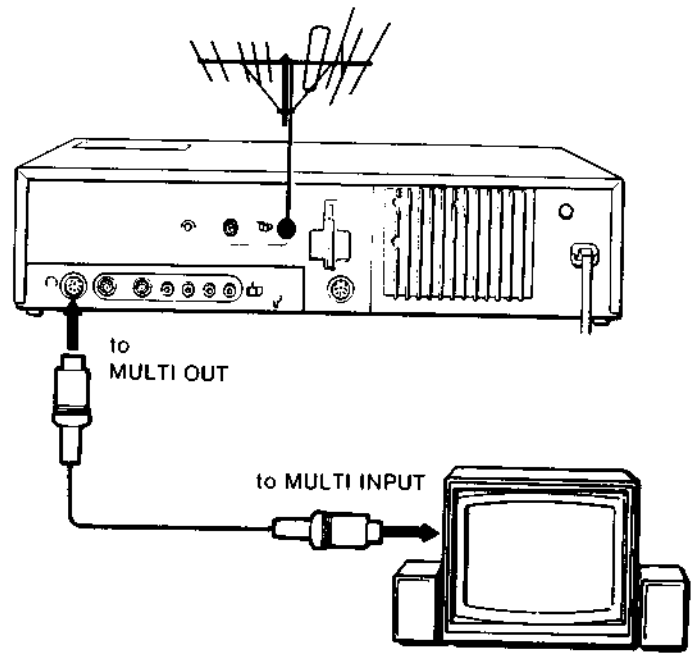
CONNECTING A COLOUR MONITOR

To obtain a higher-quality picture, connect the unit to a colour monitor, such as the Sony KX-20PS1, instead of a conventional TV receiver. The aerial should be connected to the recorder in the same way as a conventional TV.

Using the audio and video cables

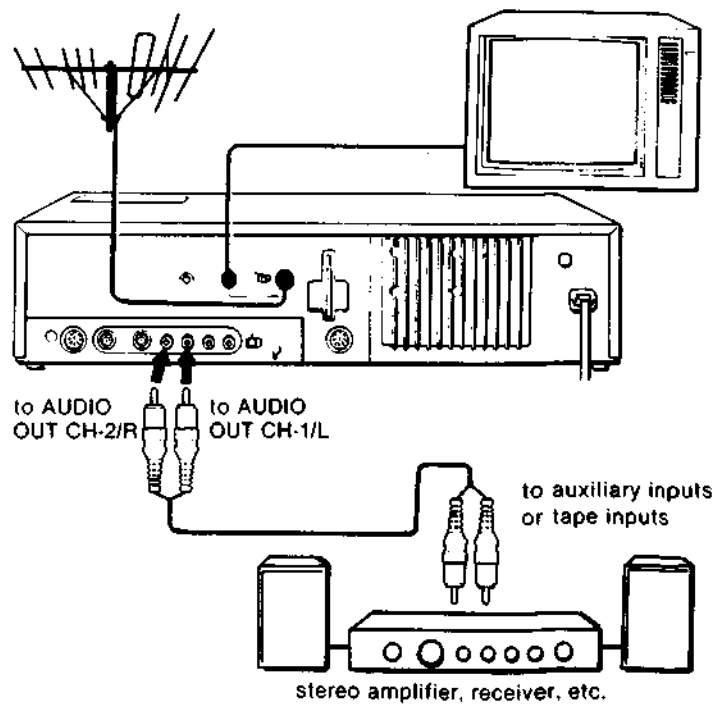


Using a multi cable
The video, audio and control signal connection to the Sony KX-20PS1 colour monitor can be made by the single VK-2D multi cable (optional).



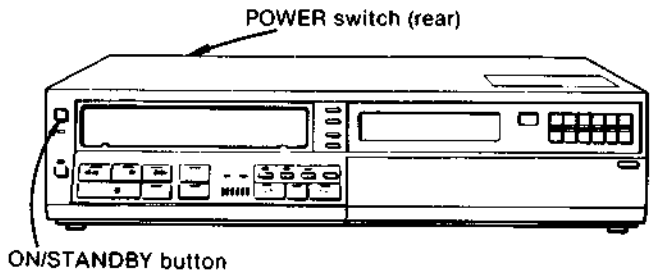
CONNECTING TO AN AUDIO SYSTEM

You can enjoy the stereo sound of the video tapes through your audio system even if your TV receiver is a conventional type.



TURNING THE RECORDER ON AND OFF

Normally, keep the POWER switch at the rear panel depressed to ON and turn the recorder on and off with the ON/STANDBY button. The POWER switch is the mains power on/off switch. When this switch is OFF, the power supply to all sections in the recorder, including the clock section, will be shut off and the timer memory will be erased. The TV will not operate in this situation, because the TV signal will not be fed to the TV.
If you keep this switch depressed to ON, the clock section will be always powered and the other sections can be turned on and off with the ON/STANDBY button.



ADJUSTING THE TV

One of the television channels must be adjusted to receive the signal from the recorder.

1. After making the connections, press the ON/STANDBY button.
2. Make sure that the recorder is in the stop mode.
3. Set the TEST SIGNAL switch in the tuning compartment of the recorder to ON.
4. Turn on the TV and select a channel which is not being used to receive a TV station. Tune the channel until you see a clear black and white pattern on the TV screen and you hear a continuous tone. This is the recorder's test signal.

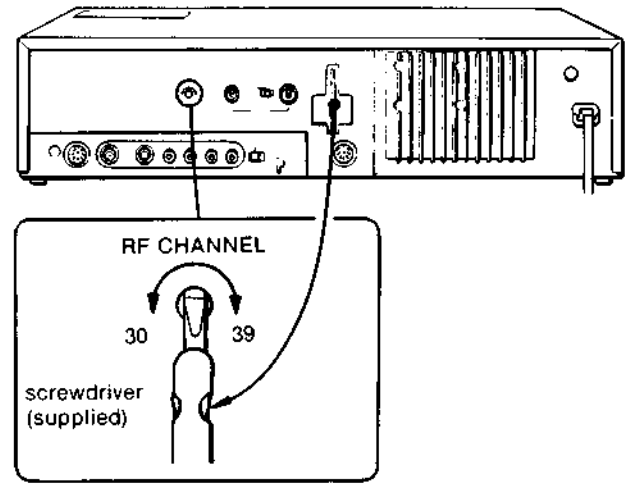
● Note that the test signal is transmitted on a channel between UHF channels E30 and E39.

— If you are not sure how to adjust your TV, please refer to the TV's instruction manual or consult your dealer.

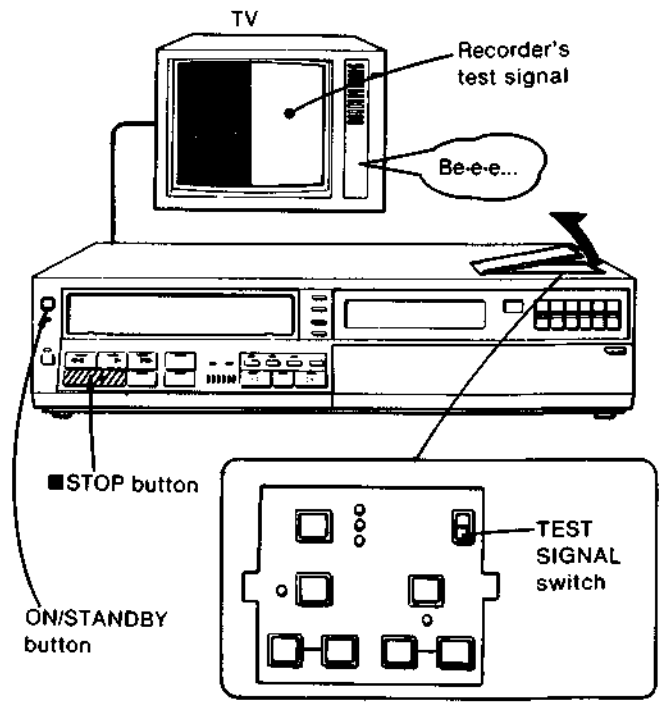
If the test picture is free of disturbance, the TV adjustment is complete. Set the TEST SIGNAL switch to OFF.

If the test picture is not free of disturbance

1. Reset the TEST SIGNAL switch to OFF.
2. Adjust the channel of the TV to a channel between UHF channels E30 and E39 with the tuning control or the fine tuning control on the TV, so that the TV screen shows no picture and so that a steady rustling sound or no sound is heard.
3. Set the TEST SIGNAL switch to ON again.
4. Slowly turn the RF CHANNEL screw on the back of the recorder with the supplied screwdriver, until you see an undistorted test picture on the TV screen.
5. Now the TV adjustment is complete. Reset the TEST SIGNAL switch to OFF.



Whenever you use the video recorder, you should set the TV to the channel selected in this adjustment.



TV STATIONS PRESETTING

TO PRESET ALL THE RECEIVABLE VHF AND UHF STATIONS

The receivable TV stations, up to 30, in your area can be preset to the programme select buttons automatically in order from the TV station with the lowest frequency to the station with the highest.

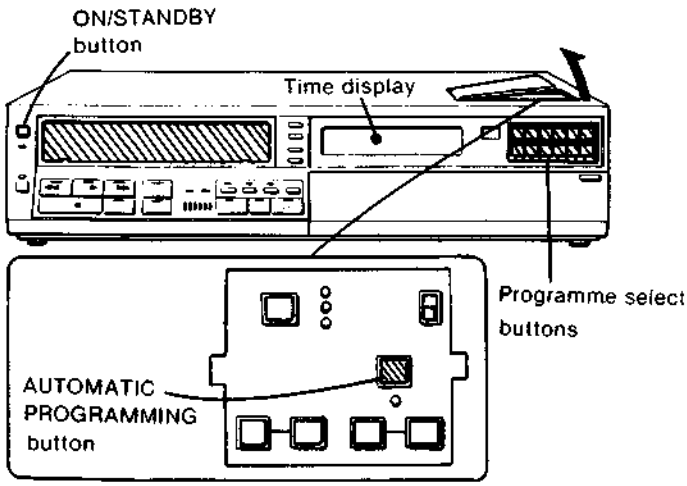
1. Turn on the recorder by pressing the ON/STANDBY button.
2. Set the INPUT SELECT switch to TUNER.
3. Open the lid of the tuning compartment and press the AUTOMATIC PROGRAMMING button. The PROG 1 will appear on the time display. The lamp associated with the AUTOMATIC PROGRAMMING button will begin flashing and all receivable stations will be tuned and memorized automatically on the programme select buttons from 1, up to 30 stations.

When the automatic programming is finished, the lamp stops blinking and the broadcast of the station memorized on the programme select button "1" will be displayed on the TV screen.

4. Check the results of the automatic programming referring to your local TV listings, by pressing the programme select buttons. For information how to press the programme select buttons, see page 9.

After presetting the TV stations, you can use the programme select buttons of the recorder to tune in a station for viewing as well as recording.

If there are stations which do not provide satisfactory reception and you wish to erase these stations from the memory and rearrange the sequence of stations, proceed with the adjustment described in the "TO PRESET THE SATIONS ONE BY ONE" and "CLEARING UNUSED STATIONS".



TO PRESET THE STATIONS ONE BY ONE

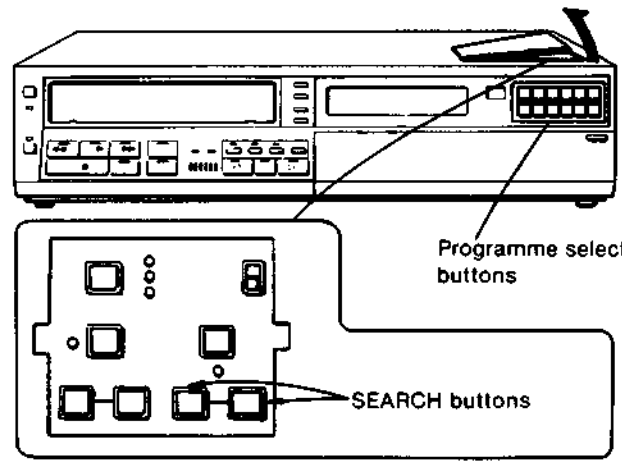
1. Turn on the recorder by pressing the ON/STANDBY button.
2. Set the INPUT SELECT switch to TUNER.
3. Press a programme select button for the station to be preset. For information how to press the programme select buttons, see page 9.
4. If no stations have been preset before, press the + SEARCH button. (Do not keep this button depressed.) The band indicating lamp will light up to show the tuning band of the stations.

If the TV stations have been preset already, the band indicating lamp will light up to show the present tuning band. Press the + SEARCH button to locate a station with higher freqeuncy and the – SEARCH button to locate a station with lower frequency.

The band indicating lamps will change to show the current tuning band.

When each station is received, the search will stop. Repeat pressing the + or – SEARCH button, referring to the picture on TV screen, until the desired station is received. The station is now set.

5. Repeat steps 3. and 4. until every station you want has been preset.



FINE TUNING

If the automatic tuning system does not give a perfect picture on a particular channel, fine tune that station manually.

1. Press the programme select button for the station to be fine tuned.
2. Keep the + or – FINE button depressed until a clear picture is obtained. (When either of the FINE buttons is pressed, the AFT on the selected station is deactivated and the AFT lamp goes off.)

If the picture quality gets worse, release the button and press the other one. Press the – and + buttons alternately until you have the best possible picture.

3. Close the tuning compartment making sure that the AFT button is still set to OFF (the lamp is not lit).

To restore the AFT on the channel, push the AFT button so that the corresponding lamp lights.

CLEARING UNUSED STATIONS

1. Press the programme select button for the station to be cleared. For information how to press the programme select buttons, see page 9.
2. Press the RESET button.

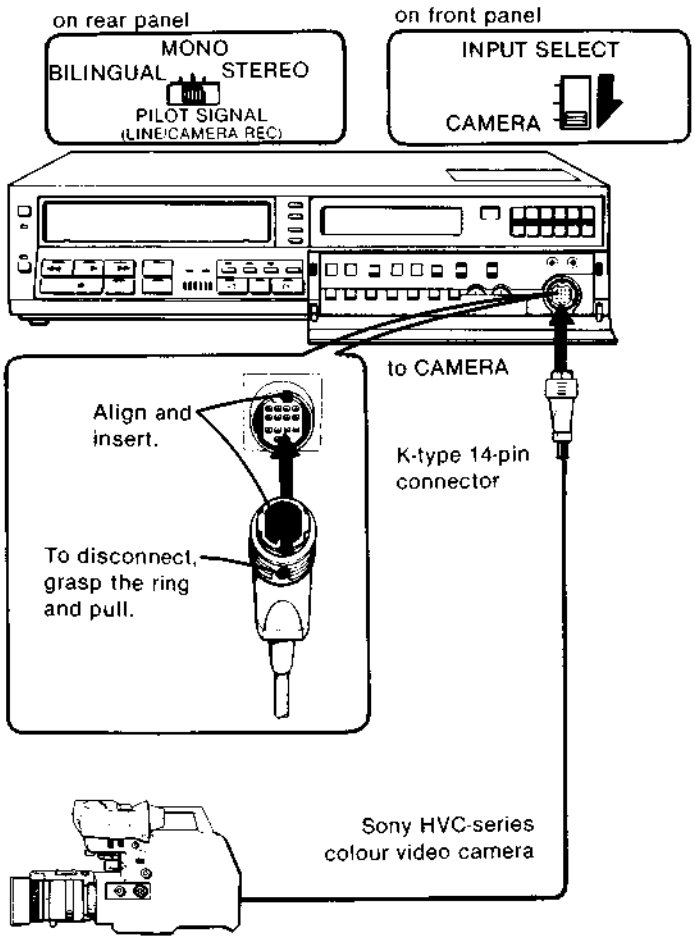
CAMERA RECORDING . . . To produce your own programmes

CONNECTIONS

- The camera must conform to CCIR PAL TV standards.
- Using a stereo camera, set the PILOT SIGNAL switch according to the recording source.

To record the sound in stereo.....set to STEREO
To record the language in bilingual.....set to BILINGUAL
To record the sound in monaural.....set to MONO

If you record the stereo sound with the PILOT SIGNAL switch set to BILINGUAL, to play back the stereo sound in stereo, set the BILINGUAL SELELCT switch to A/B.



When using a monaural video camera, the sound from the microphone built into the camera is recorded on the channel 1 and the sound only from channel 1 is played back.
To play back the sound from both channel 1 and 2, record the sound with the PILOT SIGNAL switch set to BILINGUAL and play back the sound with the BILINGUAL SELECT switch set to A.

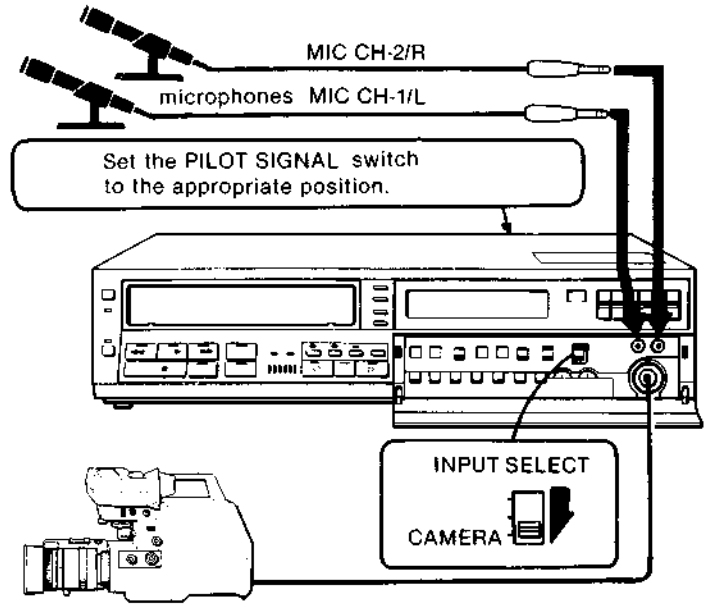
To connect a camera which is not equipped with a K-type 14-pin connector

Use an ac adaptor. Connect the video output of the ac adaptor to the VIDEO IN jack of the recorder and the audio output of the ac adaptor to the AUDIO IN CH-1/L and CH-2/R jacks or the MIC CH-1/L and CH-2/R jacks of the recorder depending on the audio output level of the ac adaptor.
Set the INPUT SELECT switch to LINE/PCM and the PILOT SIGNAL switch to MONO.

Note

If you want to use a camera not recommended in this manual, make sure that the power requirement of the camera is DC 12V and power consumption is under 10W. Otherwise, the video cassette recorder will be damaged.

To record the sound from external microphones



- If the microphone has a phone plug, use a plug adaptor such as the Sony PC-1A (optional).
- When one microphone is used, use a microphone adaptor to connect the microphone to MIC CH-1/L and CH-2/R jacks and set the PILOT SIGNAL switch to MONO.

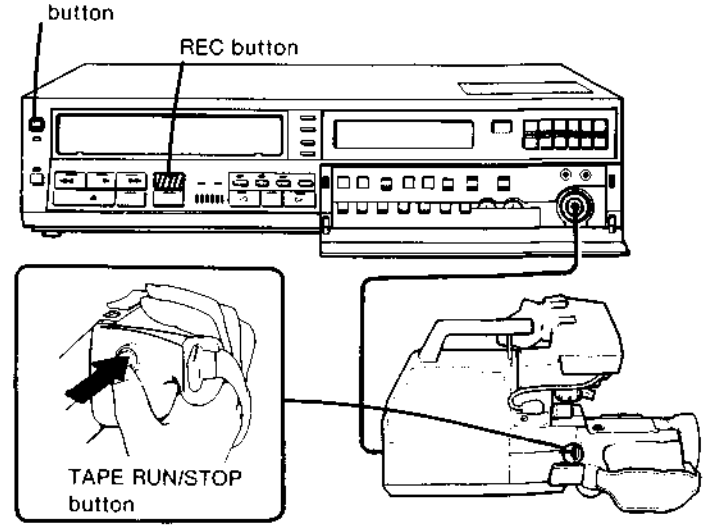
OPERATING PROCEDURE

1. Turn on the recorder and insert a cassette.
   - "CA" appears on the right of the time display indicating that the INPUT SELECT switch is properly set to the CAMERA position. If the "CA" indication does not appear, set the INPUT SELECT switch to CAMERA.
2. Make necessary adjustment on the camera. For details, refer to the camera's instruction manual.
3. Press the REC button. The recorder will be set into the recording pause mode.
4. Press the TAPE RUN/STOP button on the camera. Recording will begin.

To momentarily stop recording, press the TAPE RUN/STOP button on the camera or the PAUSE button on the recorder. To restart the recording, press the same button again.

- The pause mode will be automatically released after about 8 minutes and the recorder will revert to the record mode.

To stop recording, press the STOP button.
When the tape reaches the end, the tape will be rewound.



NOTE
Do not change the INPUT SELECT switch during recording or playback when using a Sony HVC-series video camera. If you do, the recorder will be set into the pause mode. To release the pause mode, turn the power off and turn it on again.

TO MONITOR THE PICTURE BEING RECORDED WITH A CAMERA

Turn on the TV and select the channel for the video recorder.
If your TV is equipped with a TV/VTR select button, set this button to VTR.

RECORDING REVIEW

When a camera having a recording review function is used
Press the recording review button in the recording pause mode. The last few seconds of recorded scene will be played back immediately so that you can check whether the recording has been made correctly. The recorder will then enter the recording pause mode at the point where the recording review button was pressed. To continue recording, press the tape run/stop button on the camera.

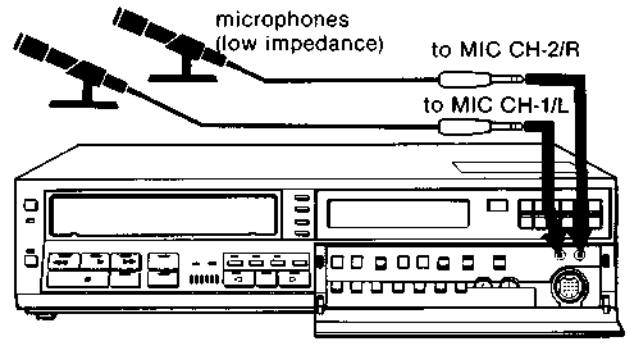
DUBBING AUDIO

You can dub in music or commentary on any recorded tape while watching the recorded video.
Audio is recorded on two channels on the tape: channel 1 and channel 2.
You can replace the sound of all these two channels or the audio channel 2.

- Audio dubbing cannot be done on a blank tape.
- To dub on channel 2, connect the microphone to CH-2/R jack.

CONNECTIONS

To record microphone sound

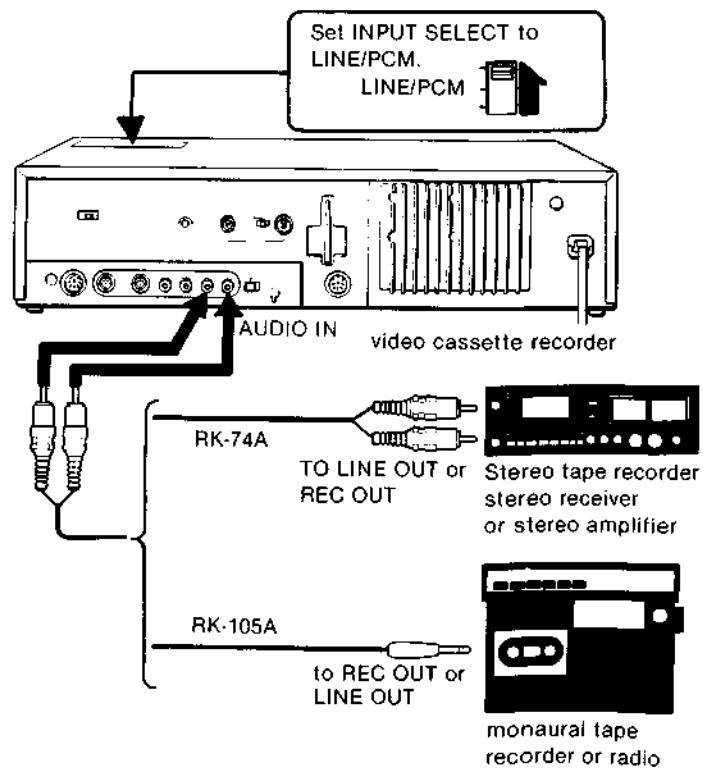


video cassette recorder

If your microphone has a phone plug, use the PC-1A plug adaptor (optional).

The microphone sound will be recorded regardless of the INPUT SELECT switch position.

To record from an audio equipment



HOW TO DUB

First, decide at which point on the tape you will start audio dubbing and make the necessary preparations for playing the audio source.

1. Turn the power of the recorder on and insert a cassette. Be sure that the cassette's safety tab has not been removed.

● When using source other than microphones make sure that "AU" appears on the time display indicating that the INPUT SELECT switch is set to LINE/PCM.

2. Press the ▶ PLAY button. Playback will begin.
3. Press the PAUSE button at the point where audio dubbing is to start.
4. Press the AUDIO DUB button.
   If you want to erase the previously recorded sound and completely replace, press the CH-1,2/L,R button.
   If you want to replace the sound of the audio channel 2 with new one, press the CH-2/R button.

The corresponding AUDIO DUB lamp(s) will light.

5. Set the PILOT SIGNAL switch according to the sound source to be recorded.
6. Press the PAUSE button again.

Audio dubbing starts.

7. Start playing the audio source—talking into the microphone, playing the tape recorder, etc.

To stop the tape momentarily during dubbing, press the PAUSE button.

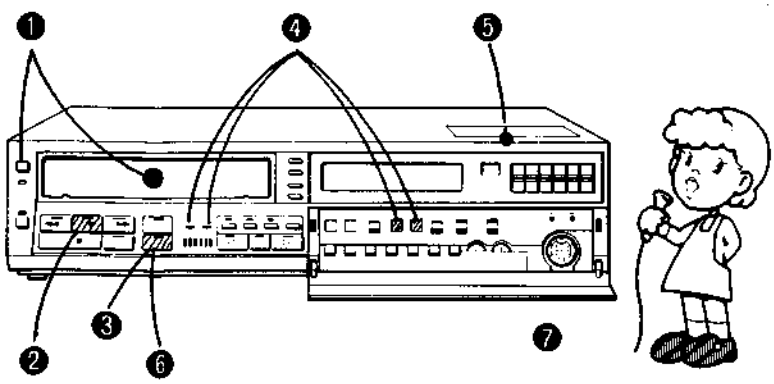
To stop dubbing, press the ■ STOP button.

If a whistle-like sound is heard during microphone recording

Stop pointing the microphone in the direction of the TV or turn the TV volume down.

To record from the beginning of the tape

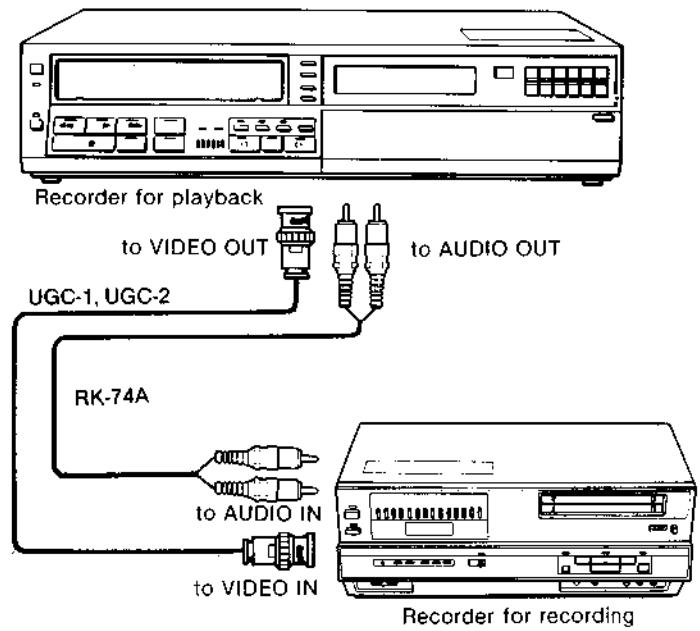
Press the AUDIO DUB button. Audio recording and picture playback will start immediately.



TAPE COPY

To duplicate a tape, you will need two video recorders; one is to play back the original tape and the other is to record.

1. Connect the recorders as illustrated.
2. Turn on both recorders.
3. Insert the original cassette into the recoder for playback.
4. Insert a blank cassette into the recorder for recording.
5. Set the INPUT SELECT switch of the recorder for recording to LINE/PCM.
6. Set the recorder for playback into the playback mode.
7. Set the recorder for recording into the record mode.



When the SL-C9ES is used for recording, select the PILOT SIGNAL switch according to the sound source to be recorded.

TROUBLE CHECKS

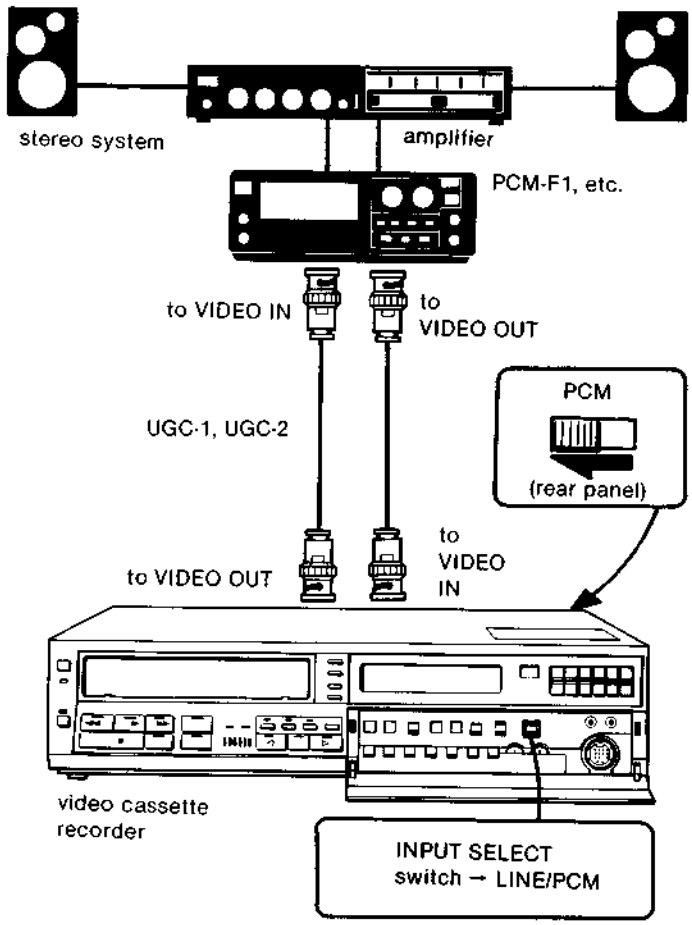
If any diffculty should arise during operation, check through this list of symptoms and possible causes. Should the difficulty persist, unplug the unit and contact the dealer from whom this unit was purchased, or local Sony authorized dealer.

Before going through the check list below, first check to see whether the mains lead is connected firmly to a working outlet and whether the POWER switch and ON/STANDBY button are turned ON.

	Symptom	Possible causes and corrections
POWER	ON/STANDBY button does not function.	● The mains lead is disconnected or the POWER button is not pressed. ● The recorder is in the timer standby mode. Press the TIMER REC button so that the TIMER lamp goes off.
CLOCK AND TIMER	The clock has stopped at "0:00"	● There has been a power interruption. Reset the clock time and timer settings.
	Timer setting cannot be made.	● The clock time is not set
TV RECEPTION	TV programme is not clearly displayed on the TV screen.	● The channel for video recorder on the TV receiver is not correctly tuned. ● The channels on the recorder are not correctly preset. (See "TV STATION PRESETTING", page 26.) ● The antenna connections are not correct. ● The TV signal is weak. Adjust the direction of the antenna. ● The mains lead of the recorder is disconnected.
RECORDING AND PLAYBACK	No picture on the TV screen during recording or playback	● The TV's channel is not set to that preset for the video recorder. ● The station preset for the video recorder has not been fine-tuned.
	No recording	● The safety tab on the cassette has been removed.
	The desired programme has not been recorded.	● The INPUT SELECT switch has not been set correctly. ● When camera recording, the tape run/stop button on the camera has not been operated correctly.
	The displayed picture on the TV screen is not clear.	● The channel preset for the video recorder on the TV has not been fine-tuned. ● The video heads are contaminated. ● The cassette being played has been recorded on another video recorder. Adjust the NORMAL/×2 TRACKING control.
	Timer recording cannot be made correctly.	● The clock time is not set correctly. ● The turn-on day and the turn-on time have not been set correctly. ● The TIMER REC button has not been pressed. ● There has been a power interruption. ● The cassette inserted has had the tab removed or no cassette has been inserted. ● The INPUT SELECT switch is not set to TUNER. ● Two or more timer settings overlap.
REMOTE CONTROL	The recorder cannot be remotely controlled.	● The remote control unit is not pointed to the detector on the recorder. ● The remote control unit is too far away from the recorder. ● An obstacle between the remote control unit and the recorder. ● The batteries are exhausted.
OTHERS	The time counter does not operate even if the tape moves.	● The tape is brand-new. ● It will not operate with the unrecorded portion of a tape.
	The function buttons cannot be activated.	● The tape is at either end of its travel.
	Cassette cannot be inserted.	● The recorder is turned off. ● The cassette being inserted is reversed. ● Another cassette has already been inserted.
	The cassette cannot be ejected.	● The recorder is turned off. ● The tape is moving
	Audio dubbing cannot be made.	● The cassette inserted has had its safety tab removed. ● The tape to be dubbed is blank. ● When the AUDIO IN jacks are used, nothing should be connected to the MIC jacks and the INPUT SELECT switch should be set to LINE/PCM.
	The tape stops suddenly during operation.	● The safety device which protects the video cassette tape and recorder has activated. Reactivate the previous tape transport mode.
	The function buttons cannot be activated with the EJECT lamp lit, immediately after the cassette has been inserted into the recorder.	● The safety device has activated. Press the EJECT button to remove the cassette and re-insert the cassette.

PCM RECORDING AND PLAYBACK

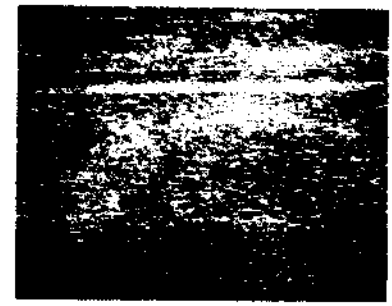
By connecting a PCM digital audio processor (Sony PCM-F1, etc.) you can enjoy hi-fi sound reproduction with a wide dynamic range, minimal distortion and a flat frequency response.



- For optimum results, use a video cassette with a model number L-500 or less (L-250, L-125, etc.).
- For details, refer to the instruction manual furnished with the digital audio processor.

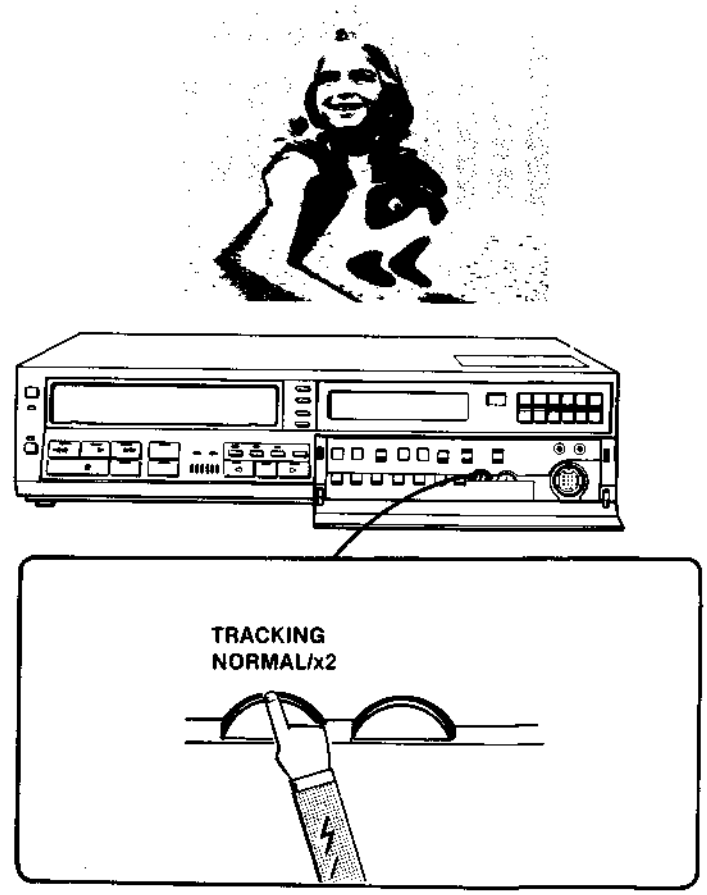
HOW IS THE PICTURE ON THE SCREEN?

Noisy picture ...



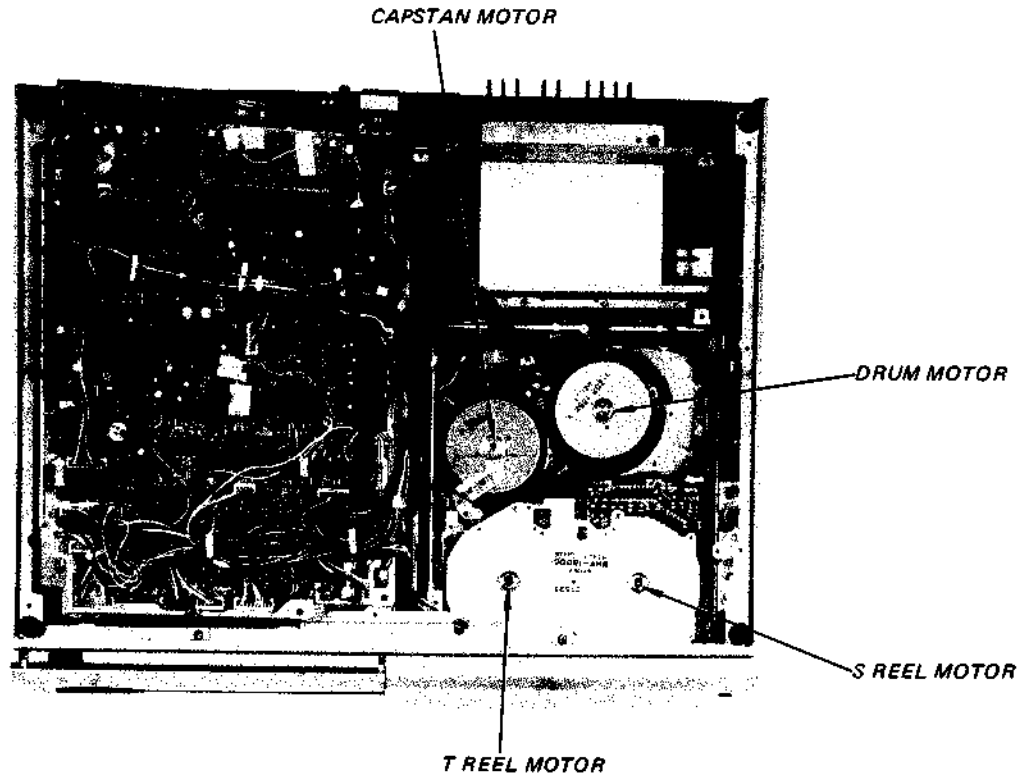
The video heads may become contaminated.
Clean the video heads with the L-25CL video head cleaning cassette (optional). For details about cleaning, refer to the instructions frunished with the cleaning cassette.

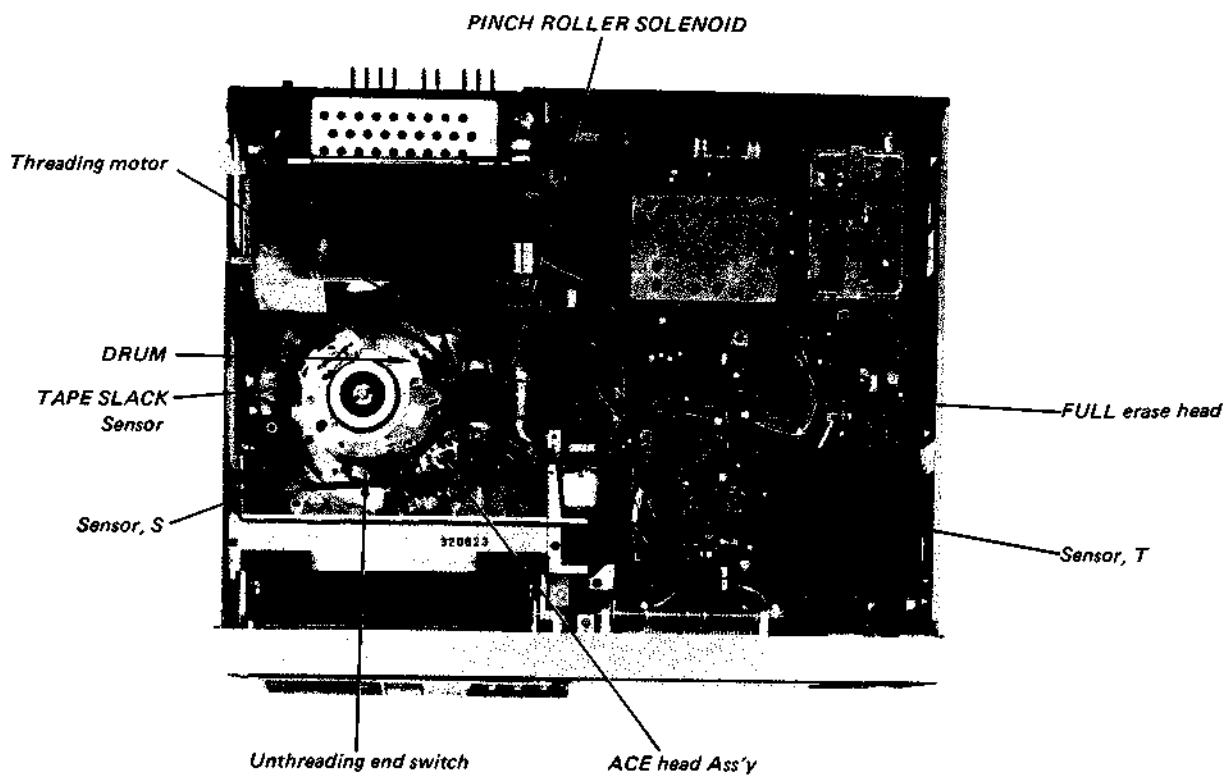
Streaks or snow appears ...



Has the tape been recorded on another video cassette recorder?
If so, open the front compartment and adjust the NORMAL/×2 TRACKING control for the best possible picture.
Return the control to the centre position after viewing a tape recorded on another machine.

• **INTERNAL VIEWS**



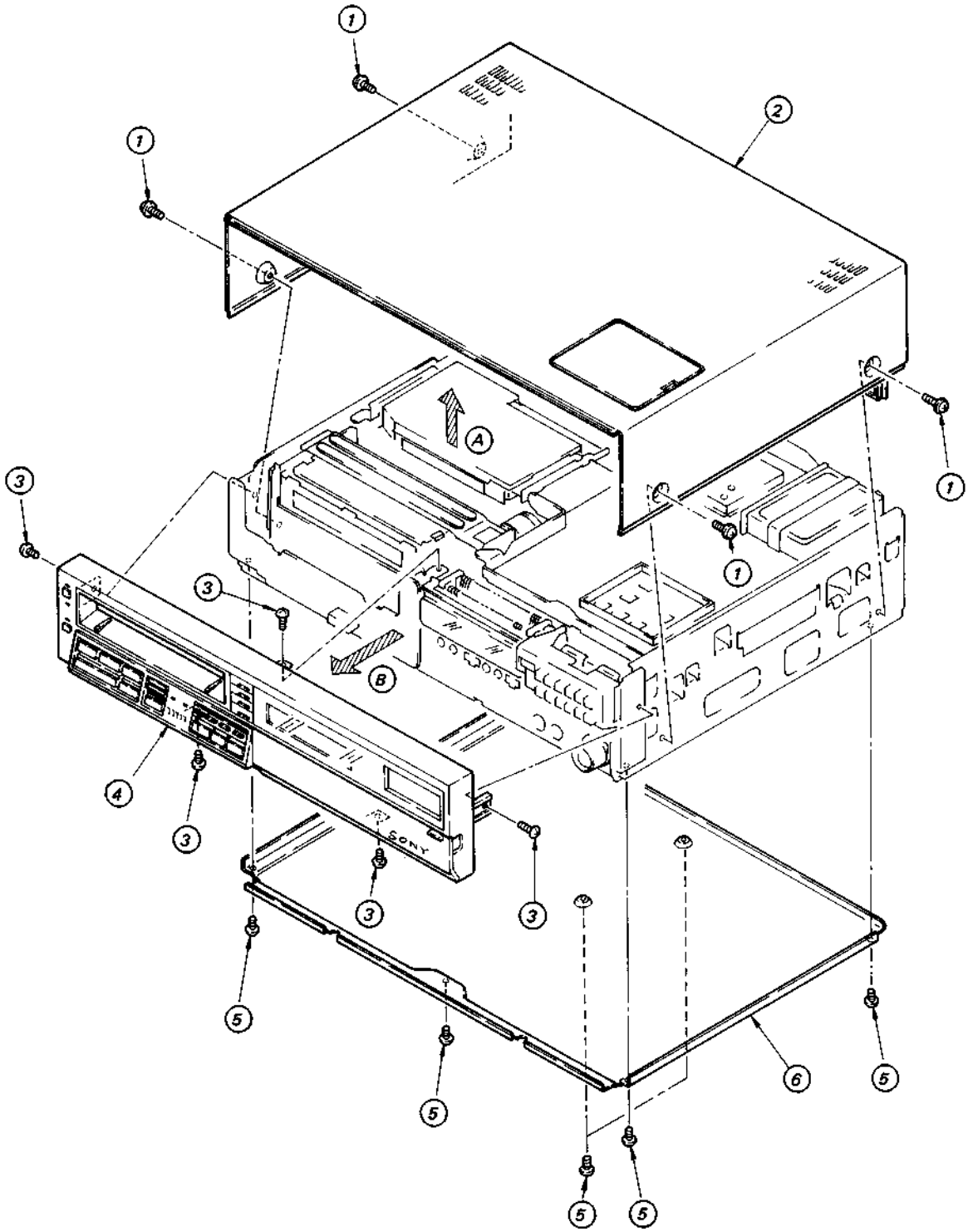


SECTION 2
DISASSEMBLY (AND REPLACEMENT)

Note: Follow the disassembly procedure in the numerical order given.

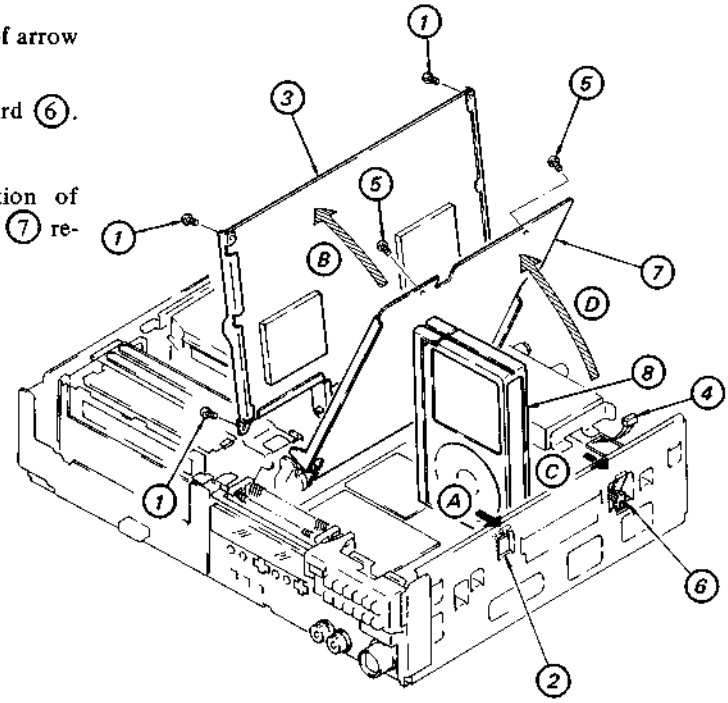
2-1. Cover Removal

1. Remove the four screws (1) .
2. Remove upper cover (2) in the direction of arrow (A) .
3. Remove the five screws (3) .
4. Remove front panel (4) in the direction of arrow (B) .
5. Remove the seven screws (5) .
6. Remove the bottom plate (6) .



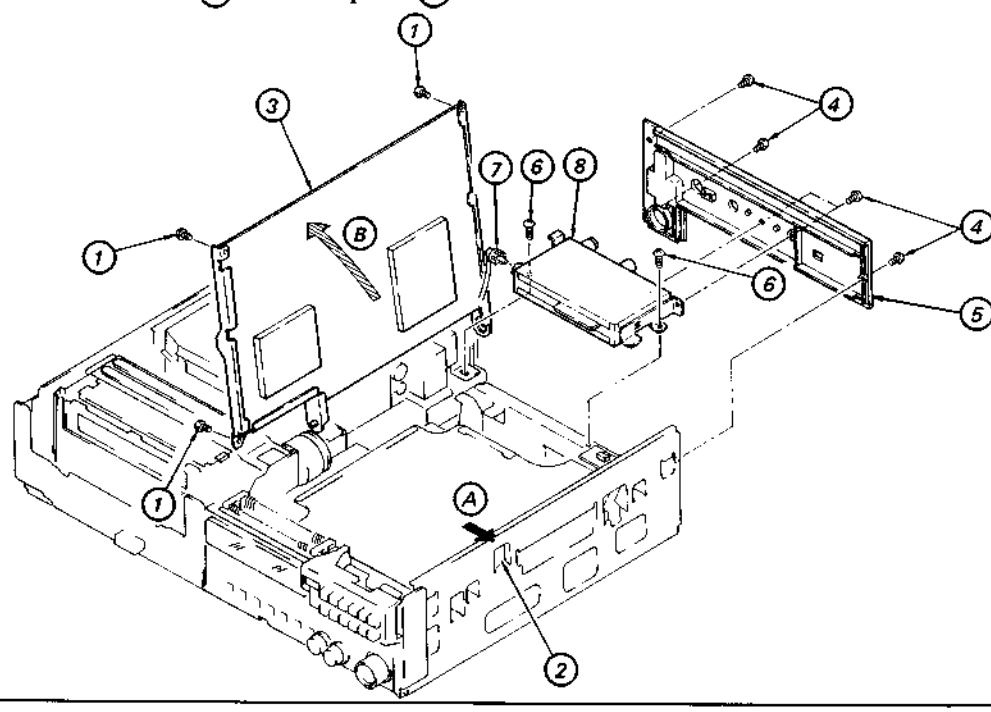
2-2. TU-35 Board, JR-2 Board Removal

1. Remove the three screws (1).
2. Pull PC support (2) in the direction of arrow (A), and remove the TU-35 board (3) retainer.
3. Pull TU-35 board (3) up in the direction of arrow (B).
4. Disconnect harness (4) from the JR-2 board (6).
5. Remove the two screws (5).
6. Push chassis supporter (6) in the direction of arrow (C) and remove the JR-2 board (7) retainer.
7. Pull JR-2 board (7) up in the direction of arrow (D), and position a tape (8) as shown in Figure to support the JR-2 board.



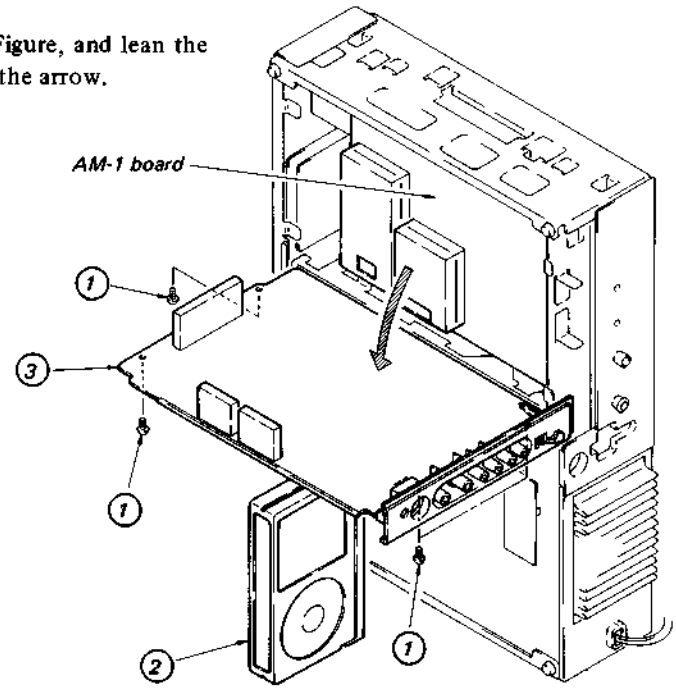
2-3. RF Modulator Removal

1. Remove the three screws (1), push PC support (2) in the direction of arrow (A), and pull the TU-35 board up in the direction of arrow (B).
2. Remove the four screw (4) and rear panel (5).
3. Remove the two screws (6).
4. Remove pin cable (7).
5. Remove the RF modulator (8).



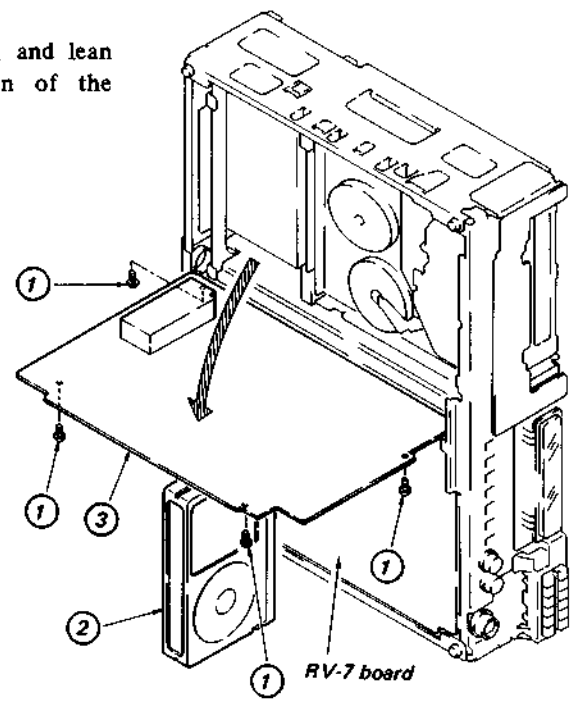
2-4. RV-7 Board Removal

1. Position the VTR as shown in Figure.
2. Remove the four screws (1).
3. Place a tape (2) as shown in Figure, and lean the RV-7 board in the direction of the arrow.



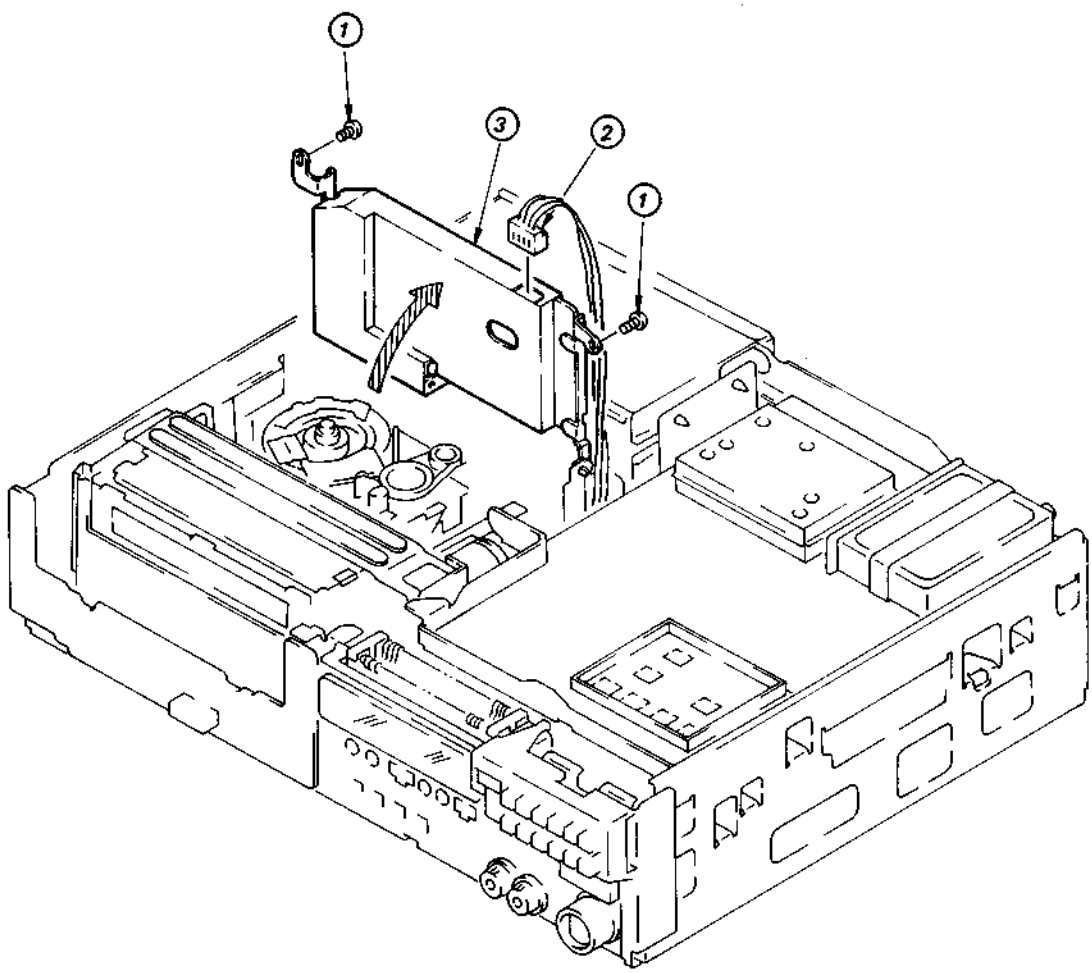
2-5. SS-11 Board Removal

1. Set up the VTR as shown in Figure, with the RV-7 board toward the bottom.
2. Remove the four screws (1).
3. Place a tape (2) as shown in Figure, and lean the SS-11 board (3) in the direction of the arrow.



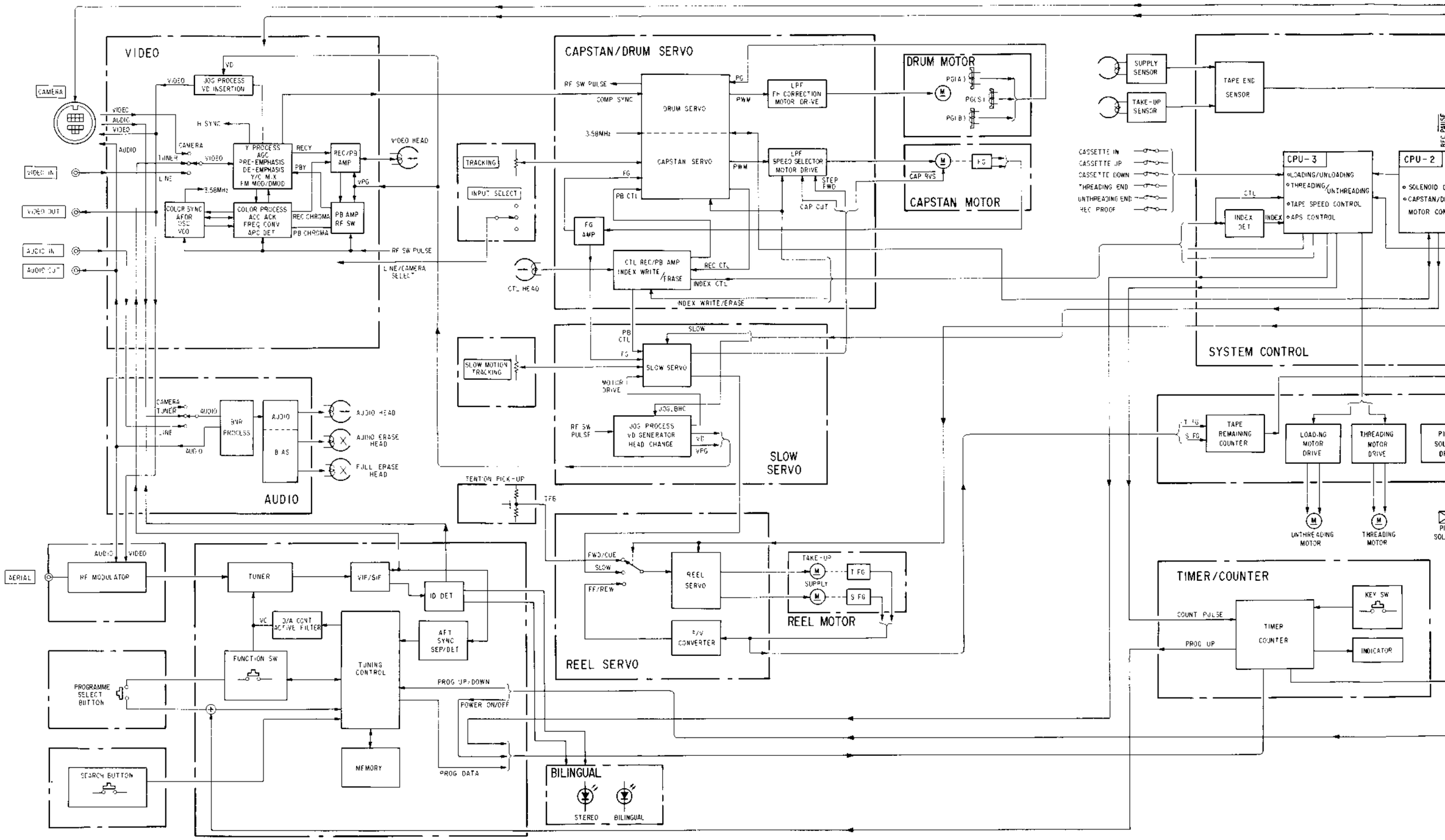
2-6. RP-7 Board Removal

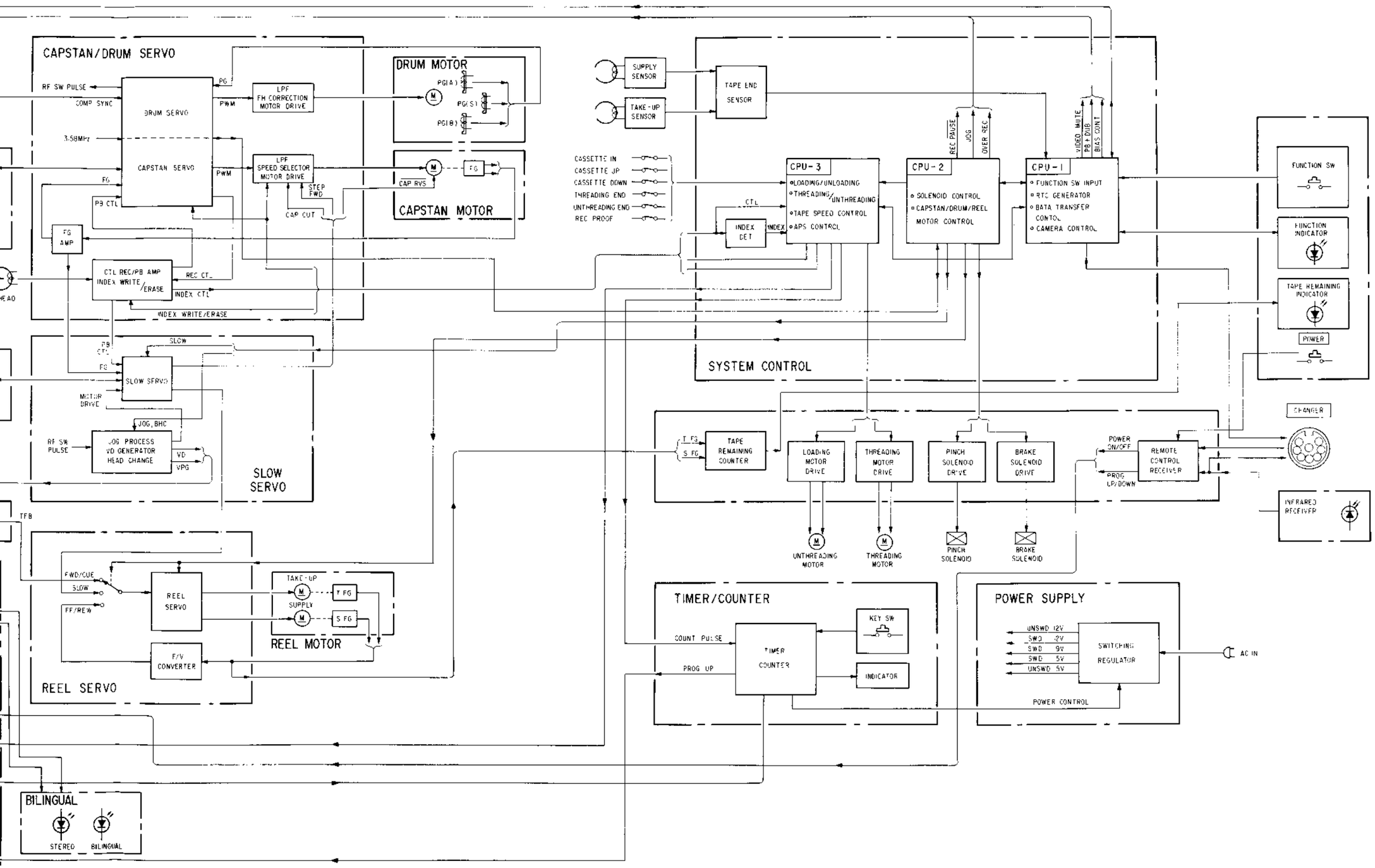
1. Remove the two screws ① .
2. Disconnect harness ② .
3. Lift RP-7 board ③ in the direction of the arrow.



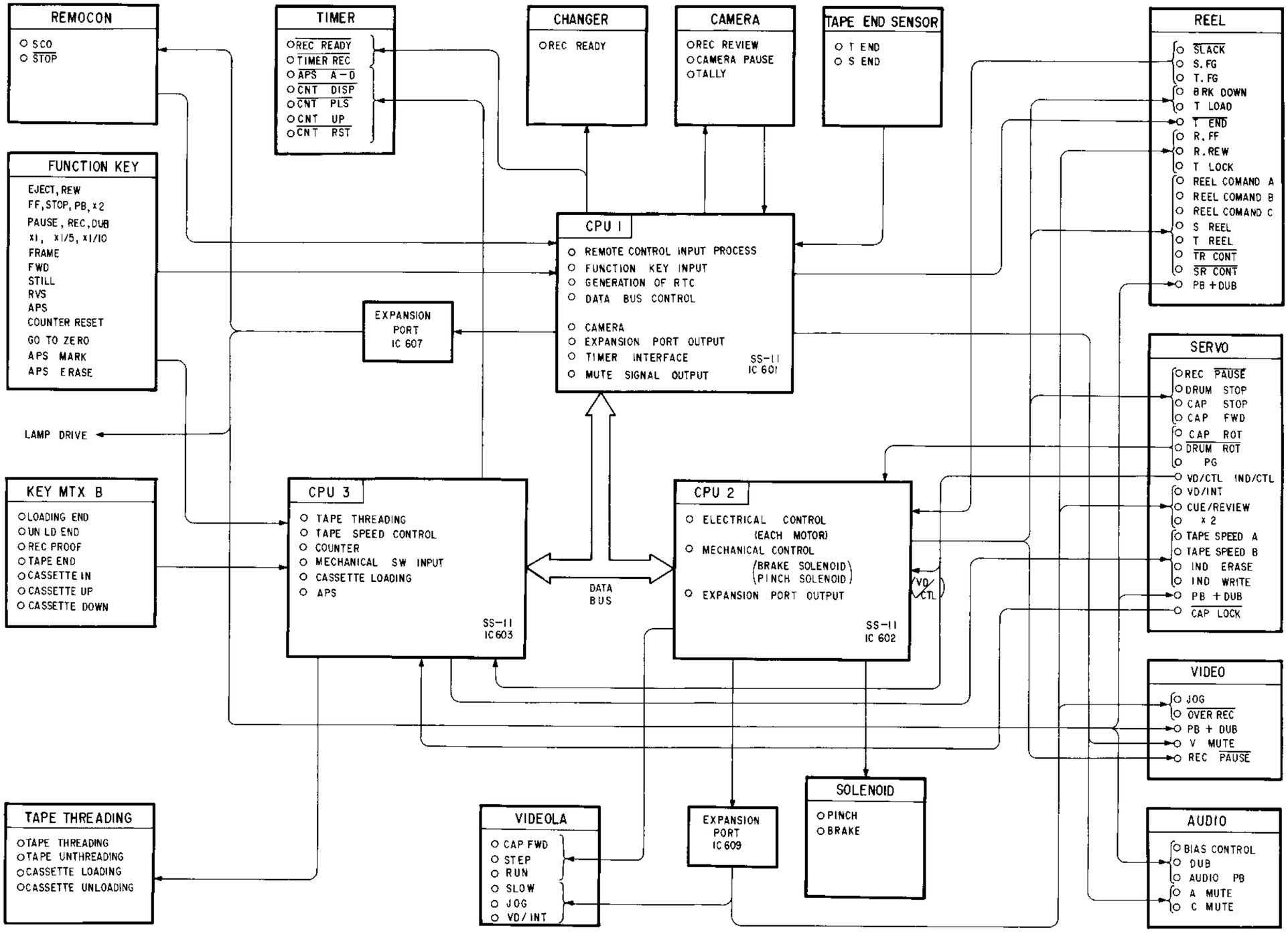
SECTION 3
DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM

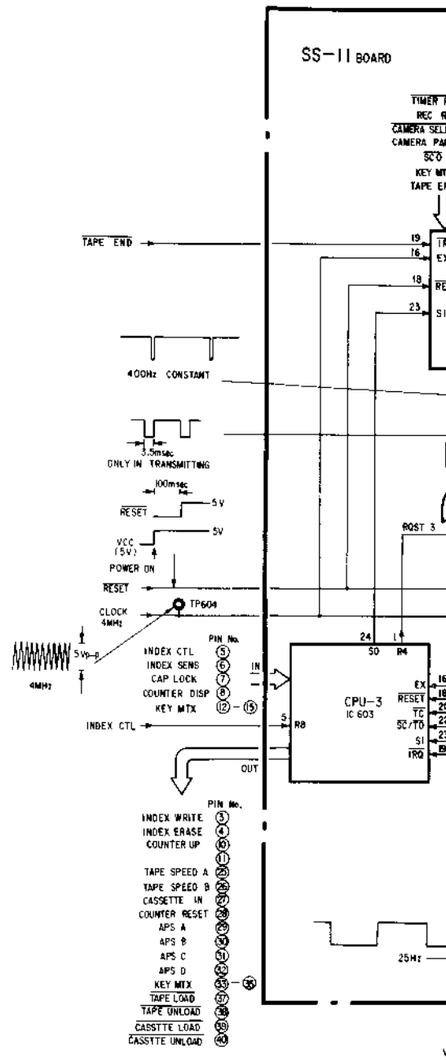



CAPSTAN/DRUM SERVO
RF SW PULSE
COMP SYNC
3.58MHz
FG
PB CTL
DRUM SERVO
CAPSTAN SERVO
PG
PWM
LPF
FM CORRECTION MOTOR DRIVE
LPF
SPEED SELECTOR MOTOR DRIVE
STEP FWD
CAP CUT
DRUM MOTOR
PG(A)
PG(S)
PG(B)
CAPSTAN MOTOR
CAP FG
CAP RVS
FG AMP
CTL REC/PB AMP
INDEX WRITE/ERASE
REC CTL
INDEX CTL
INDEX WRITE/ERASE
HEAD
SLOW
PB CTL
FG
SLOW SERVO
MOTOR DRIVE
JOG, BHC
RF SW PULSE
JOG PROCESS
VD GENERATOR
HEAD CHANGE
VD
VPG
SLOW SERVO
TFB
FWD/CUE
SLOW
FF/REW
REEL SERVO
TAKE-UP
SUPPLY
T FG
S FG
REEL MOTOR
F/V CONVERTER
REEL SERVO
BILINGUAL
STEREO
BILINGUAL
SUPPLY SENSOR
TAKE-UP SENSOR
TAPE END SENSOR
CASSETTE IN
CASSETTE UP
CASSETTE DOWN
THREADING END
UNTHREADING END
REC PROOF
CTL
INDEX DET
INDEX
CPU-3
LOADING/UNLOADING
THREADING/UNTHREADING
TAPE SPEED CONTROL
APS CONTROL
REC PAUSE
JOG
OVER REC
CPU-2
SOLENOID CONTROL
CAPSTAN/DRUM/REEL MOTOR CONTROL
VIDEO MUTE
PB+DUB
BIAS CONT
CPU-1
FUNCTION SW INPUT
RTC GENERATOR
DATA TRANSFER CONTOL
CAMERA CONTROL
SYSTEM CONTROL
FUNCTION SW
FUNCTION INDICATOR
TAPE REMAINING INDICATOR
POWER
CHANGER
T FG
S FG
TAPE REMAINING COUNTER
LOADING MOTOR DRIVE
THREADING MOTOR DRIVE
PINCH SOLENOID DRIVE
BRAKE SOLENOID DRIVE
POWER ON/OFF
PROG UP/DOWN
REMOTE CONTROL RECEIVER
INFRARED RECEIVER
UNTHREADING MOTOR
THREADING MOTOR
PINCH SOLENOID
BRAKE SOLENOID
TIMER/COUNTER
COUNT PULSE
PROG UP
TIMER COUNTER
KEY SW
INDICATOR
POWER SUPPLY
UNSWD 12V
SWD -12V
SWD 9V
SWD 5V
UNSWD 5V
SWITCHING REGULATOR
AC IN
POWER CONTROL

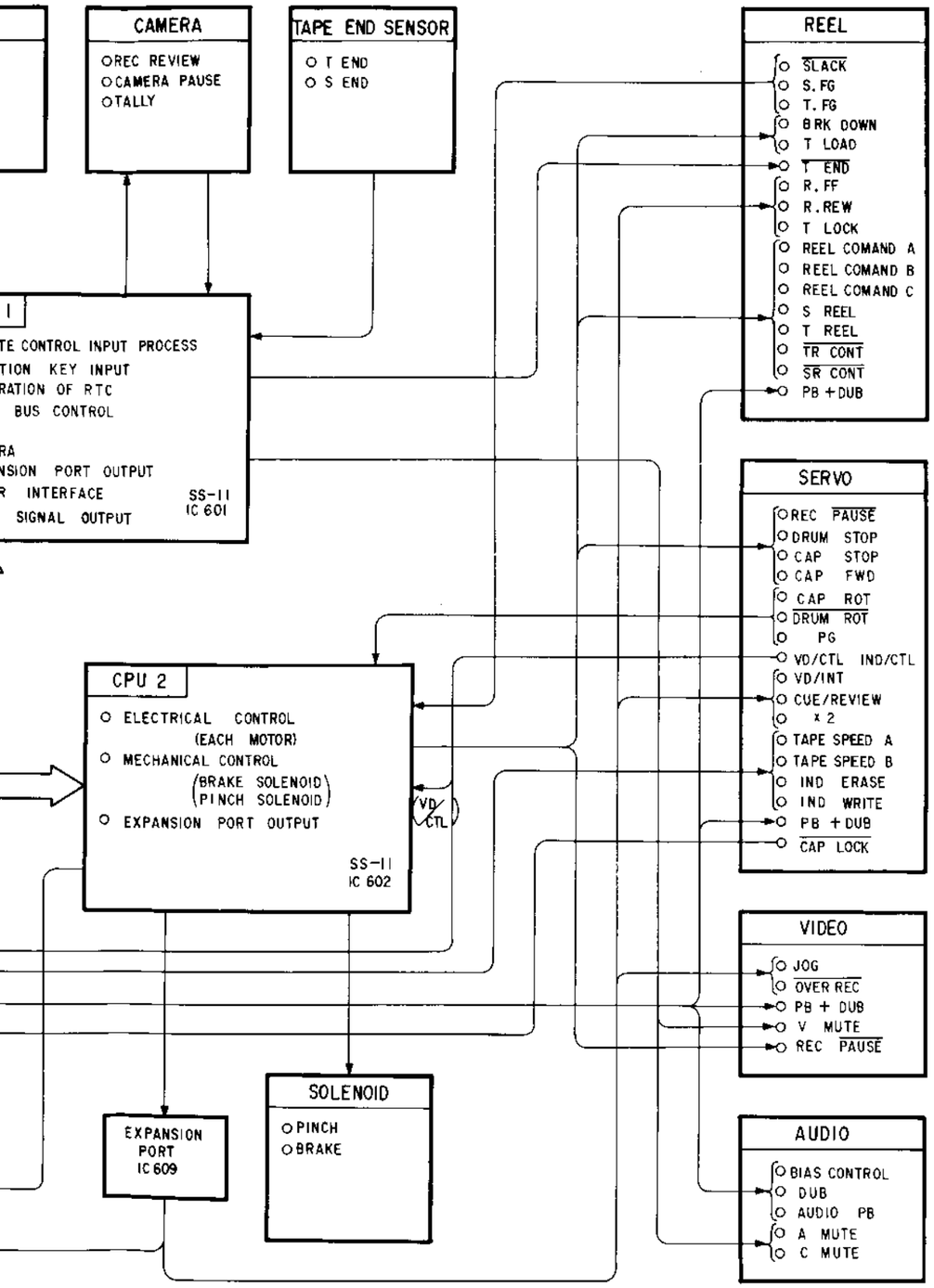
3-2. SYSTEM CONTROL BLOCK DIAGRAM (1)

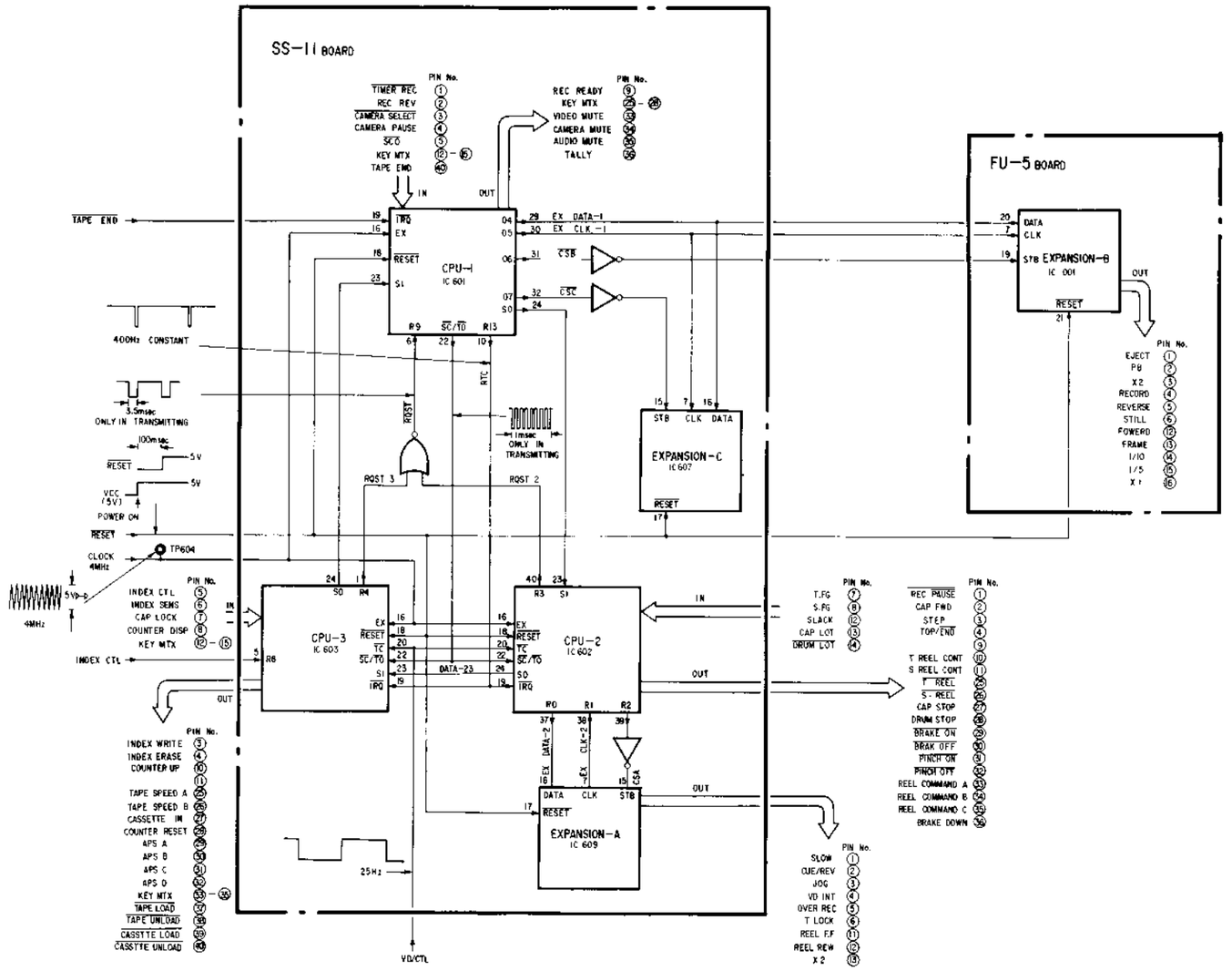


SYSTEM CONTROL BLOCK DIAGRAM

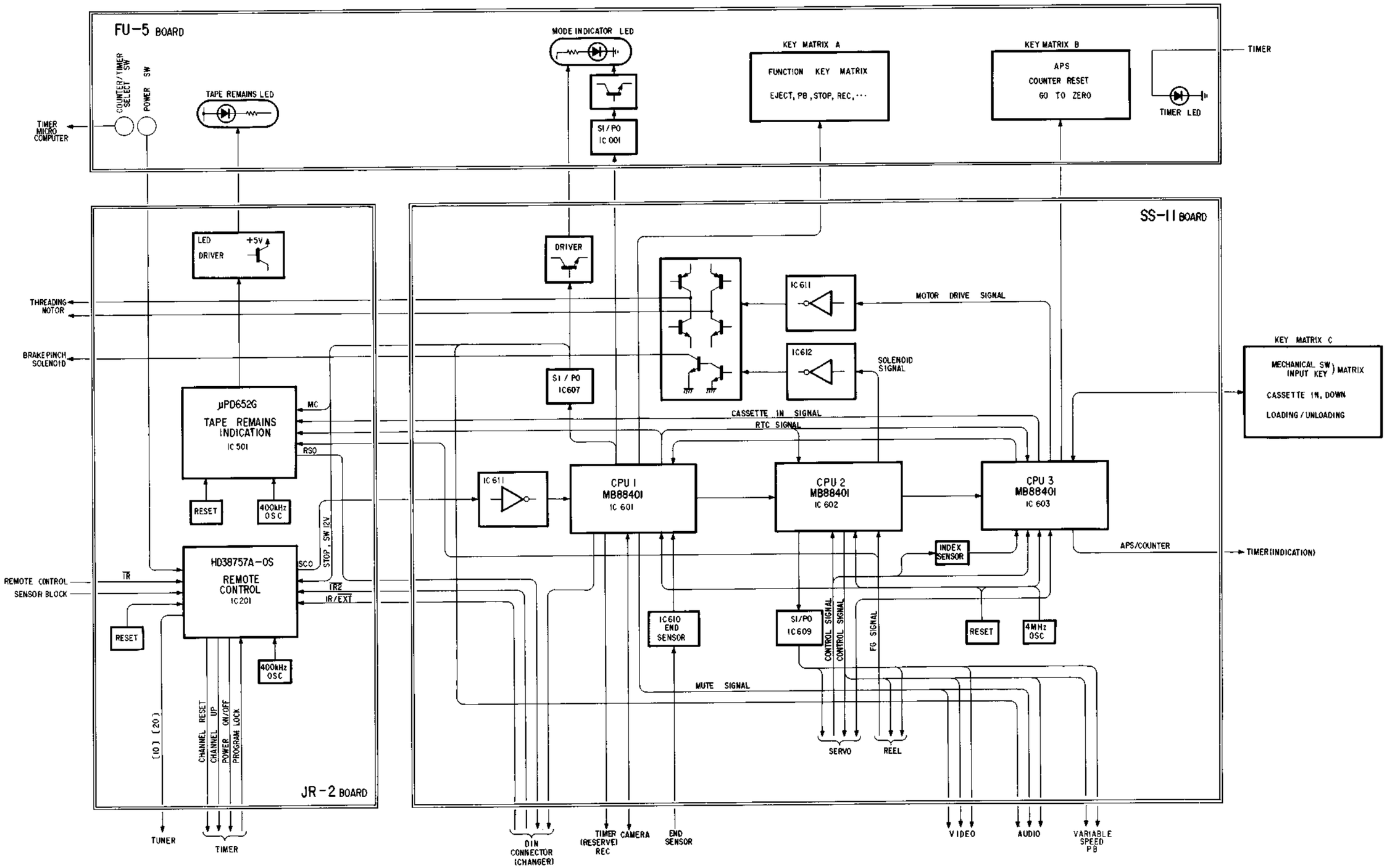


SYSTEM CONTROL BLOCK DIAGRAM (2)





SYSTEM CONTROL BLOCK DIAGRAM (3)



SYSTEM CONTROL CIRCUIT AND SERVO CIRCUIT INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
INDEX CTL	I	—	—	—	—	CTL	CTL	CTL	CTL	CTL	CTL	—	VD	CTL	—	CTL	CTL	CTL	—	CTL	IC603 ⑤ (R8)
VD/CTL	I	—	—	—	—	CTL	CTL	CTL	CTL	CTL	CTL	—	VD	CTL	—	CTL	CTL	CTL	—	CTL	IC602 ⑳ ($\overline{TC}$) IC603 ⑳ ($\overline{TC}$)
$\overline{DRM\ ROT}$ *2	I	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ⑭ (K2)
CAP ROT *2	I	L	L	L	L	L	L	H	H	H	H	L	H	—	L	H	H	H	L	*3	IC602 ⑬ (K1)
$\overline{CAP\ LOCK}$	I	H	H	H	H	H	H	—	—	L *4	L *4	H	L *4	—	H	L *4	L *4	L *4	H	±1 L *4 Other H	IC611 ⑦
RF SW PLS *5	I	disappear	disappear	disappear	disappear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	appear	IC602 ⑥ (R6)
PB+DUB	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	IC607 ⑫
DRM STP	O	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉘ ($\bar{0}3$)
CAP STP	O	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉗ ($\bar{0}2$)
VD INT	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	H	H	H	IC609 ④
REC·$\bar{P}$ *6	O	L	L	L	L	L	L	L	L	L	L	L	H *7	L	L	L	L	L	L	L	Q630 CORRECTOR
CUE+REV	O	L	L	L	L	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	IC609 ②
T SPD(A)	O	—	—	—	—	—	—	L	L	L	H	L	L	L	L	L	L	L	L	L	IC603 ㉓ ($\bar{0}0$)
T SPD(B)	O	—	—	—	—	—	—	L	H	H	L	H	H	H	H	H	H	H	H	H	IC603 ㉕ ($\bar{0}1$)

*1 signals correspond to the IC input/output pins inside the system control block.(refer to COMMENT.)
*2 approx. 1sec after the drum or capstan starts rotating, $\overline{DRM\ ROT}$ = "L" or CAP ROT ="H"
*3 ±1:"H" ±Slow : Indefinite STILL:"L"
*4 "H" until the capstan servo is locked, then"L" after locked.
*5 25Hz, 50% duty ratio pulse (PG)
*6 latched-output by flip-flop with RF SW PULSES (PG) as clock pulses.
*7 "L" is held during the first 12 CTLs in REC/PAUSE mode, then changing to"H"in REC mode.

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
CAP FWD	O	H *2	H *2	H *2	H *2	H	L	H	L	H	H	H	H	L	L	L	H	H	H	*3	IC602 ② (R5)
IND WRT	O	L	L	L	L	L	L	L	L	L *4	L	L	L *4 x5	L	L	L	L	L	L	L	IC612 ②
IND ERS	O	L	L	L	L	L	L	L	L	L *6	L	L	L	L	L	L	L	L	L	L	IC612 ④
X2	O	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	IC609 ⑬
USW 12V (E)	O																				
USW 12V (M)	O																				
SWD 12V	O																				
GND (12V)	O																				
9V	O																				
5V	O																				
GND (5V)	O																				

*1 signals correspond to the input/output pins of CPU/IC inside the system control block, (refer to COMMENT.)
*2 "Dont care" signal in servo section.
*3 "H" when the tape runs forward, "L" when the tape runs in reverse, and holds the previous level in STILL mode.
*4 "H" for approx 9sec(160mm) when the APS REC key is pressed in PB/REC mode. (Manual Index Write)
*5 "H" for approx 9 sec(160mm) in STOP→REC mode, and STOP→REC/PAUSE→REC mode. (Auto Index Write)
*6 "H" for 16 sec(240mm) in Index Erase mode.

SYSTEM CONTROL CIRCUIT AND REEL CIRCUIT INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
T FG *2	I																				IC602 ⑦ (R10)
S FG *2	I																				IC602 ⑧ (R11)
$\overline{SLACK}$	I					H*3	H*3														IC602 ⑫ (K0)
R FF	O	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC609 ⑪
R REW	O	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC609 ⑫
R COM A	O	—*4	L	—*4	L	L	H	L	H	L	L	L	L	H	H	H	L	L		L*5	IC602 ㉝ (P0)
R COM B	O	—	H	—	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉞ (P1)
R COM C	O	—	H	—	H	L	L	H	H	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉟ (P2)
$\overline{T\ REEL}$	O	H	L	H	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉕ ($\bar{0}$ 0)
$\overline{S\ REEL}$	O	H	L	H	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㉖ ($\bar{0}$ 1)
BRK DOWN *6	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC602 ㊱ (P3)
T LOCK	O	L	H*9	L	H*9	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC609 ⑥
T LOAD	O	L	H*7	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	IC611 ②
$\overline{T\ END}$ *8	O																				IC605 ②

*1 signals correspond to the IC input/output pins inside the system control block. (refer to COMMENT.)
*2 the number of pulses is equal to the product of 60 rpm times the number of revolutions of the supply or take-up reel.
*3 "L" when the reel revolution is abnormal (approx. 100 msec pulses).
*4 "Don't care" signal in reel section.
*5 "H" when the tape runs in the reverse direction.
*6 electromagnetic brake change-over signal. Used only in R COM=(71H.
*7 "H" only during tape loding.
*8 "L" at tape top/end.
*9 "H" only during tape loading/unloading.

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
CAP FWD	O	H*2	H*2	H*2	H*2	H	L	H	L	H	H	H	H	L	L	L	H	H	H	*3	CN625 ③
STEP *4	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN625 ④
SLOW	O	L	L	L	L	L	L	L	L	L	L	H	L	L	H	L	L	L	H	±1 L Other H	CN625 ⑤
JOG	O	L	L	L	L	L	L	H	H	L	H	H	L	L	L	H	L	L	H	+1 L Other H	CN625 ⑥
VD INT	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	H	H	H	CN625 ⑦
RVN *5	O																				CN625 ⑧
5V	O																				CN625 ②
GND (5V)	O																				CN625 ①

*1 signals correspond to connector pins. (refer to COMMENT)
*2 "don't care" signal in servo section.
*3 "H" when the tape runs forward, "L" when the tape run in reverse, and holds the previous level in STILL mode.
*4 slow-speed signal in slow PB mode.
*5 head change control signal.

SYSTEM CONTROL CIRCUIT AND AUDIO CIRCUIT INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEO/A	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
REC · $\overline{P}$ *2	O	L	L	L	L	L	L	L	L	L	L	L	H*3	L	L	L	L	L	L	L	CN614 ①
$\overline{OVER \cdot REC}$	O	H	H	H	H	H	H	H	H	H	H	H	H*4	H	H	H	H	H	H	H	CN614 ②
PB + DUB	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	CN614 ③
V MUTE *5	O	L	L	L	L	L	L	L	L	L*6	L*6	L	L	L	L	L	L	L*6	L	L	CN614 ④
JOG	O	L	L	L	L	L	L	H	H	L	H	H	L	L	L	H	L	L	H	H*7	CN614 ⑤

*1 signals correspond to connector pins. (refer to COMMENT)

*2 latched – output by flip – flop with RF SW pulses (PG) as clock pulses.

*3 "L" is held during the first 12 CTLs in REC / PAUSE mode, then changing to "H" in REC mode.

*4 "L" during overwrite – compensation. (only in STILL → REC/PAUSE → REC mode)

*5 "H" when no – CTL period lasts 0.5 sec during PB and x2, changing to "L" when the CTL is continuously detected for more than 0.5 sec.

*6 "H" for 3 sec in STOP → PB or DUB mode, then changes to "L".

*7 "L" at + 1.

SYSTEM CONTROL CIRCUIT AND VIDEO CIRCUIT INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB L + R	DUB PAUSE L + R		VIDEO/A	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB	L R	L	R		
A · PB	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	L	L		H	CN613 ②
REC · $\overline{P}$ *2	O	L	L	L	L	L	L	L	L	L	L	L	H*3	L	L	L	L	L	L		L	CN613 ③
BIAS CONT	O	L	L	L	L	L	L	L	L	L	L	L	H*3	L	L	L	L	H	L		L	CN613 ④
A MUTE *4	O	L	L	L	L	L	L	H	H	L*5	H	H	L	L	L	H	L*5	L – L*5	L – H		H	CN613 ⑤
C MUTE *6	O																					CN613 ⑥
DUB L	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H – L	H – L			CN613 ⑦
DUB R	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H – H	H – H			CN613 ⑧
CAM SEL *7	I																					CN613 ①

*1 signals correspond to connector pins. (refer to COMMENT)

*2 latched – output by flip – flop with RF SW pulses (PG) as clock pulses.

*3 "L" is held during the first 12 CTLs in REC/PAUSE mode, then changing to "H" is REC mode.

*4 "H" when no – CTL period lasts 0.5 sec changing to "L" when the CTL is continuously detected for more than 0.5 sec.

*5 "H" for 3 sec in STOP, FF or REW → PB, x2 or STOP → DUB mode, for 0.5 sec in the other modes, and then changes to "L".

*6 generates a mute pulse when changing mode. (this signal may disappear later)

*7 "H" when the input select SW is in camera mode.

SYSTEM CONTROL CIRCUIT AND VARIABLE SPEED PB CIRCUIT INTERFACE

SIGNAL *1 \ MODE	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
PB+DUB	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	IC607 ⑫
$\overline{\text{TR CONT}}$	O	H	H *2	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	IC602 ⑩ (R13)
$\overline{\text{SR CONT}}$	O	H	H *3	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	IC602 ⑪ (R14)
UNSW12V(M)	O																				
SWD12V	O																				
GND(12V)	O																				
9V	O																				
5V	O																				
GND(5V)	O																				

*1 signals correspond to the IC input/output pins inside the system control block.(refer to COMMENT)

*2 "L" for 600msec when the tape is being loaded.

*3 "L" for 100msec when the tape is being loaded.

SYSTEM CONTROL CIRCUIT AND TIMER BLOCK INTERFACE

SIGNAL *1 \ MODE	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
REC $\overline{\text{PAUSE}}$ *2	O	L	L	L	L	L	L	L	L	L	L	L	H *3	L	L	L	L	L	L	L	CN620 ①
APS D *4	O																				CN620 ②
APS C	O																				CN620 ③
APS B	O																				CN620 ④
APS A	O																				CN620 ⑤
$\overline{\text{COUNTER RST}}$ *5	O																				CN627 ⑤
CNT UP *6	O																				CN627 ④
$\overline{\text{CNT PLS}}$ *7	O																				CN627 ③
$\overline{\text{REC READY}}$ *9	O																				CN627 ①
$\overline{\text{TIMER REC}}$ *8	I																				CN627 ②
$\overline{\text{CNT DISP}}$ *10	I																				CN627 ⑥
$\overline{\text{KMOA 2}}$	O																				CN618 ①
$\overline{\text{KMIA 1}}$	I																				CN618 ②
$\overline{\text{KMIA 0}}$	I																				CN618 ③

*1 signals correspond to connector pins.(refer to COMMENT)

*2 latched-output by flip-flop with RF SW pulses(PG) as clock pulses.

*3 "L" is held during the first 12 CTLs in REC/PAUSE mode, then changing to "H" in REC mode.

*4 binary signals for controlling "APS" and 7-segment display.

*5 counter reset pulse signal. the pulse with (low-level) is approx 2.5msec. output when power is turned on and the CNT RESET key is pressed.

*6 counter control signal
high level (+) forward
low level (−) backward

*7 counter clock pulse (period: 1sec) 1 pulse is output for 25 CTLs.

*8 "L" is timer REC mode.

*9 "L" in timer REC READY mode.

*10 "L" in counter display mode.

*11 signals correspond to the input/output pins of CPU/IC.

SYSTEM CONTROL CIRCUIT AND CAMERA CONNECTOR INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{REC·REVIEW}}$ *2	I																				CN601 ④
$\overline{\text{CAM·PAUSE}}$ *3	I																				CN601 ②
TALLY	O	L	L	L	L	L	L	H	H	H	L	L	H	L	L	L	H	H	L	L	CN601 ③
CAM 12V	O																				CN601 ①
CAM GND	O																				CN601 ⑤

*1 signals correspond to connector pins(refer to COMMENT)

*2 "L" when the REC REVIEW key of the camera is pressed.

*3 "L" when the PAUSE key of the camera is pressed.

SYSTEM CONTROL CIRCUIT AND REMOTE CONTROL CIRCUIT INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
SCO *3	I																				CN602 ①
STOP	O	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN602 ④
IR / $\overline{\text{EXT}}$ *4	O																				CN602 ② from CHANGER to REMOCON
$\overline{\text{IR-2}}$ *5	O																				CN602 ③ from CHANGER to REMMCON
UNS 12V (E)	O																				CN602 ⑥
SWD 12V	O																				CN602 ⑤
GND (12V)	O																				CN602 ⑦

*1 signals correspond to the input / output pins of CPU / IC inside the system control block. (refer to COMMENT)

*3 serial data corresponding to remote control.
(remote control microcomputer → system control microcomputer)

*4 IR and IR-2 select signals for the remote control microcomputer.
high: IR select low: IR-2 select
(remote control interface → remote control microcomputer)

*5 remote control data for controlling the remote control microcomputer.
(remote control interface → remote control microcomputer)

SYSTEM CONTROL CIRCUIT AND TAPE REMAINS CIRCUIT INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{RTC}$ *2	O																				CN623 ⑤
S FG *3	O																				CN623 ①
T FG *3	O																				CN623 ②
CAP LOCK	O	L	L	L	L	L	L	—	—	H*4	H*4	L	H*4	—	L	H	H*4	H*4	L	±1 H*4 Other L	CN623 ⑥
C IN	O	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	CN623 ⑦
FF	O	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN623 ⑩
REW	O	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	CN623 ⑨
PB + DUB	O	L	L	L	L	L	L	H	H	H	H	H	L	L	L	H	H	H	H	H	CN623 ③
REC · $\overline{P}$ *7	O	L	L	L	L	L	L	L	L	L	L	L	H*5	L	L	L	L	L	L	L	CN623 ④
PAUSE	O	L	L	L	L	L	L	L	L	L	L	H	L	H	H	H	H	L	H	L	CN623 ⑧
RSO *6	I																				CN602 ⑧

* 1 signals correspond to the input / output pins of CPU/IC inside the system control block. (refer to COMMENT)
* 2 real time clock with a cycle of 2.5 msec.
* 3 the number of pulses is equal to the product of 60 rpm times the number of reel revolutions.
* 4 "L" is held until the capstan servo is locked.
* 5 "L" is held during the first 12 CTLs in REC / PAUSE mode, then changing to "H" in REC mode.
* 6 serial data for residual display. (residual microcomputer → interface)
* 7 latched - output by flip - flop with RF SW pulses(PG) as clock pulses.

SYSTEM CONTROL CIRCUIT AND CHANGER INTERFACE

MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
IR/$\overline{EXT}$ *2	I																				CN628 ④ from CHANGER to REMOCON
$\overline{IR-2}$ *3	I																				CN628 ③ from CHANGER to REMOCON
REC·READY *4	O																				CN628 ②
$\overline{S\ DATA}$ *5	O																				CN628 ⑧
$\overline{S\ CLOCK}$ *6	O																				CN628 ⑦
RSO *7	O																				CN628 ⑤
12V	O																				CN628 ①
GND (12V)	O																				CN628 ⑥

* 1 signals correspond to connector pins. (refer to COMMENT)
* 2 IR and IR-2 select signals for the remote control microcomputer. high : IR select low : IR-2 select (interface → remote control microcomputer)
* 3 remote control data for controlling the remote control microcomputer. (interface → remote control microcomputer)
* 4 "H" in timer REC READY mode.
* 5 extension port serial data.
* 6 extension port clock.
* 7 serial data for residual display. (residual microcomputer → interface)

SYSTEM CONTROL CIRCUIT AND FU-5 BOARD INTERFACE

SIGNAL * 1 \ MODE	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB L+R		DUB · P L+R		VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB	L	R	L	R		
EX DATA 1 * 2	O																						CN612 ④
EX CLK 1	O																						CN612 ③
CSB	O																						CN612 ②
$\overline{\text{RESET}}$	O																						CN612 ①
$\overline{\text{REW}}$	O	H	H	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	CN622 ⑥
$\overline{\text{FF}}$	O	H	H	H	H	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	CN622 ⑤
$\overline{\text{PAUSE}}$	O	H	H	H	H	H	H	H	H	H	H	L	H	L	L	L	L	H	L	H	L	H	CN622 ④
DUB L	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H — L		H — L		L	CN622 ②
DUB R	O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H — H		H — H		L	CN622 ③
$\overline{\text{KMOA 4}}$ * 3	O																						CN626 ⑤
$\overline{\text{KMOA 3}}$	O																						CN626 ⑥
$\overline{\text{KMOA 1}}$	O																						CN626 ⑦
$\overline{\text{KMOA 0}}$	O																						CN626 ⑧

* 1 signals correspond to connector pins.(refer to COMMENT)

* 2 extension port control signals for LED lightening.

* 3 CPU 1 key matrix output signals.

SIGNAL * 1 \ MODE	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{KMIA 3}}$ * 2	I																				CN626 ①
$\overline{\text{KMIA 2}}$	I																				CN626 ②
$\overline{\text{KMIA 1}}$	I																				CN626 ③
$\overline{\text{KMIA 0}}$	I																				CN626 ④
5V	O																				CN622 ①
GND(5V)	O																				CN622 ⑦
$\overline{\text{KMOB 2}}$ * 3																					CN624 ①
$\overline{\text{KMOB 1}}$																					CN624 ②
$\overline{\text{KMIB 2}}$ * 4																					CN624 ③
$\overline{\text{KMIB 0}}$																					CN624 ④

* 1 signals correspond to connector pins.(refer to COMMENT)

* 2 CPU 1 key matrix input signals.

* 3 CPU 3 key matrix output signals.

* 4 CPU 3 key matrix input signals.

SYSTEM CONTROL CIRCUIT AND SW-11 BOARD INTERFACE

SIGNAL \ MODE	* 1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
			UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{KMOB 2}}$	* 2	O																				CN619 ②
$\overline{\text{KMOB 1}}$		O																				CN619 ③
$\overline{\text{KMIB 1}}$	* 3	I																				CN619 ①

* 1 signals correspond to connector pins(refer to COMMENT)

* 2 CPU 3 key matrix output signals

* 3 CPU 3 key matrix input signals

SYSTEM CONTROL CIRCUIT AND END SENSOR INTERFACE

SIGNAL \ MODE	* 1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEOLA	COMMENT
			UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
$\overline{\text{KMIB 3}}$	* 2	I																				CN616 ①
$\overline{\text{KMIB 2}}$		I																				CN616 ②
$\overline{\text{KMIB 1}}$		I																				CN616 ③
$\overline{\text{KMIB 0}}$		I																				CN616 ④
$\overline{\text{KMOB 2}}$	* 3	O																				CN616 ⑤
$\overline{\text{KMOB 1}}$		O																				CN616 ⑥
$\overline{\text{KMOB 0}}$		O																				CN616 ⑦
C LOAD (+)		O	L	H * 4	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑩
C LOAD (−)		O	L	L	L	H * 5	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑨
T LOAD (+)		O	L	H * 6	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑧
T LOAD (−)		O	L	L	L	H * 7	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	CN701 ⑦
$\overline{\text{BRK ON}}$	* 8	O																				CN701 ⑤
$\overline{\text{BRK OFF}}$		O																				CN701 ④
$\overline{\text{PINCH ON}}$		O																				CN701 ③
$\overline{\text{PINCH OFF}}$		O																				CN701 ②
D12V		O																				CN701 ①

* 1 signals correspond to connector pins. (refer to COMMENT)

* 2 CPU 3 key matrix input signals

* 3 CPU 3 key matrix output signals

* 4 when the cassette is being loaded (H: 12V)

* 5 when the cassette is being unloaded (H: 12V)

* 6 when the tape is being loaded (H: 12V)

* 7 when the tape is being unloaded (H:12V)

* 8 brake/pinch plunger solenoid drive signals. driven by 200 msec pulses.

SYSTEM CONTROL CIRCUIT AND MECHANISM BLOCK INTERFACE

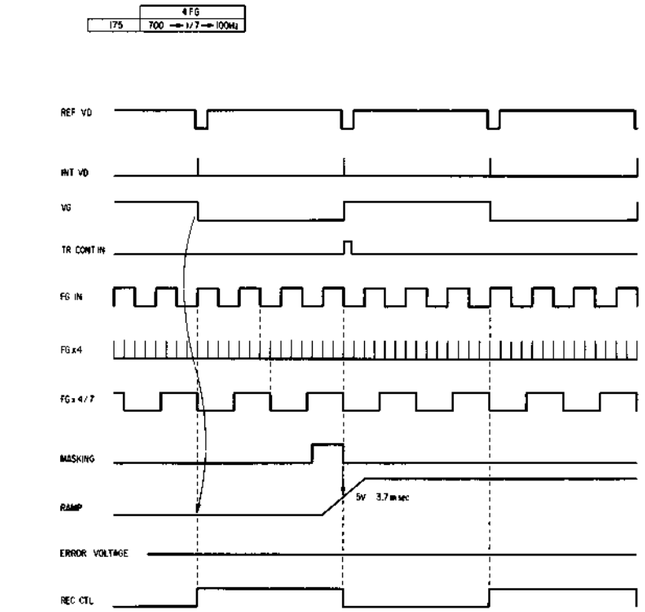
MODE / SIGNAL *1	I/O	STOP				FF	REW	CUE	REVERSE	PB		PB PAUSE	REC	REC PAUSE				DUB	DUB PAUSE	VIDEO L.A	COMMENT
		UN READY	LOAD	READY	UN LOAD					NORMAL	x2			IN PAUSE	NORMAL	REC REVERSE	REC PB				
T END *2	I																				CN604 ②
S END *3	I																				CN617 ②
9V	O																				CN604 ① CN617 ①
GND (5V)	O																				CN604 ③ CN617 ③

*1 signals correspond to connector pins.(refer to COMMENT)

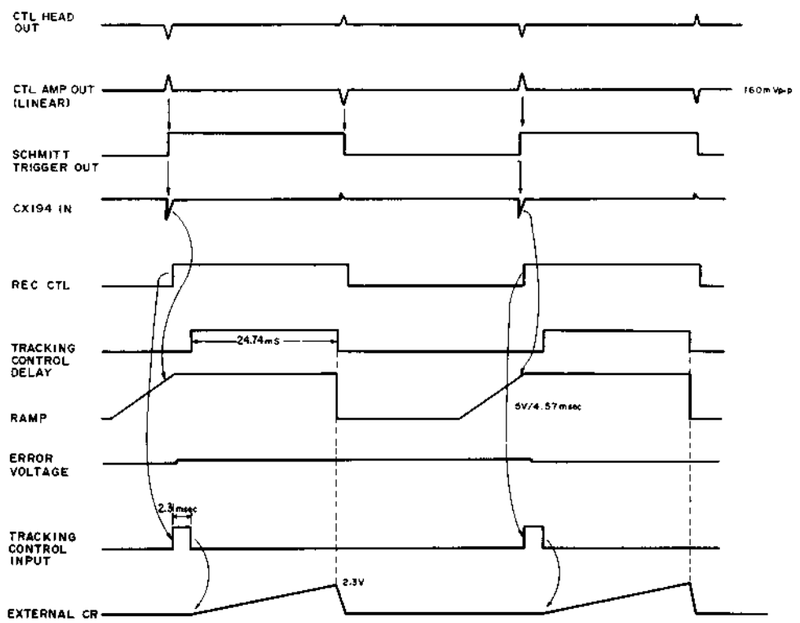
*2 OSC freq.600kHz at tape end.

*3 OSC freq.600kHz at tape top.

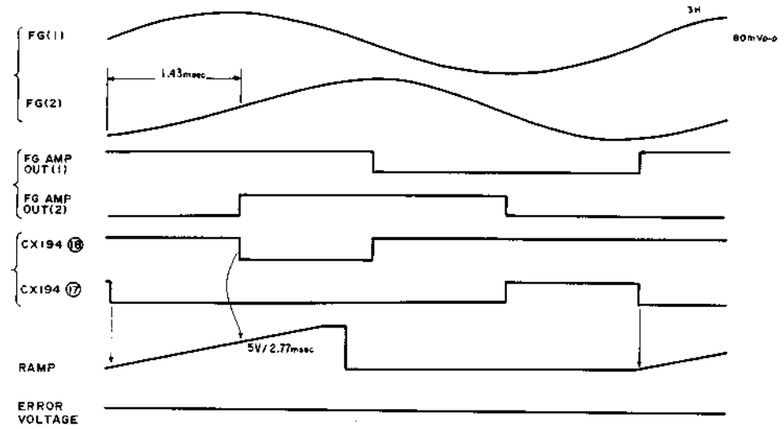
CAPSTAN PHASE SYSTEM TIMING CHART (REC)



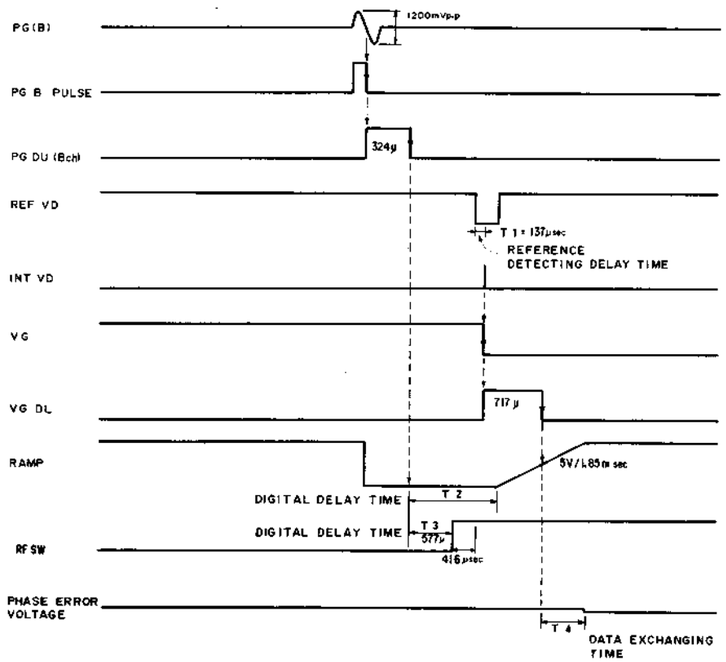
CAPSTAN PHASE SYSTEM TIMING CHART (PB)



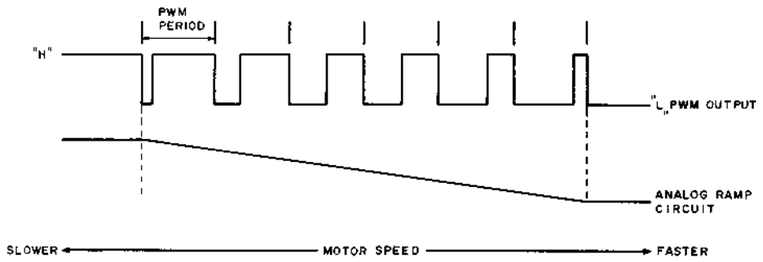
CAPSTAN SPEED SYSTEM TIMING CHART



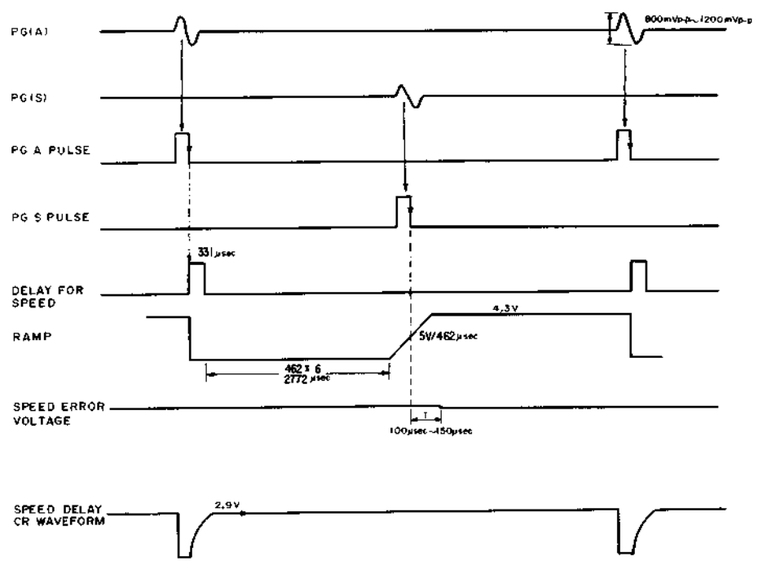
DRUM PHASE SYSTEM TIMING CHART



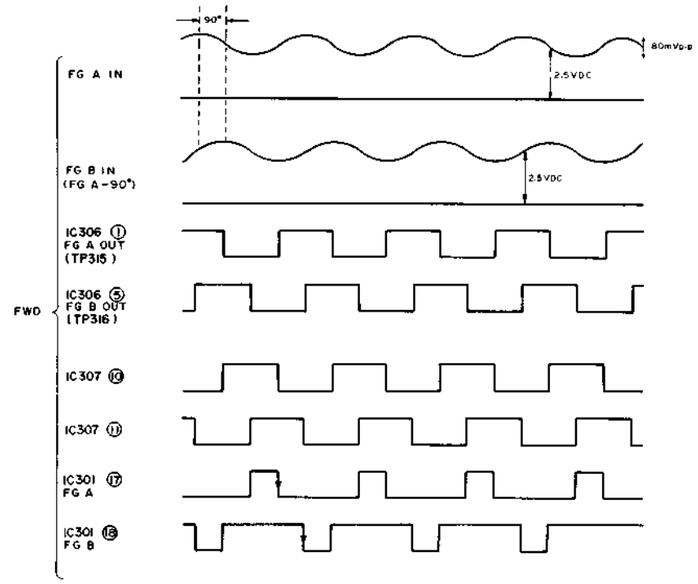
INSTRUMENTATION COUNTER TIMING CHART

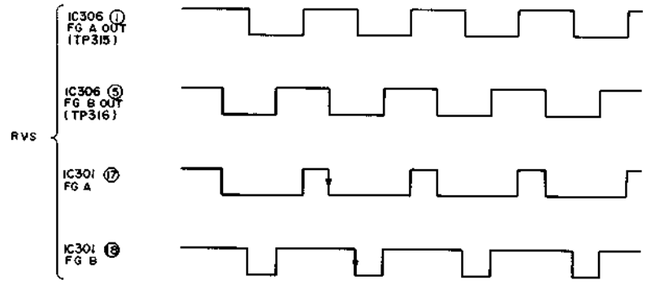


DRUM SPEED SYSTEM TIMING CHART

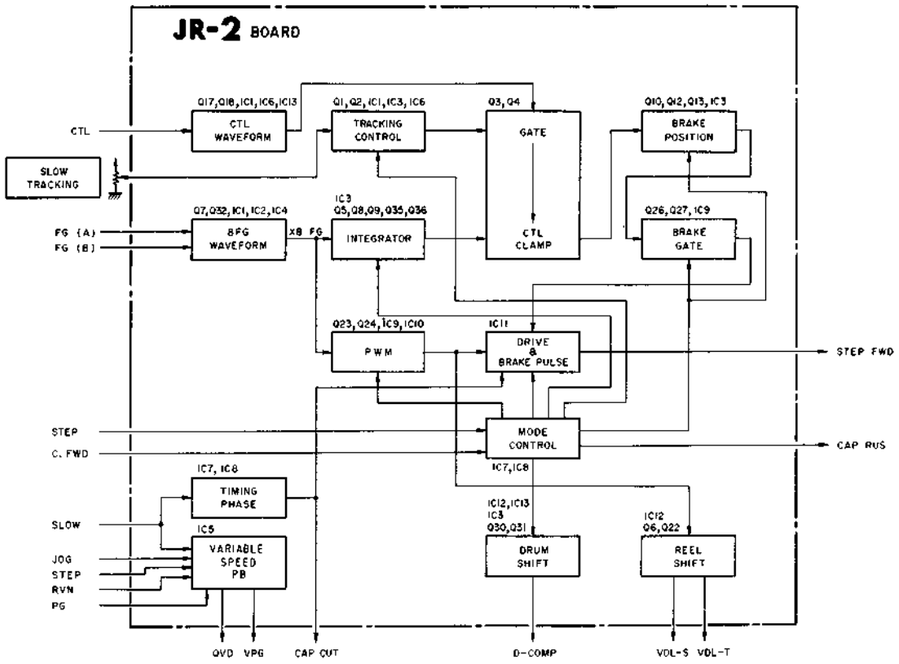


FG CIRCUIT TIMING CHART

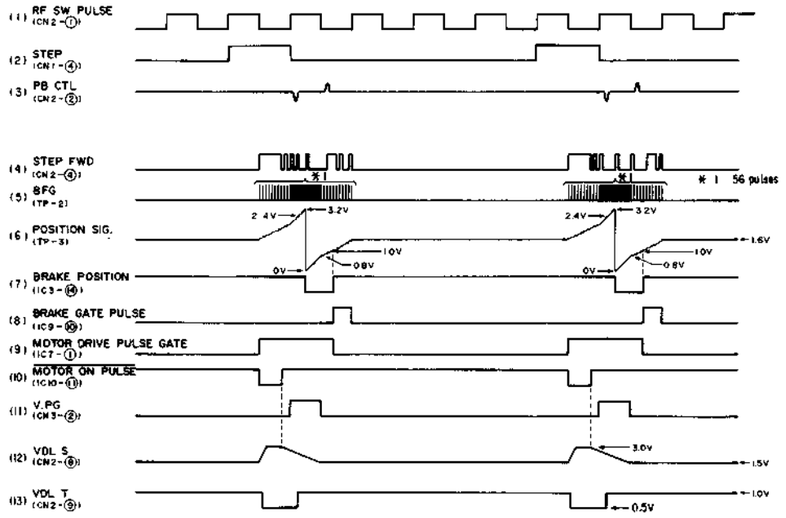




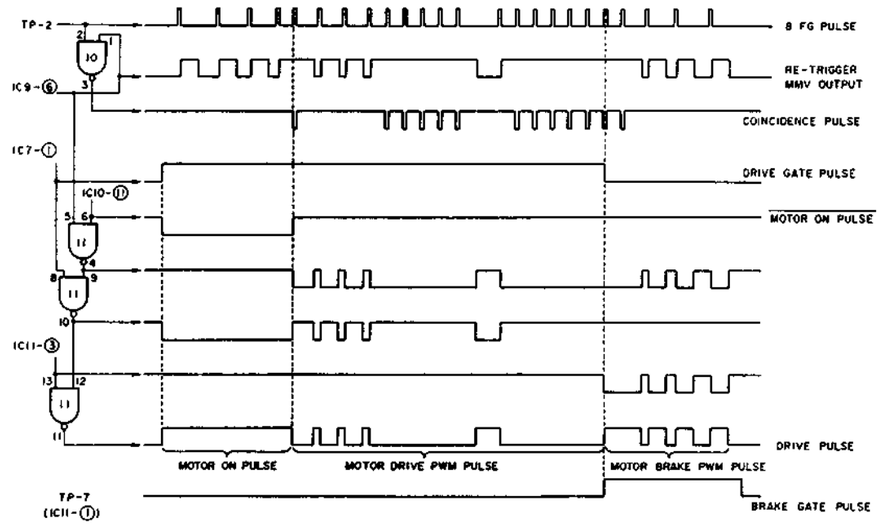
3-3. VARIABLE SPEED PB SERVO BLOCK DIAGRAM



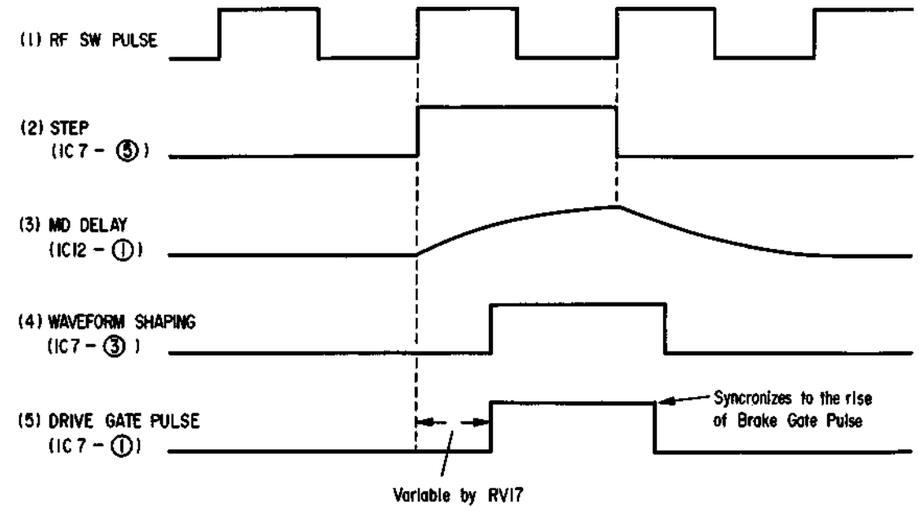
VARIABLE SPEED PB SERVO TIMING CHART (1)



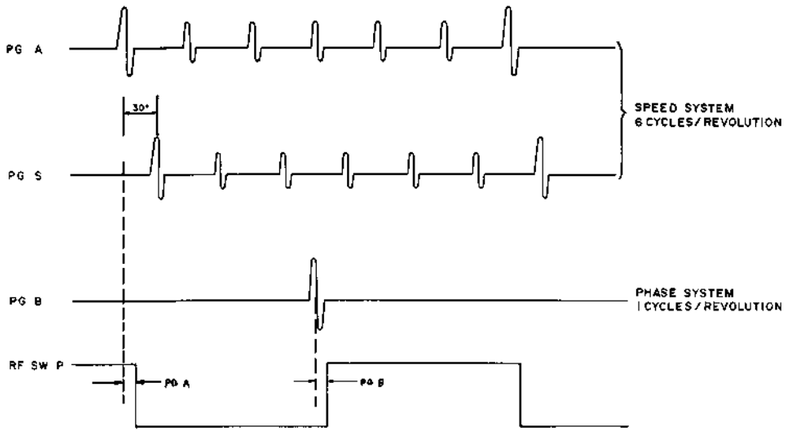
VARIABLE SPEED PB SERVO TIMING CHART (2)



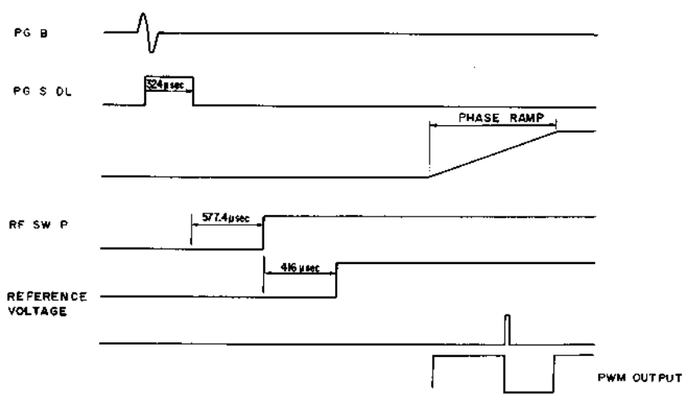
VARIABLE SPEED PB SERVO TIMING CHART (3)



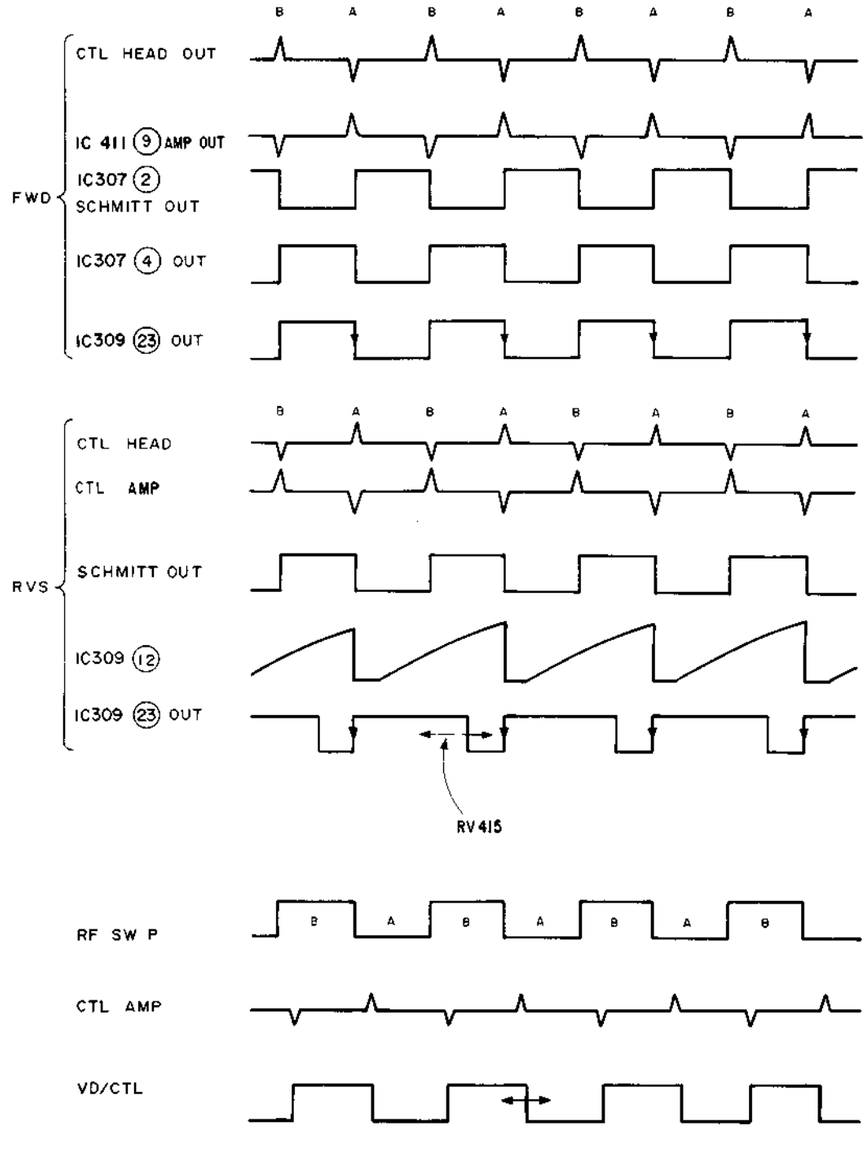
PG-A, PG-B, PG-S TIMING CHART



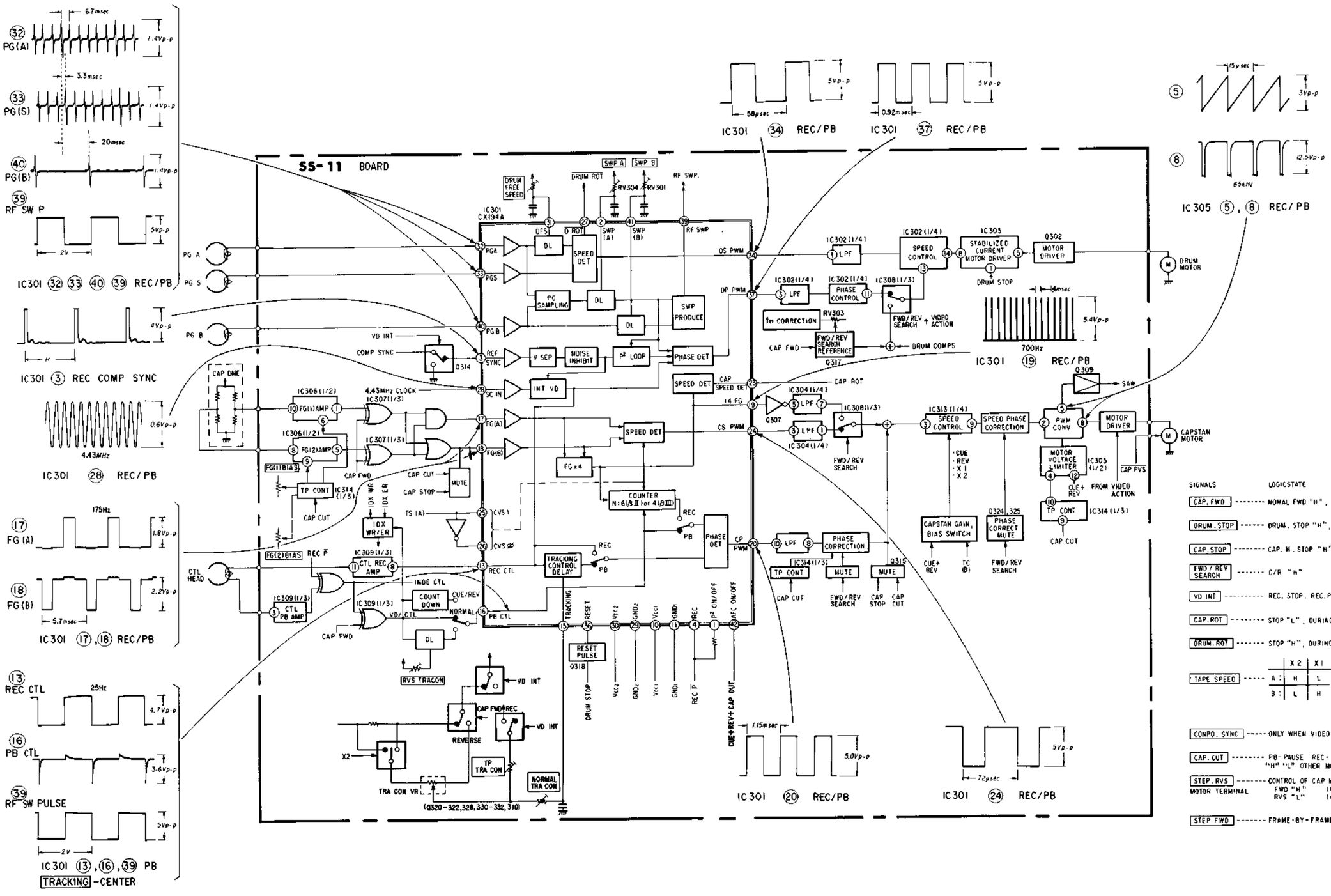
PG-A, PG-S TIMING CHART



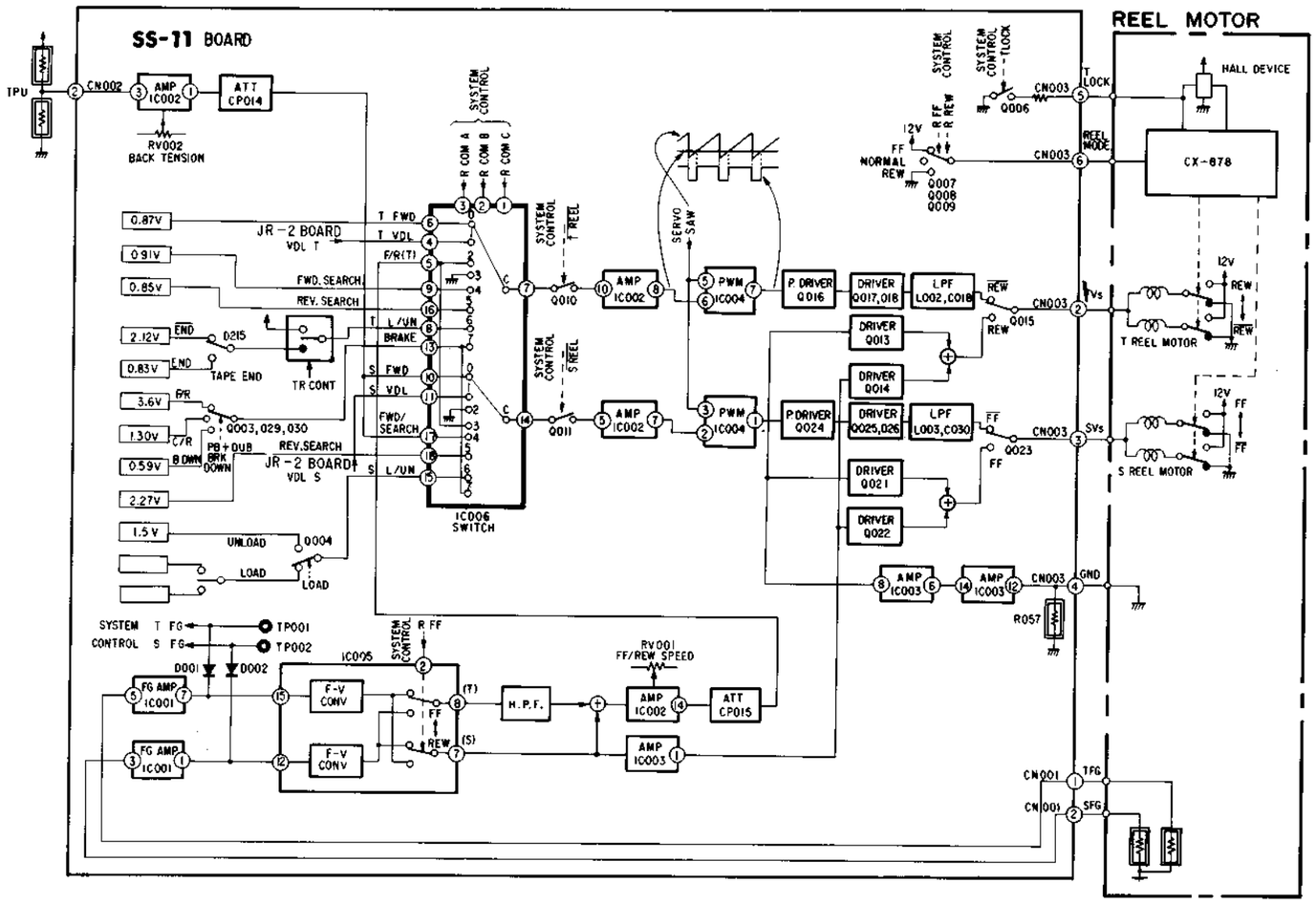
CTL CIRCUIT OF IC409 TIMING CHART



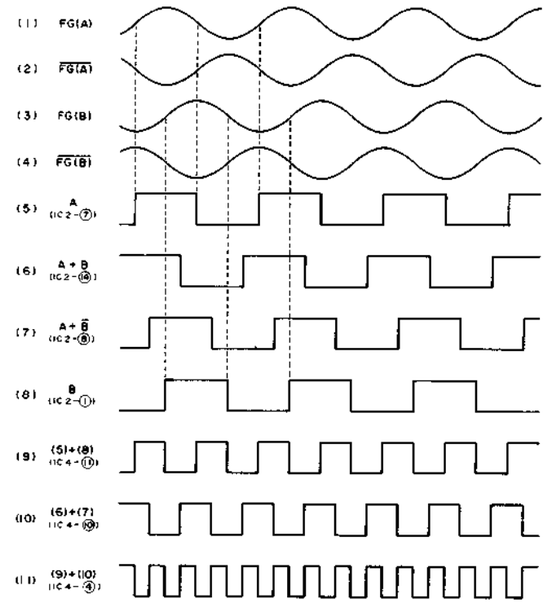
3-4. SERVO BLOCK DIAGRAM (DRUM/CAPSTAN)



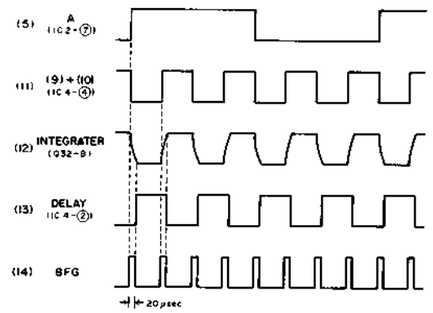
3-5. SERVO BLOCK DIAGRAM (REEL)



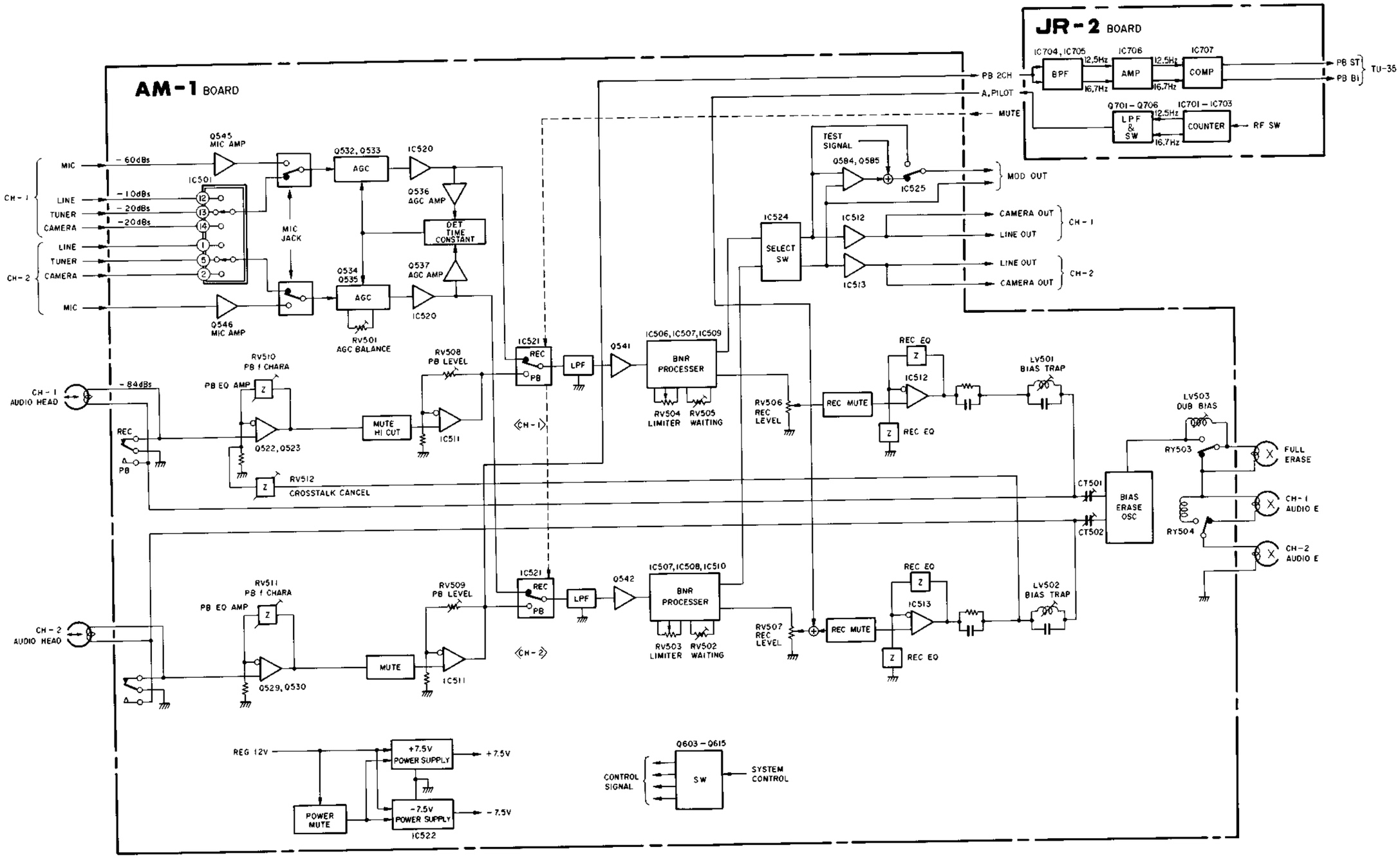
8FG SIGNAL GENERATOR TIMING CHART (1)



8FG SIGNAL GENERATOR TIMING CHART (2)

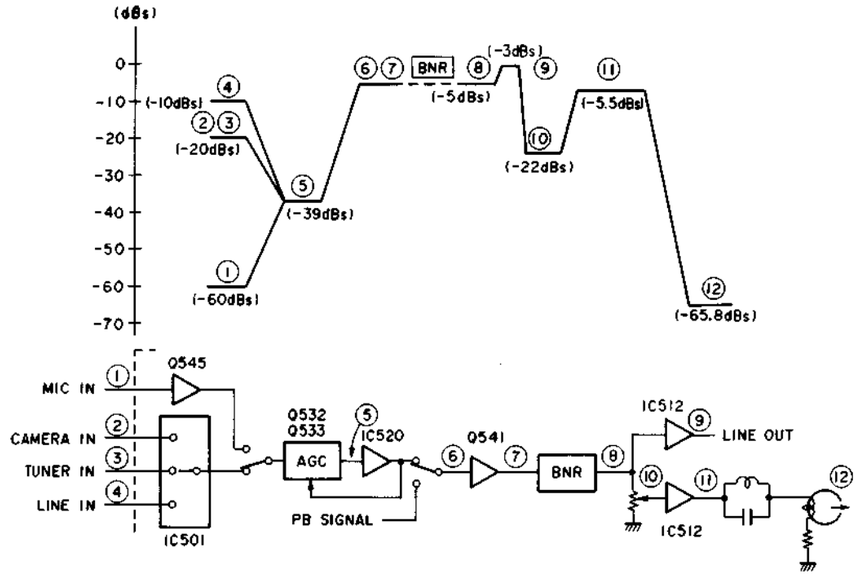


3-6. AUDIO BLOCK DIAGRAM

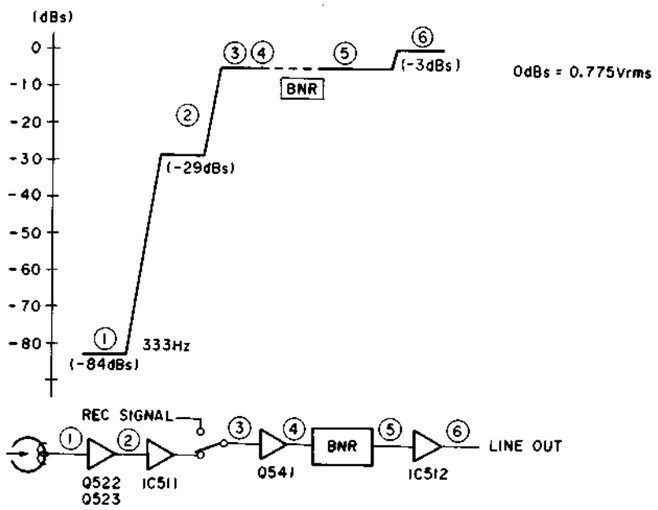


AUDIO LEVEL DIAGRAM

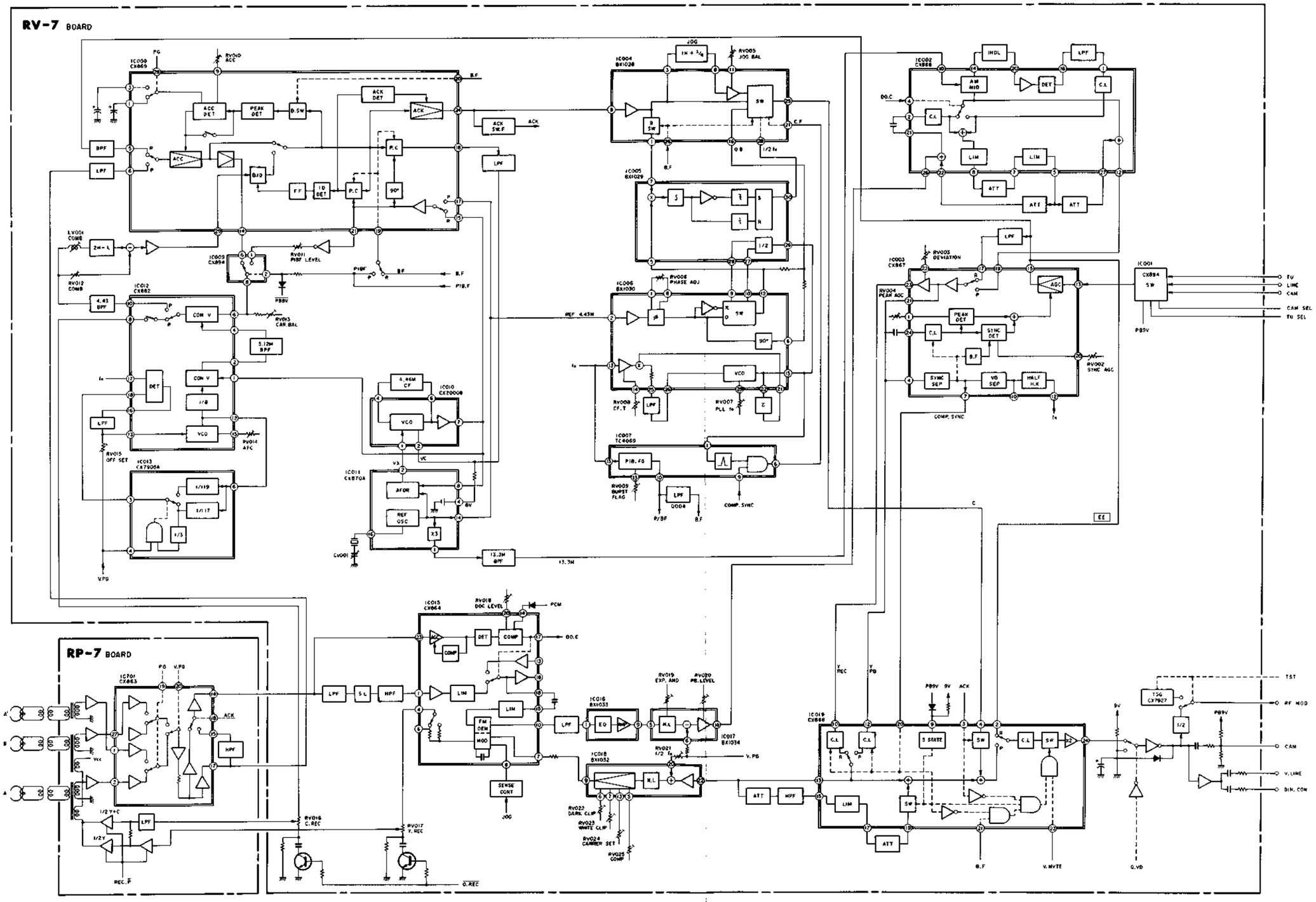
– REC MODE –



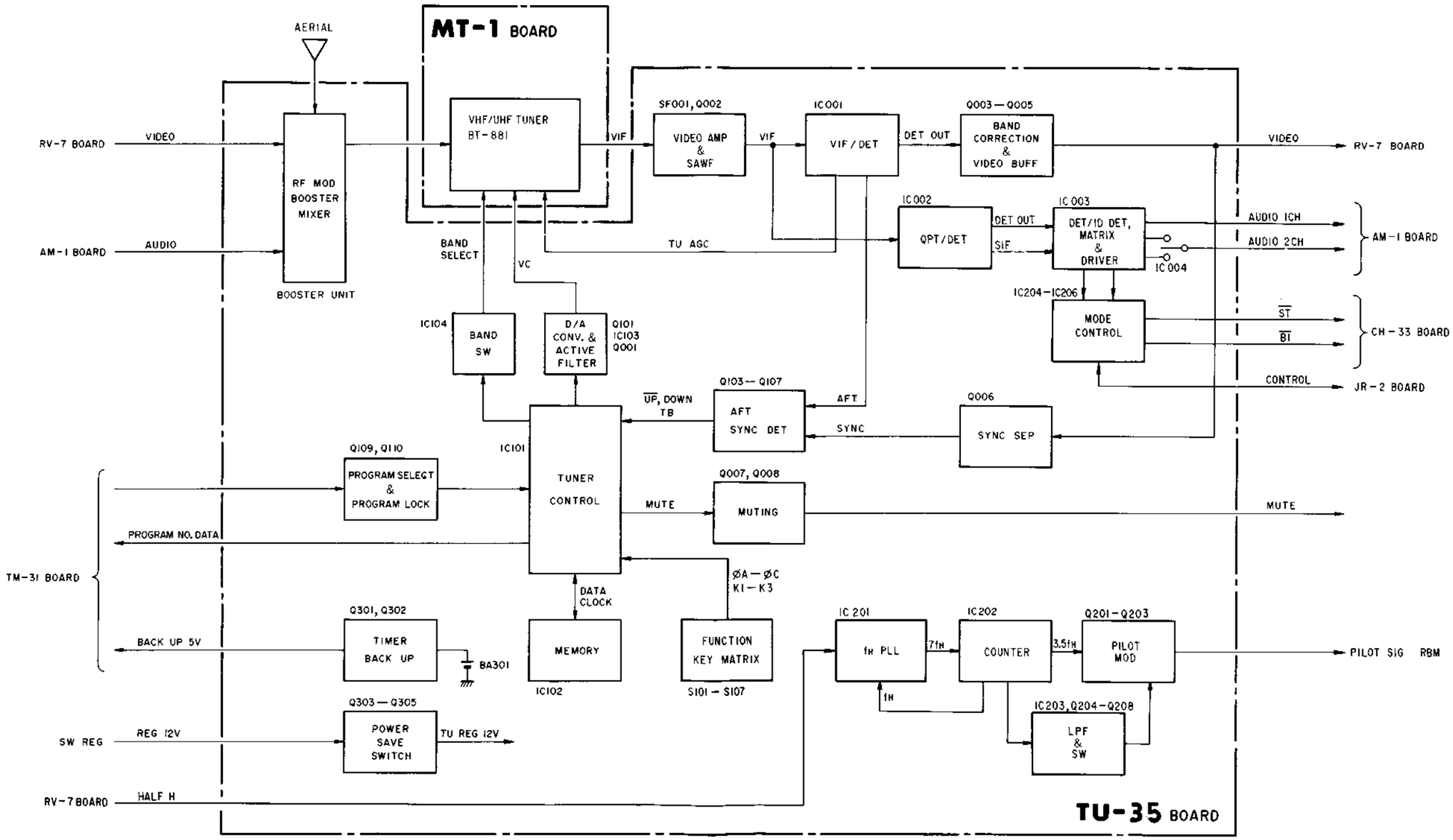
– PB MODE –



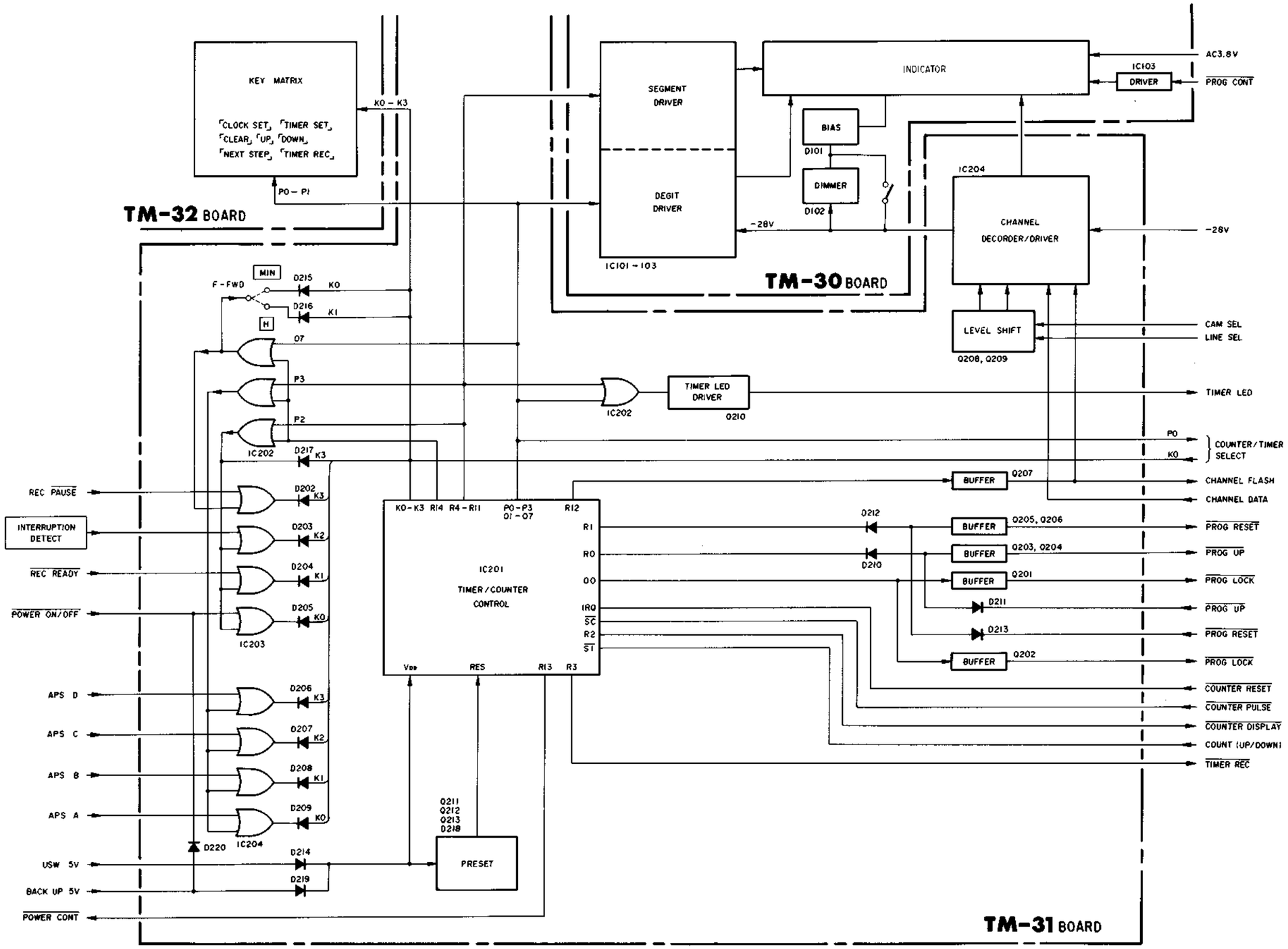
3-7. VIDEO BLOCK DIAGRAM



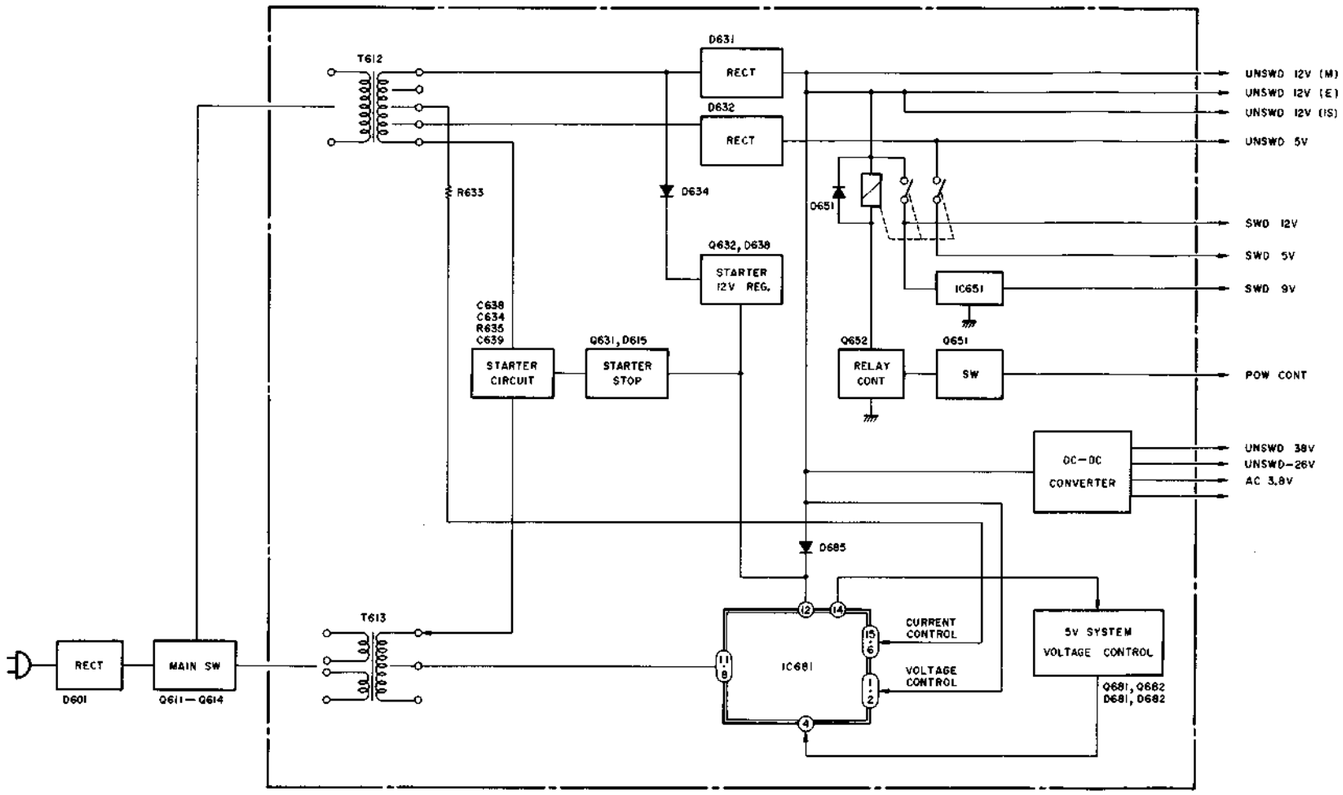
3-8. TUNER BLOCK DIAGRAM



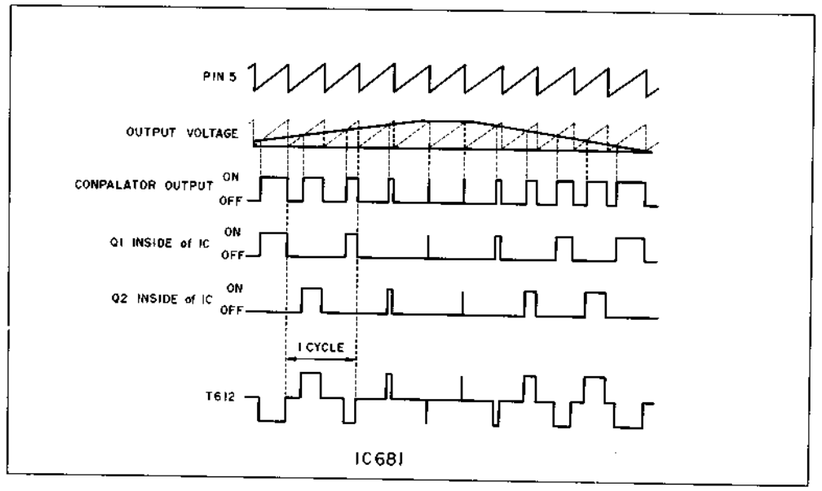
3-9. TIMER BLOCK DIAGRAM



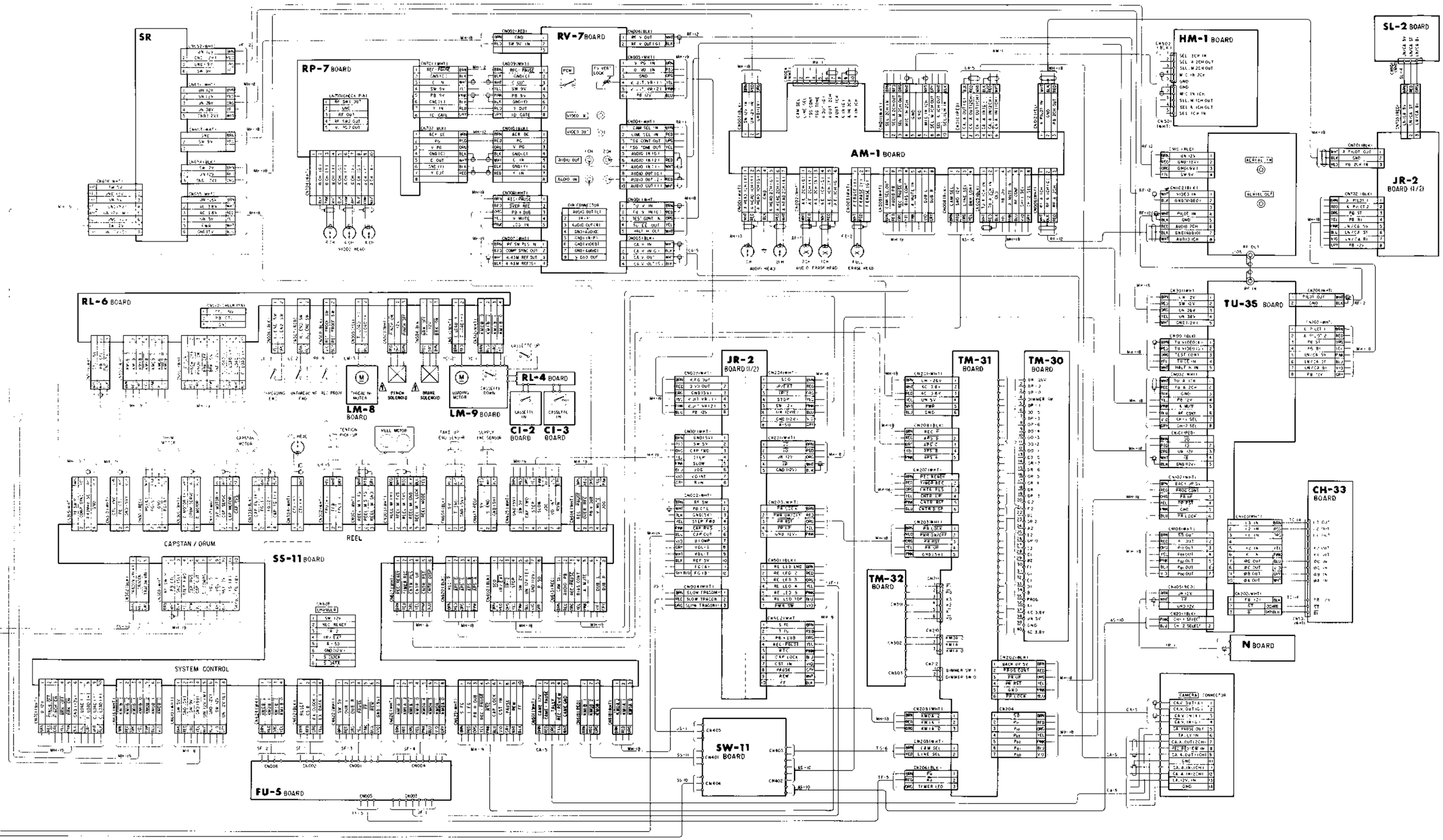
3-10. POWER SUPPLY BLOCK DIAGRAM



POWER SUPPLY TIMING CHART

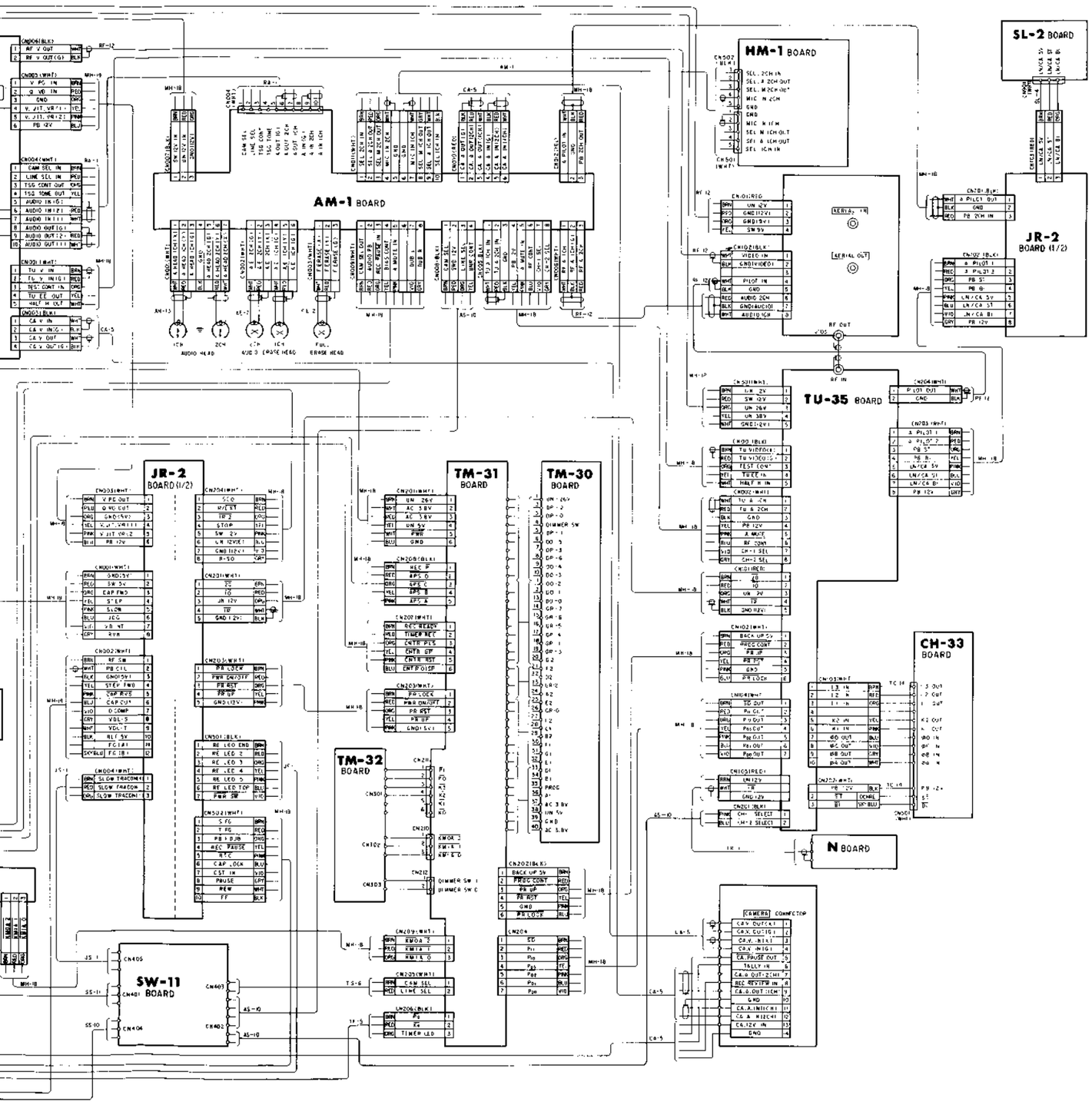


3-11. FRAME SCHEMATIC DIAGRAM

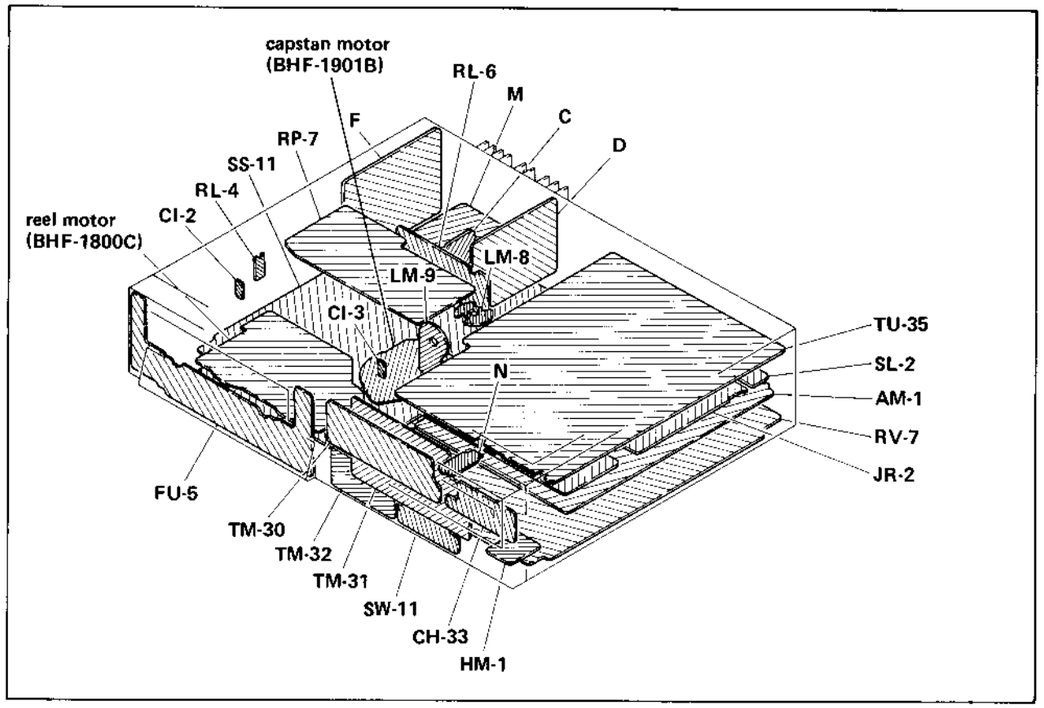


3-12. CIR

reel moto
(BHF-180



3-12. CIRCUIT BOARDS LOCATION



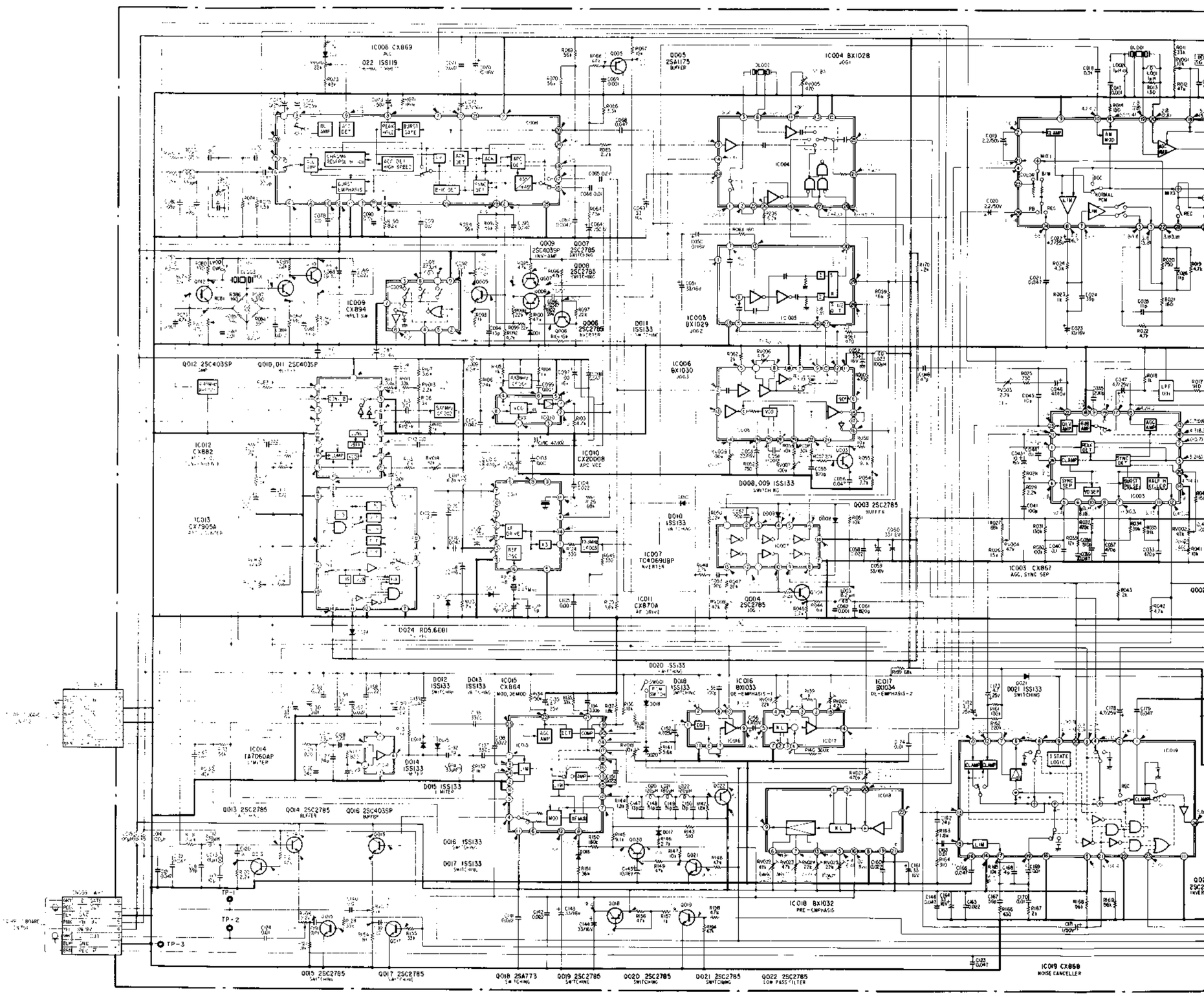
3-13. SCHEMATIC DIAGRAM – *Ref. No. 1000 series* –

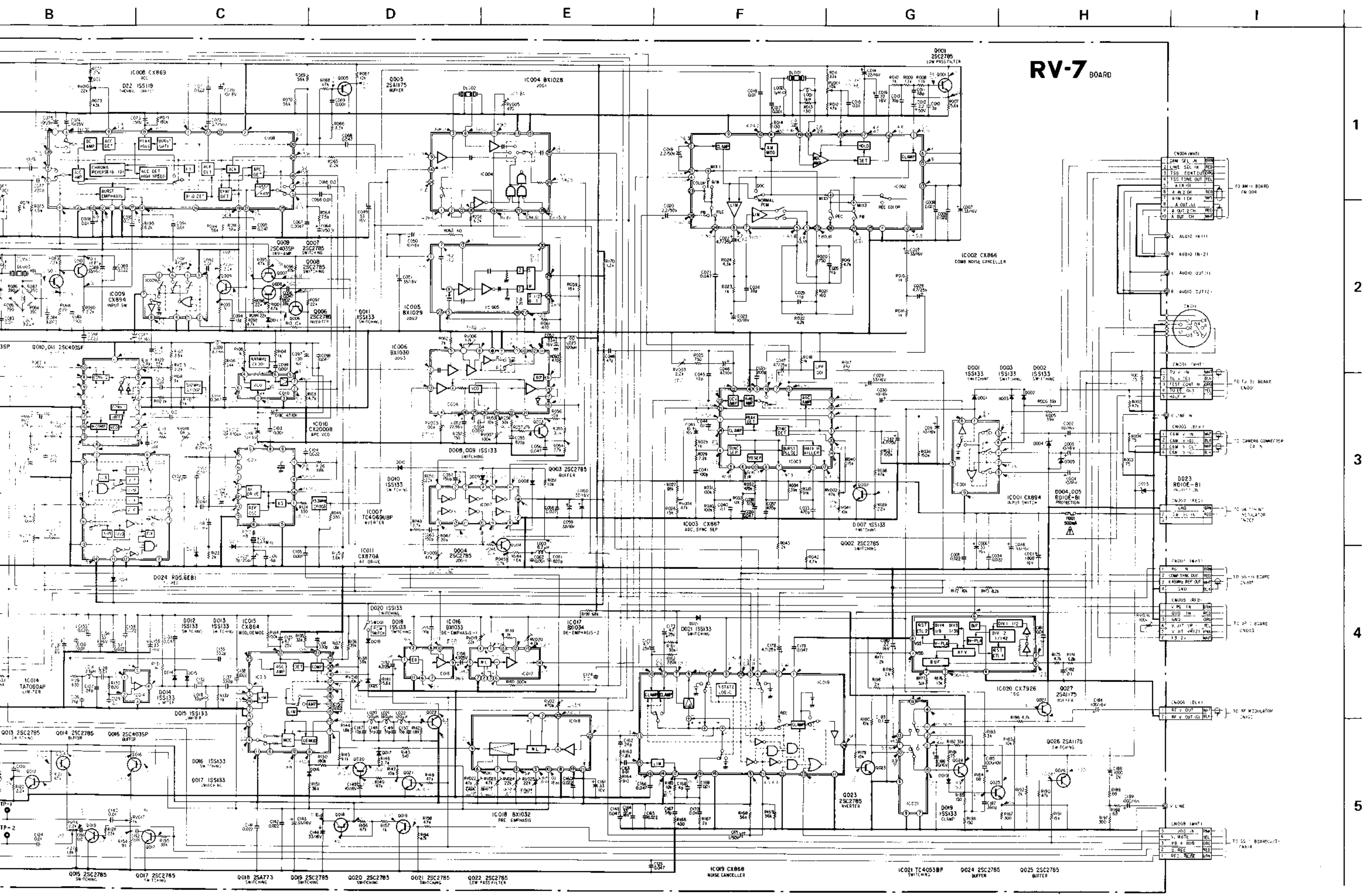
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/8 W unless otherwise noted. k: 1000 Ω, M: 1000 kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- : adjustment for repair.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ——— : B+ bus.
- – – – : B– bus.
- The red lines show the main voltages.
- Marked * is not able to measure the voltage of it's position.
- No mark: REC mode
- ( ) : PB mode
- < > : CUE/REV mode
- { } : TEST SIG mode

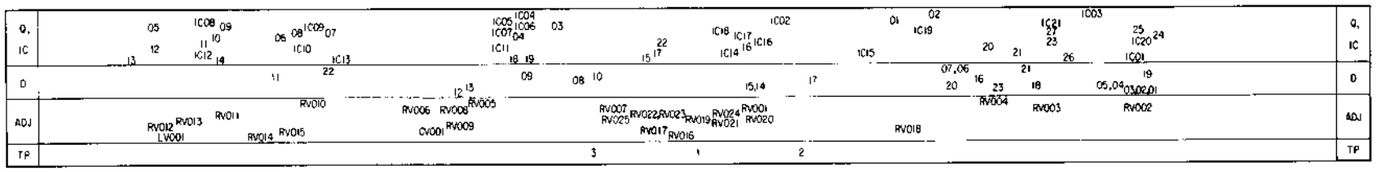
When indicating parts by reference number, please include the board name.

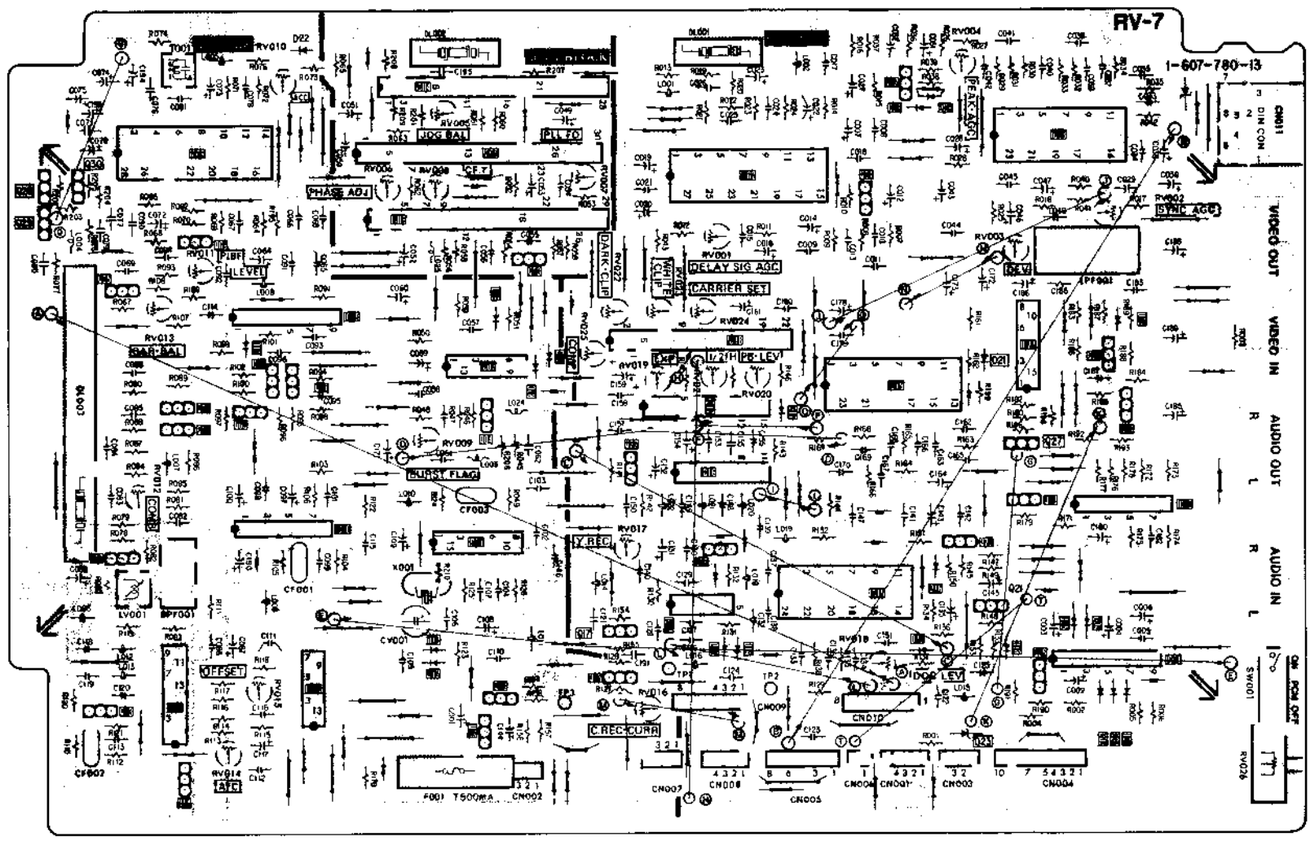


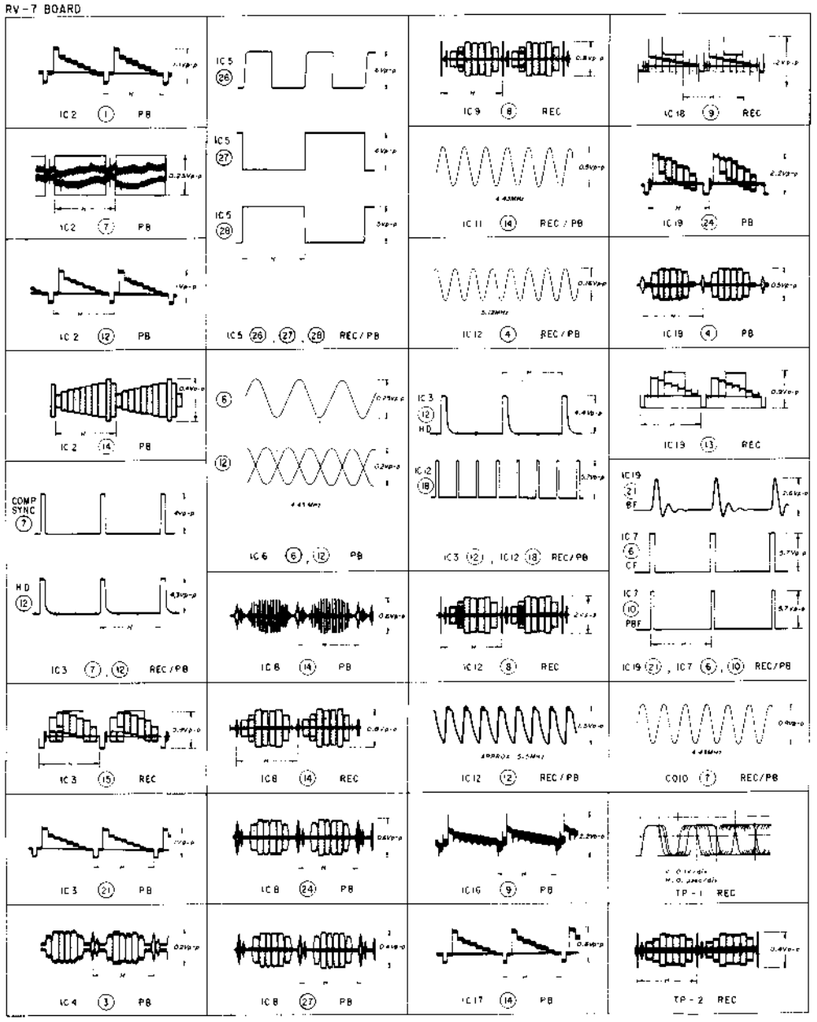


RV-7 BOARD
IC008 CX869
IC004 BX1028
IC002 CX866
COMB NOISE CANCELLER
IC009 CX894
INPUT SW
IC005 BX1029
IC006 BX1030
IC010 CX20008
APC VCO
IC007 TC4069UBP
INVERTER
IC011 CX870A
AF DRIVE
IC003 CX867
AGC, SYNC SEP
IC001 CX894
INPUT SWITCH
D024 RD5.6EB1
IC014 TA7060AP
LIMITER
IC015 CX864
MODL DEMOD
IC016 BX1033
DE-EMPHASIS-1
IC017 BX1034
DE-EMPHASIS-2
IC018 BX1032
PRE EMPHASIS
IC019 CX868
NOISE CANCELLER
IC020 CX7926
TSG
IC021 TC4053BP
SWITCHING

3-14. PRINTED WIRING BOARD – *Ref. No. 1000 series* –
– Conductor Side –

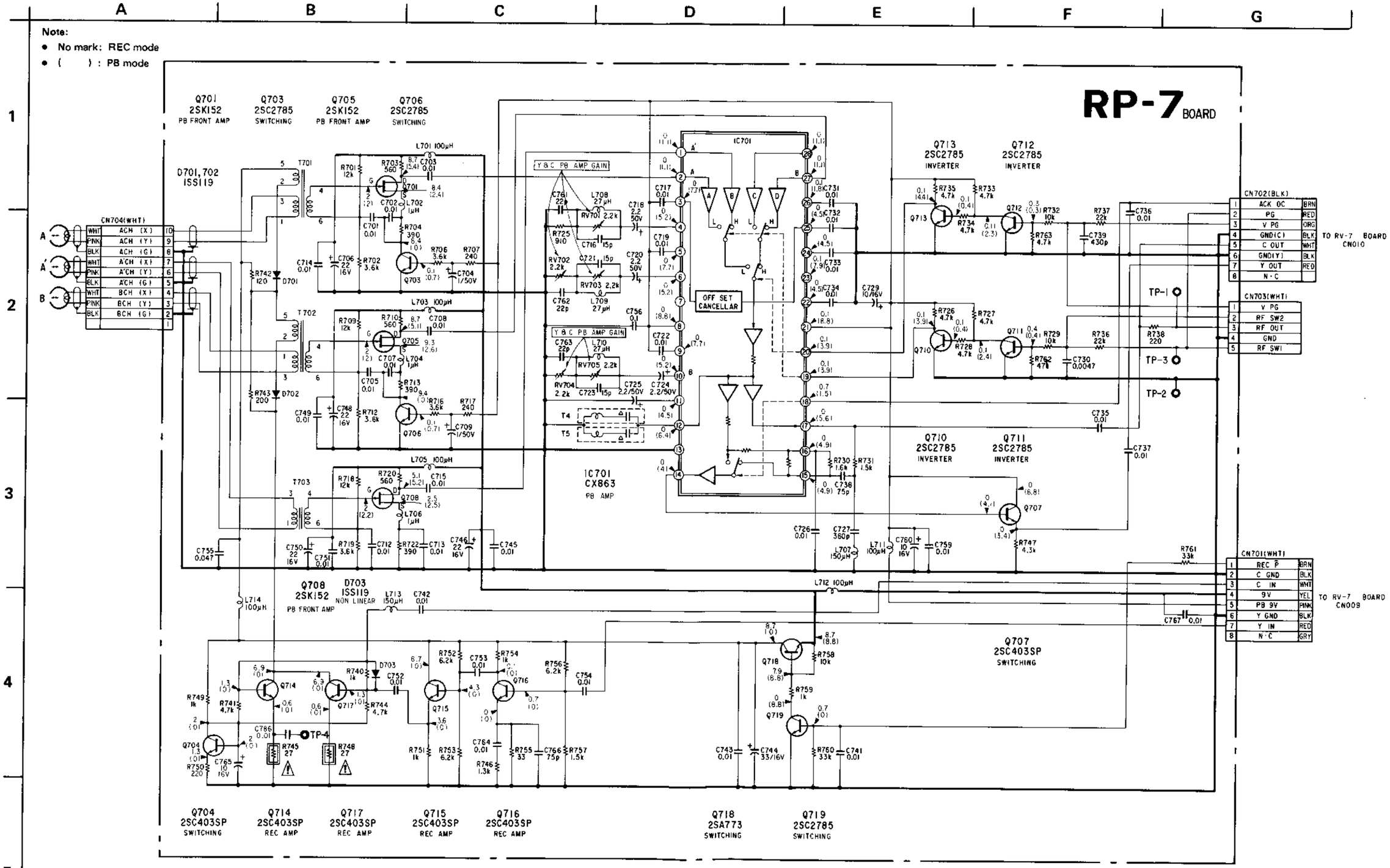






3-15. SCHEMATIC DIAGRAM — *Ref. No. 1700 series* —

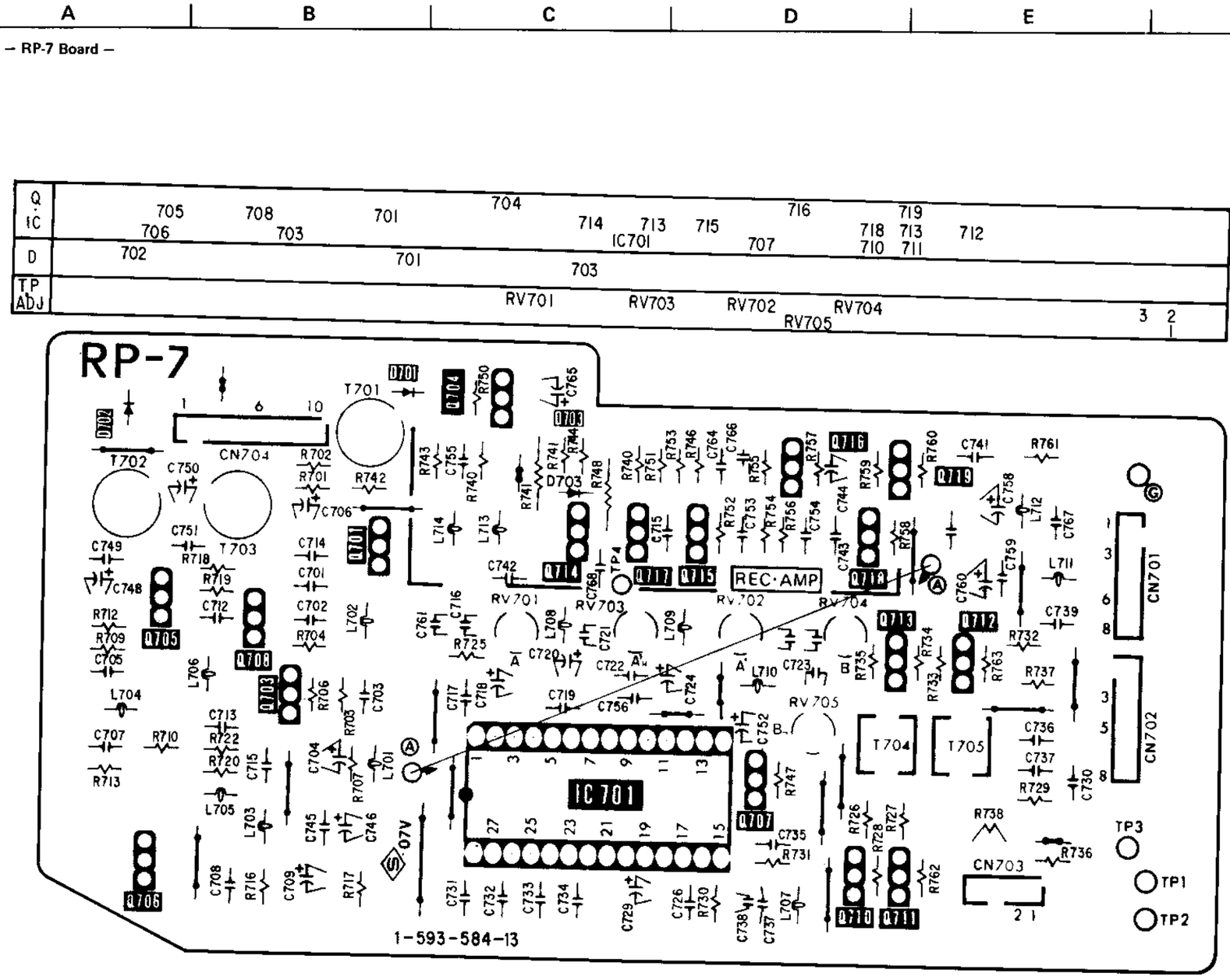
Note:
- No mark: REC mode
- ( ) : PB mode



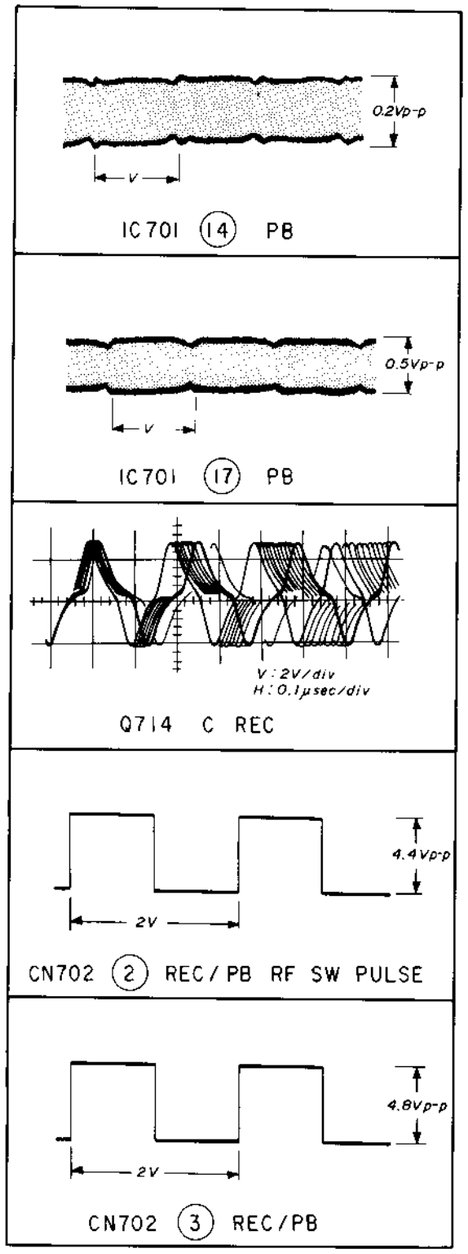
When indicating parts by reference number, please include the board name.

3-16. PRINTED WIRING BOARD – *Ref. No. 1700 series* –
– Conductor Side –

– RP-7 Board –



RP-7 BOARD



MEMO

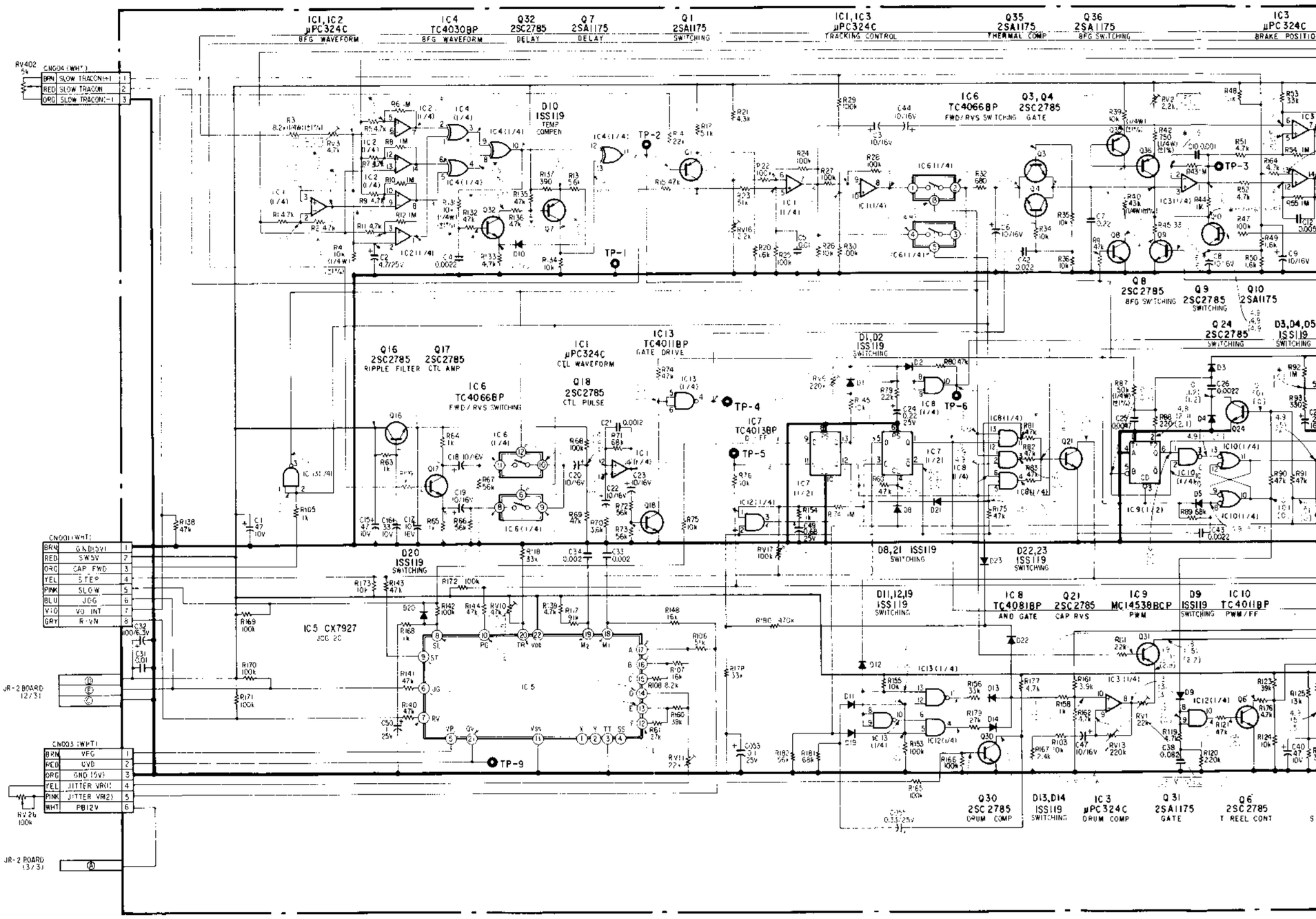
JR-2(1/3) (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID)

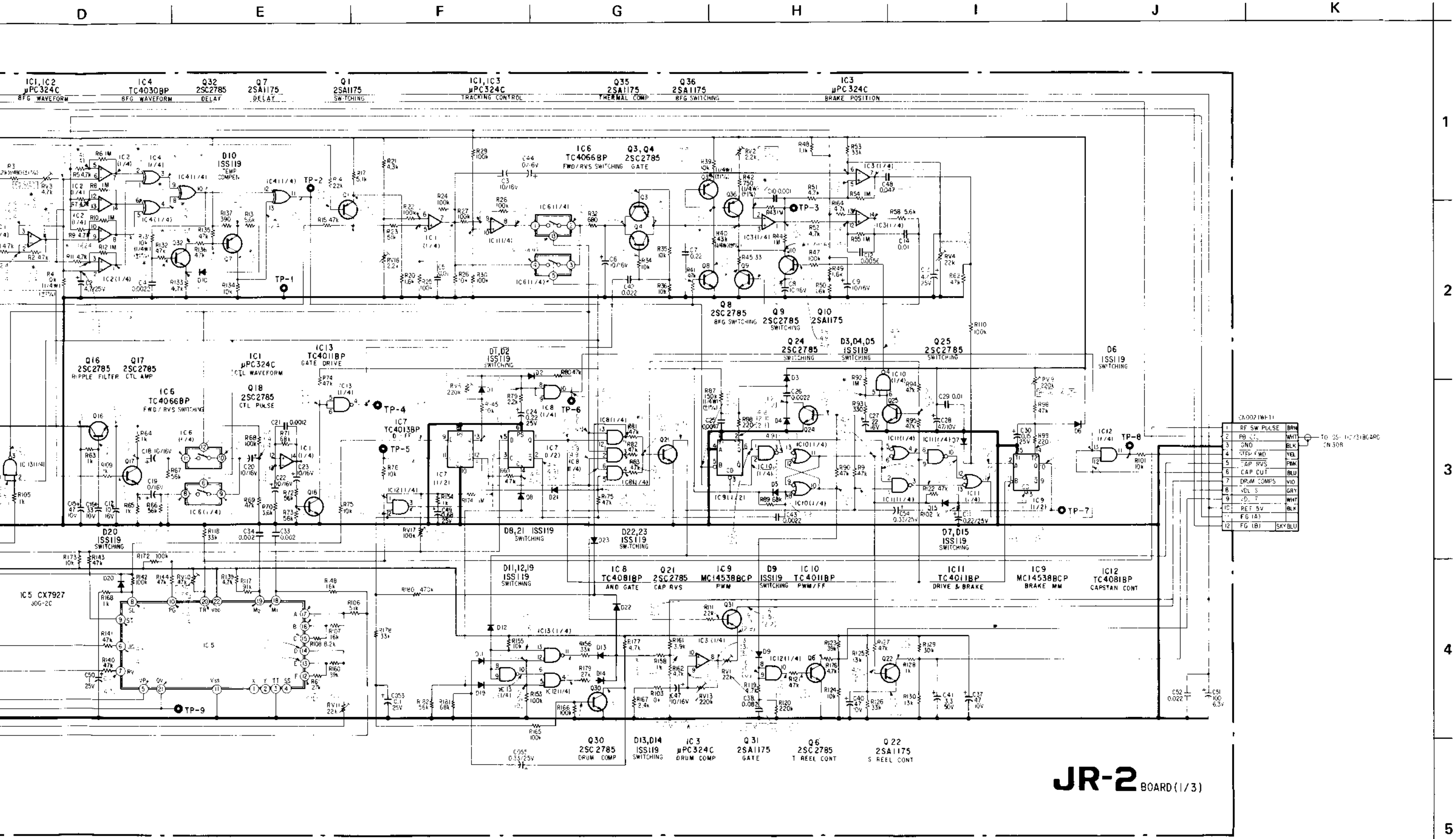
3-17. SCHEMATIC DIAGRAM — *Ref. No. JR-2 BOARD (1/3): 7000 series* —

Note:

- No mark: PB mode
- ( ) : STILL mode
- [ ] : x1 REVERSE mode
- Marked * is not able to measure the voltage of its position.

When indicating parts by reference number, please include the board name.





D
E
F
G
H
I
J
K
1
2
3
4
5
IC1, IC2 μPC324C 8FG WAVEFORM
IC4 TC4030BP 8FG WAVEFORM
Q32 2SC2785 DELAY
Q7 2SA1175 DELAY
Q1 2SA1175 SWITCHING
IC1, IC3 μPC324C TRACKING CONTROL
Q35 2SA1175 THERMAL COMP
Q36 2SA1175 8FG SWITCHING
IC3 μPC324C BRAKE POSITION
IC6 TC4066BP FWD/RVS SWITCHING
Q3, Q4 2SC2785 GATE
D10 1SS119 TEMP COMPEN
Q8 2SC2785 8FG SWITCHING
Q9 2SC2785 SWITCHING
Q10 2SA1175
Q16 2SC2785 RIPPLE FILTER
Q17 2SC2785 CTL AMP
IC1 μPC324C CTL WAVEFORM
IC13 TC4011BP GATE DRIVE
D1, D2 1SS119 SWITCHING
Q24 2SC2785 SWITCHING
D3, D4, D5 1SS119 SWITCHING
Q25 2SC2785 SWITCHING
D6 1SS119 SWITCHING
IC6 TC4066BP FWD/RVS SWITCHING
Q18 2SC2785 CTL PULSE
IC7 TC4013BP D-FF
TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
D20 1SS119 SWITCHING
D8, 21 1SS119 SWITCHING
D22, 23 1SS119 SWITCHING
D7, D15 1SS119 SWITCHING
IC5 CX7927 JOG-2C
D11, 12, 19 1SS119 SWITCHING
IC8 TC4081BP AND GATE
Q21 2SC2785 CAP RVS
IC9 MC14538BCP PWM
D9 1SS119 SWITCHING
IC10 TC4011BP PWM/FF
IC11 TC4011BP DRIVE & BRAKE
IC9 MC14538BCP BRAKE MM
IC12 TC4081BP CAPSTAN CONT
Q30 2SC2785 DRUM COMP
D13, D14 1SS119 SWITCHING
IC3 μPC324C DRUM COMP
Q31 2SA1175 GATE
Q6 2SC2785 T REEL CONT
Q22 2SA1175 S REEL CONT
1 RF SW PULSE BRN
2 PB CTL WHT
3 GND BLK
4 STEP FWD YEL
5 CAP RVS PNK
6 CAP CUT BLU
7 DRUM COMPS VIO
8 VOL S GRY
9 VOL T WHT
10 REF 5V BLK
11 FG (A)
12 FG (B) SKY BLU

JR-2 BOARD (1/3)

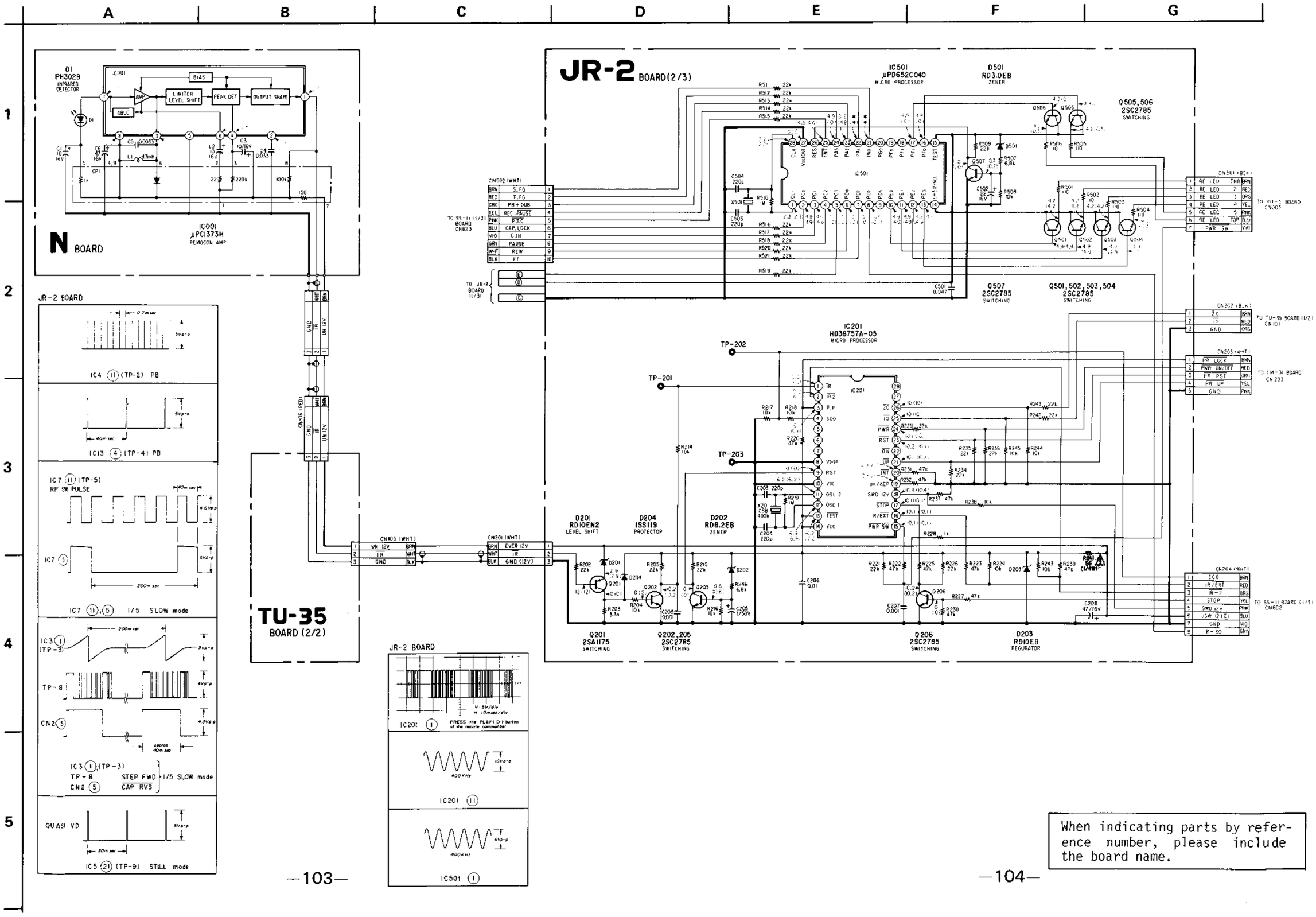
3-18. SCHEMATIC DIAGRAM

– Ref. No. JR-2 BOARD (2/3): 7200 series, N BOARD 100 series –

Note:

- N board voltage: E-E mode

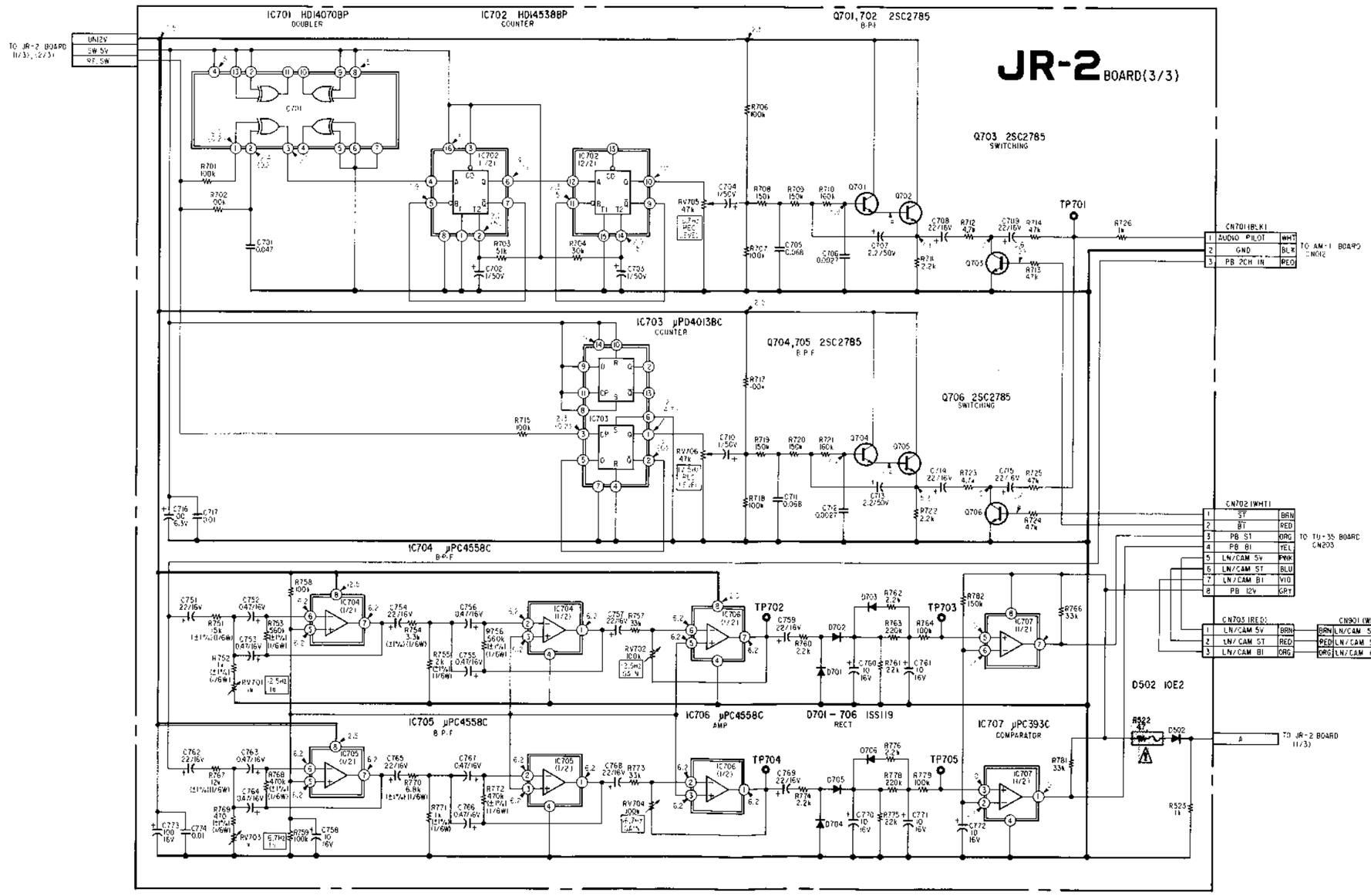
JR-2 (2/2) TU-35 (2/2) N (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID)



When indicating parts by reference number, please include the board name.

JR-2(3/3) (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID) SL-2 [SW]

Note:
- No mark: PB mode
- < > : BILINGUAL mode



When indicating parts by reference number, please include the board name.

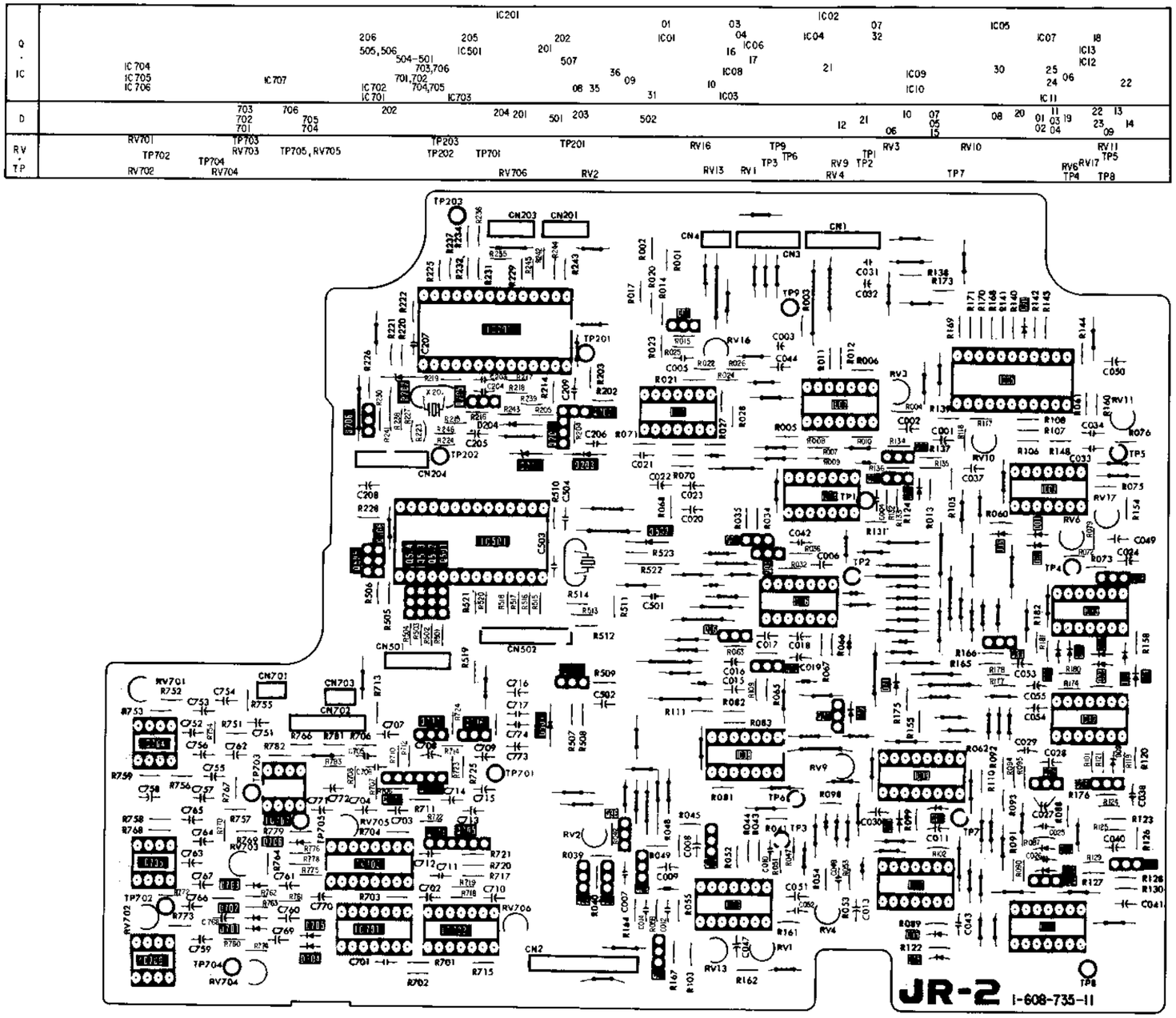
3-20. PRINTED WIRING BOARD – *Conductor Side* –
– Ref. No. JR-2 BOARD: 7000 series, N BOARD: 100 series, SL-2 BOARD: 7900 series –

SL-2 [SW] **JR-2** **N** (VARIABLE SPEED PLAYBACK, REMOCON, AMOUNT OF TAPE REMAINING, PILOT ID)

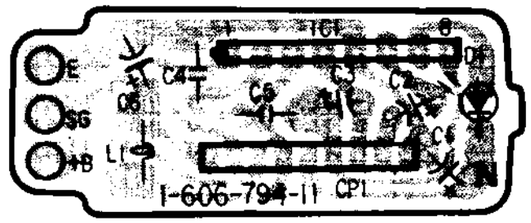
A B C D E F G

1
2
3
4
5

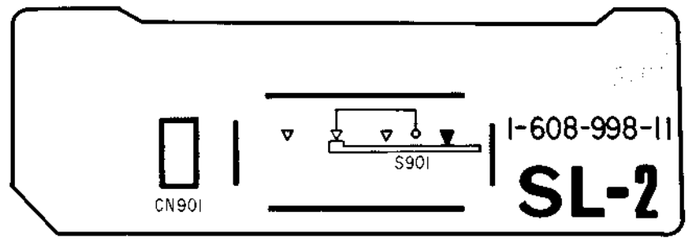
– JR-2 Board –



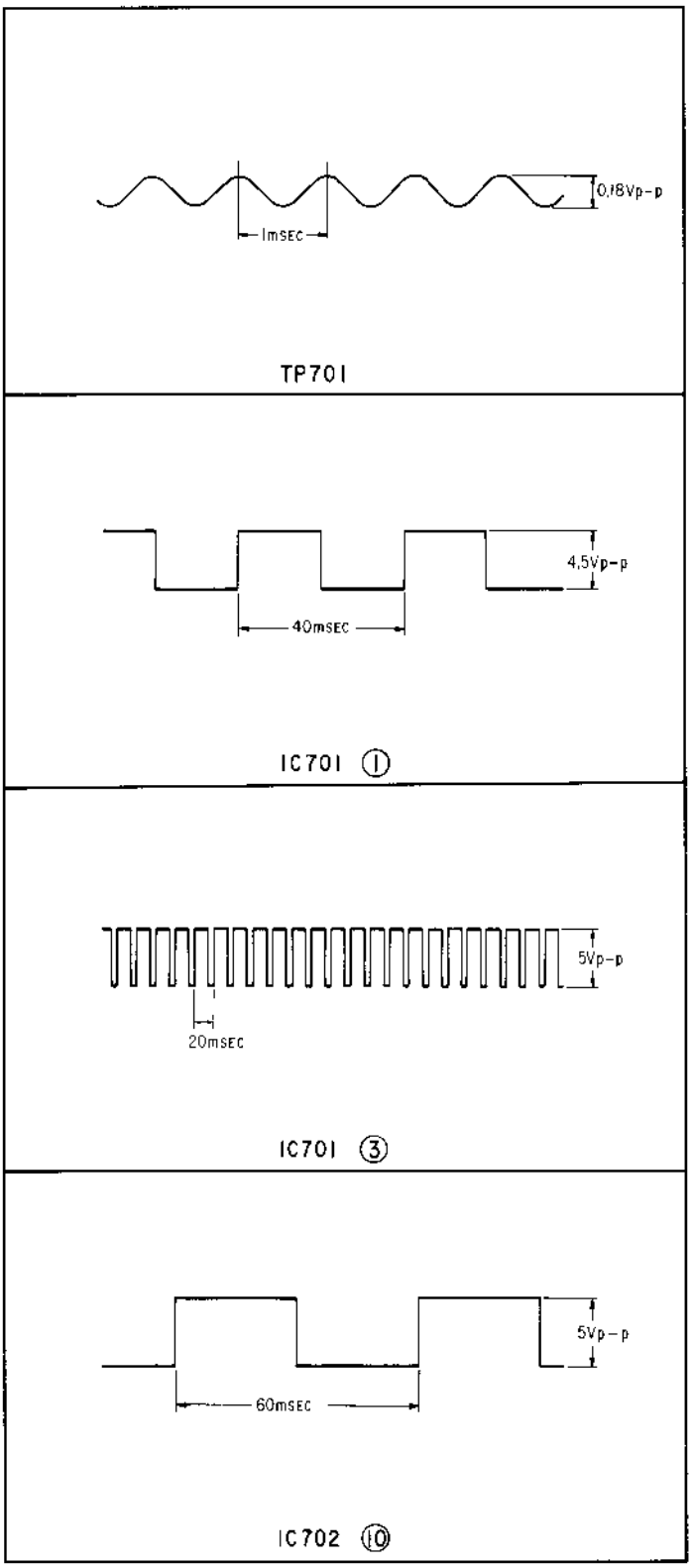
– N Board –



– SL-2 Board –



JR-2 BOARD


0.18Vp-p
1mSEC
TP701
4.5Vp-p
40mSEC
IC701 ①
5Vp-p
20mSEC
IC701 ③
5Vp-p
60mSEC
IC702 ⑩

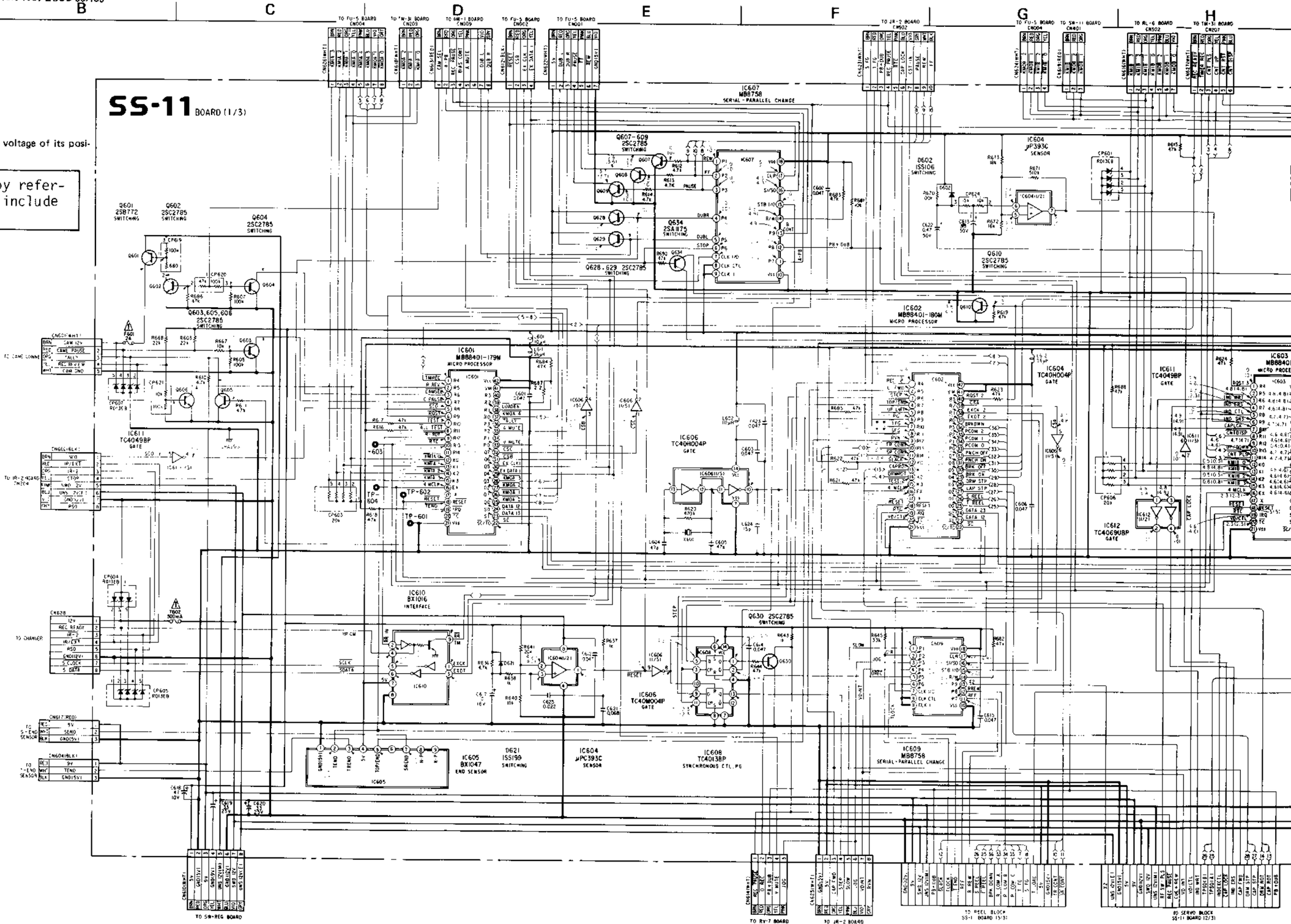
SS-11 (1/3) [SYSTEM CONTROL]

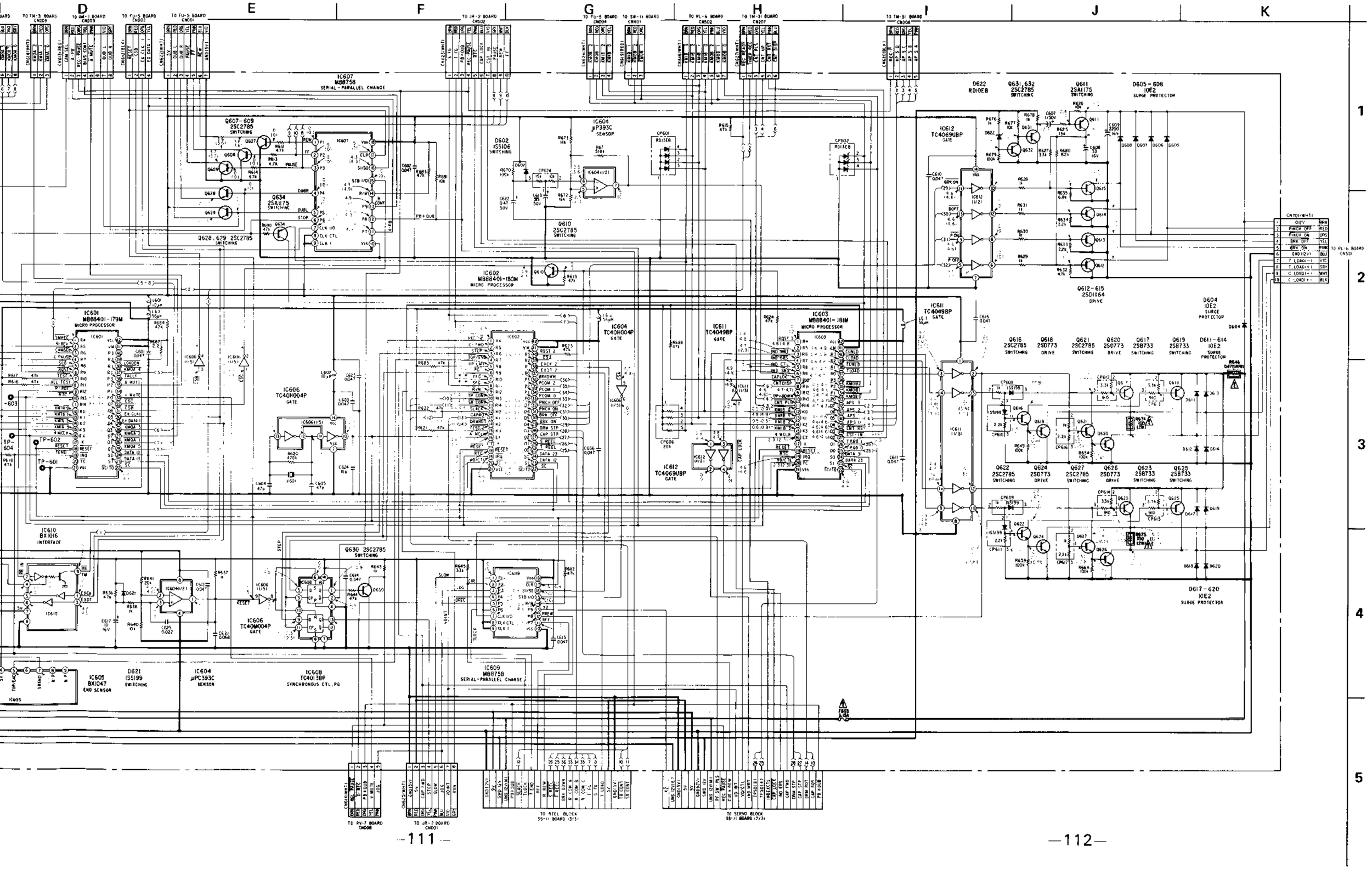
3-21. SCHEMATIC DIAGRAM – *Ref. No. 2600 series* –

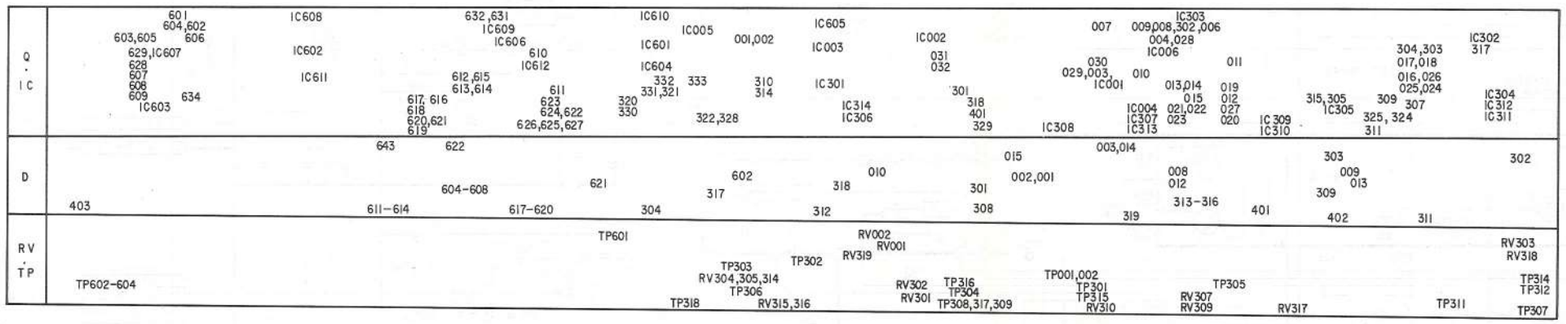
Note:

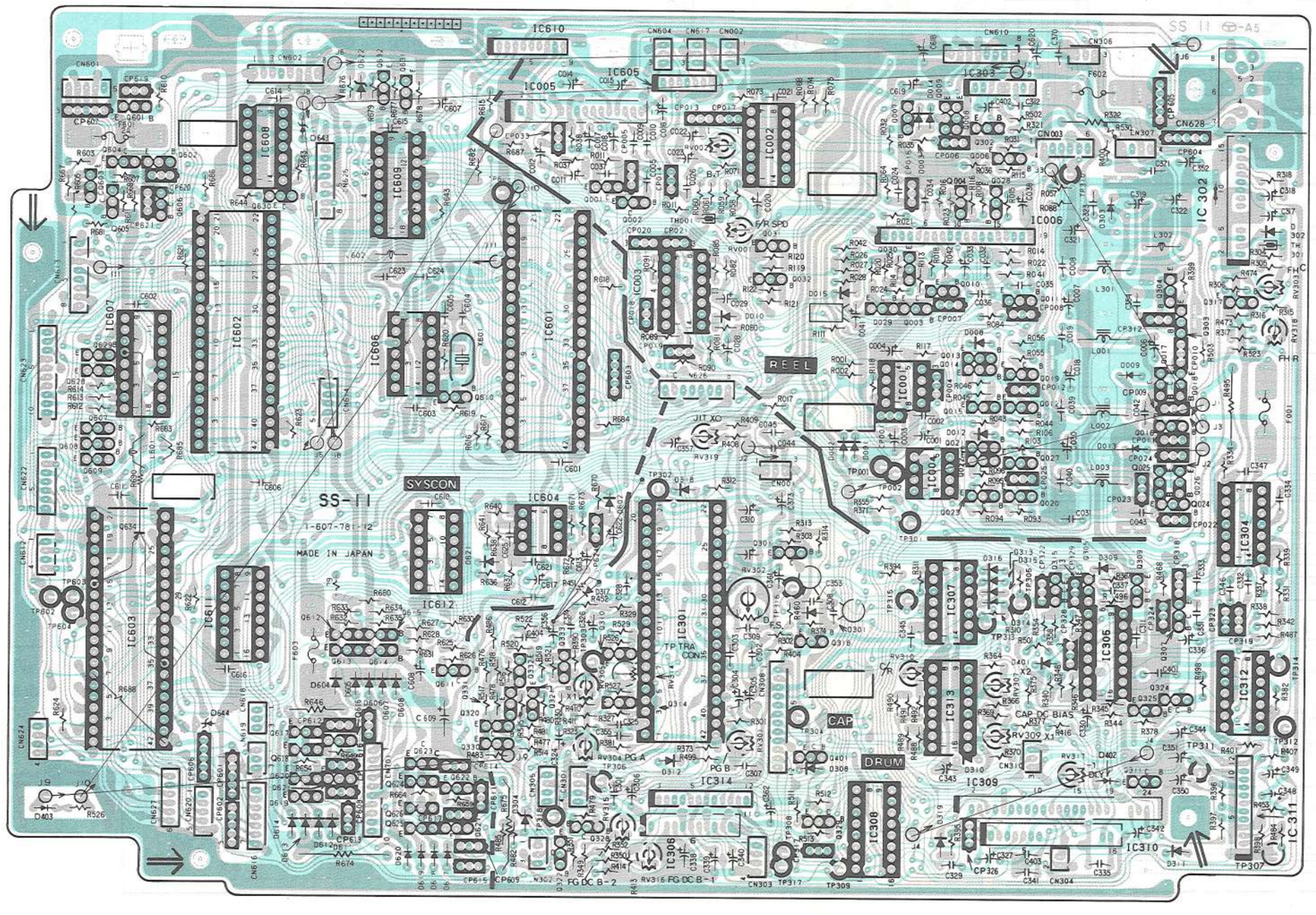
- No mark: REC mode
- ( ) : PB mode
- < > : LOADING mode
- ≪ ≫ : UNLOADING mode
- [ ] : THREADING mode
- (( )) : UNTHREADING mode
- Marked * is not able to measure the voltage of its position.

When indicating parts by reference number, please include the board name.




D
E
F
G
H
I
J
K
1
2
3
4
5
IC607
M88758
SERIAL-PARALLEL CHANGE
Q607-609
2SC2785
SWITCHING
Q634
2SA1175
SWITCHING
Q628, 629 2SC2785
SWITCHING
D602
1SS106
SWITCHING
IC604
μPC393C
SENSOR
Q610
2SC2785
SWITCHING
IC602
M88401-180M
MICRO PROCESSOR
IC601
M88401-179M
MICRO PROCESSOR
IC606
TC40H004P
GATE
IC604
TC40H004P
GATE
IC611
TC4049BP
GATE
IC603
M88401-181M
MICRO PROCESSOR
IC612
TC4069UBP
GATE
IC610
BX1016
INTERFACE
Q630 2SC2785
SWITCHING
IC606
TC4069UBP
GATE
IC608
TC4013BP
SYNCHRONOUS CTL, PG
IC609
M88758
SERIAL-PARALLEL CHANGE
IC605
BX1047
END SENSOR
D621
1SS199
SWITCHING
IC604
μPC393C
SENSOR
Q622
RD10EB
Q631, 632
2SC2785
SWITCHING
Q611
2SA1175
SWITCHING
D605-608
10E2
SURGE PROTECTOR
IC612
TC4069UBP
GATE
Q612-615
2SD1164
DRIVE
IC611
TC4049BP
GATE
D604
10E2
SURGE PROTECTOR
Q616
2SC2785
SWITCHING
Q618
2SD773
DRIVE
Q621
2SC2785
SWITCHING
Q620
2SD773
DRIVE
Q617
2SB733
SWITCHING
Q619
2SB733
SWITCHING
D611-614
10E2
SURGE PROTECTOR
Q622
2SC2785
SWITCHING
Q624
2SD773
DRIVE
Q627
2SC2785
SWITCHING
Q626
2SD773
DRIVE
Q623
2SB733
SWITCHING
Q625
2SB733
SWITCHING
D617-620
10E2
SURGE PROTECTOR
TO RV-7 BOARD CN008
TO JR-2 BOARD CN001
TO REEL BLOCK SS-11 BOARD (3/3)
TO SERVO BLOCK SS-11 BOARD (2/3)
TO RL-6 BOARD CN531





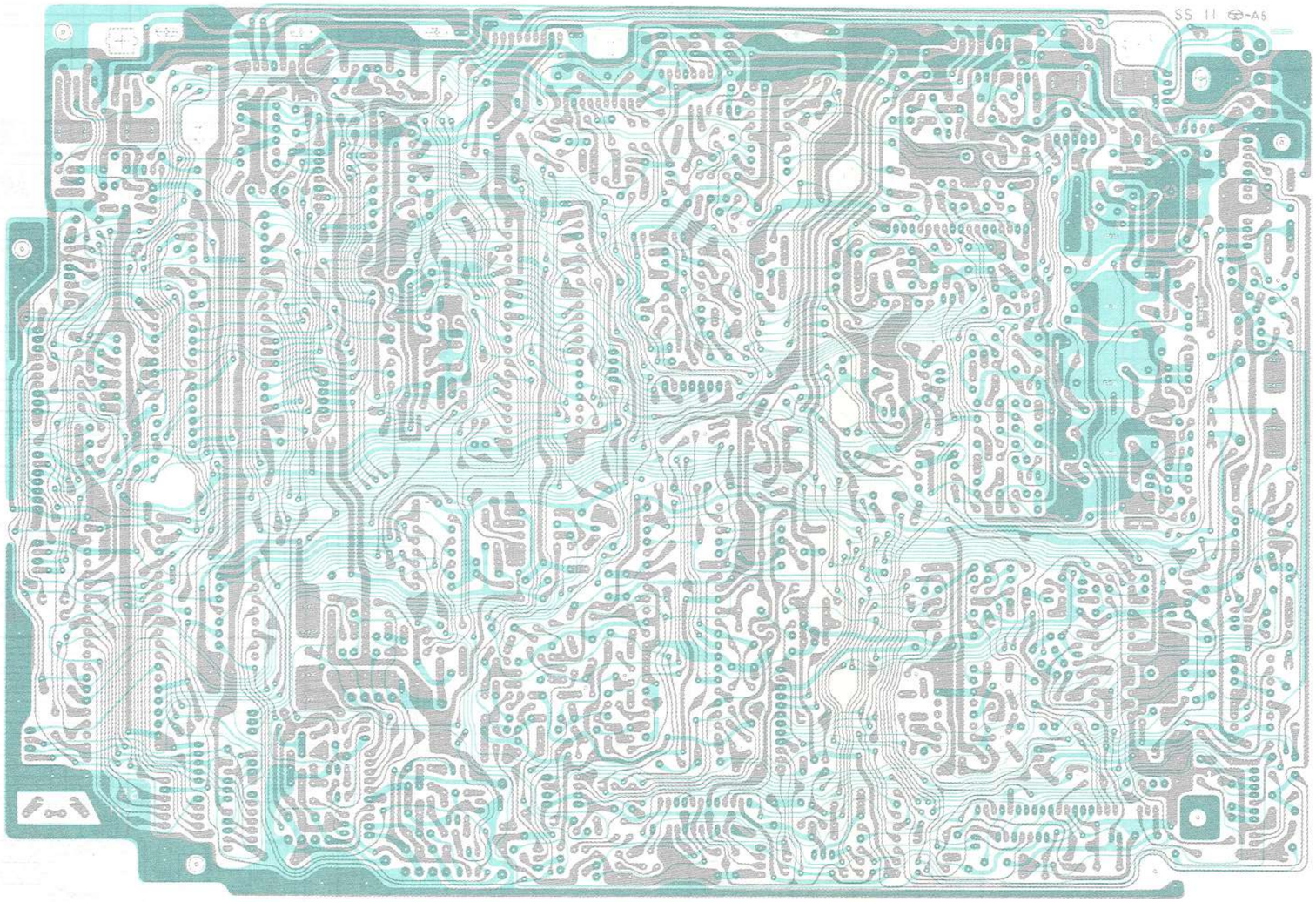
3-22. PRINTED WIRING BOARD – *Ref. No. 2600 series* –
– Conductor Side –

SS-11 **SS-11** [SYSTEM CONTROL]

– SS-11 Board –

	A	B	C	D	E	F
Q · IC	603,605 628 607 608 609	601 604,602 606 629,IC607 IC603 634 IC608 IC602 IC611 617, 616 618 620,621 619 612,615 613,614	632,631 IC609 IC606 610 IC612 611 623 624,622 626,625,627 IC610 IC601 IC604 332 331,321 320 330 333 IC005 322,328 001,002	310 314 IC605 IC003 IC301 IC314 IC306 IC002 031 032 301 318 401 329 IC308	007 IC303 009,008,302,006 004,028 IC006 030 029,003, IC001 010 011 013,014 015 021,022 023 IC004 IC307 IC313 019 012 027 020 IC309 IC310 315,305 IC305 311	304,303 017,018 016,026 025,024 309 307 325, 324 IC302 317 IC304 IC312 IC311
D	403	643 622 611–614	604–608 617–620 621 304 602 317	318 312 010 015 002,001 301 308	003,014 319 008 012 313–316 401 303 009 013 309 402	311 302
RV · TP	TP602–604		TP601 TP303 RV304,305,314 TP306 TP318	RV315,316 TP302 RV002 RV001 RV319 RV302 RV301 TP316 TP304 TP308,317,309	TP001,002 TP301 TP315 RV310 TP305 RV307 RV309 RV317	TP311 RV303 RV318 TP314 TP312 TP307

SS-11 (SYSTEM CONTROL) BOARD


SS 11 ⊖-A5

SS-11 (2/3) [CAPS & DRUM]

3-23. SCHEMATIC DIAGRAM – *Ref. No. 2000 ~ 2500 series –*

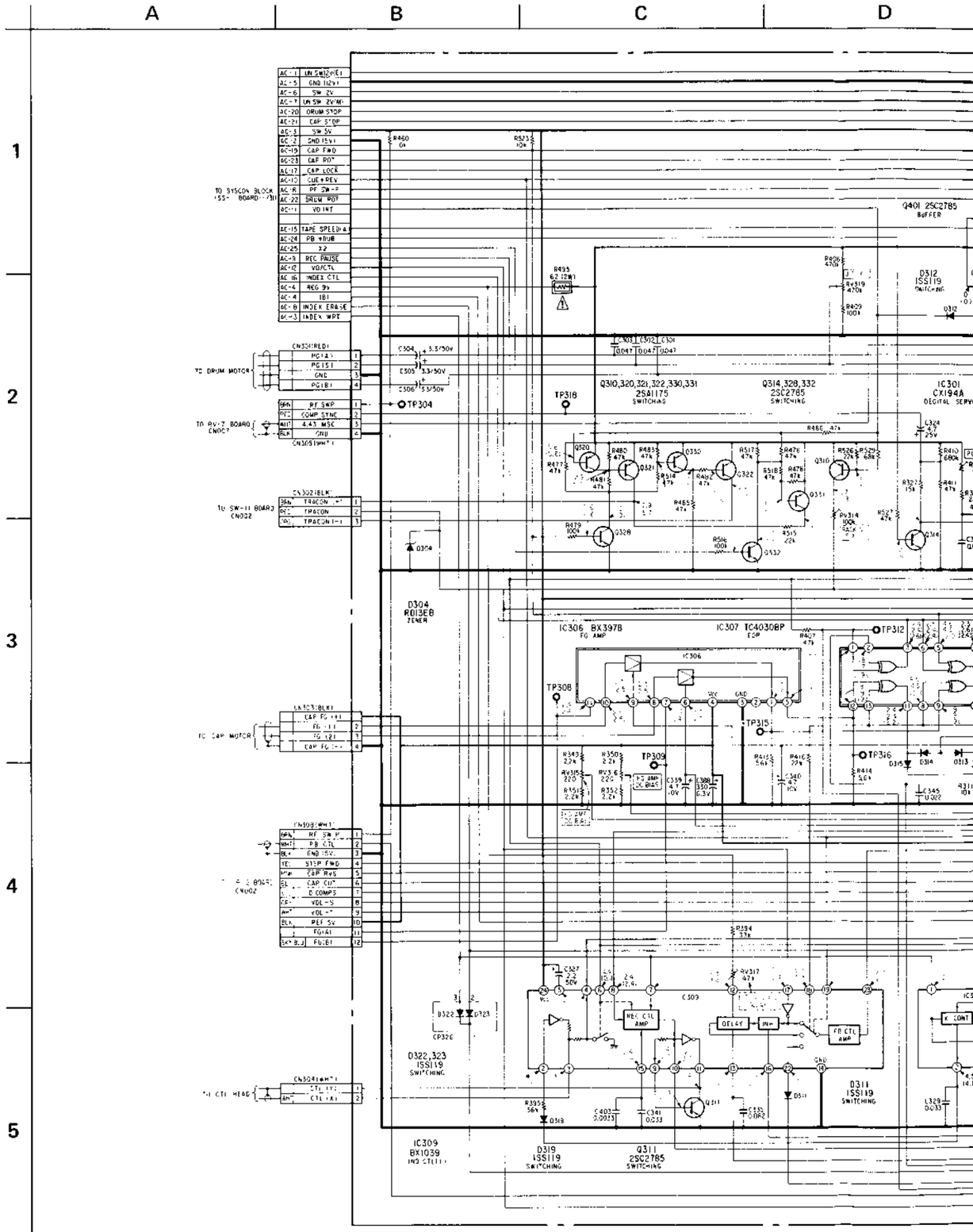
Note:

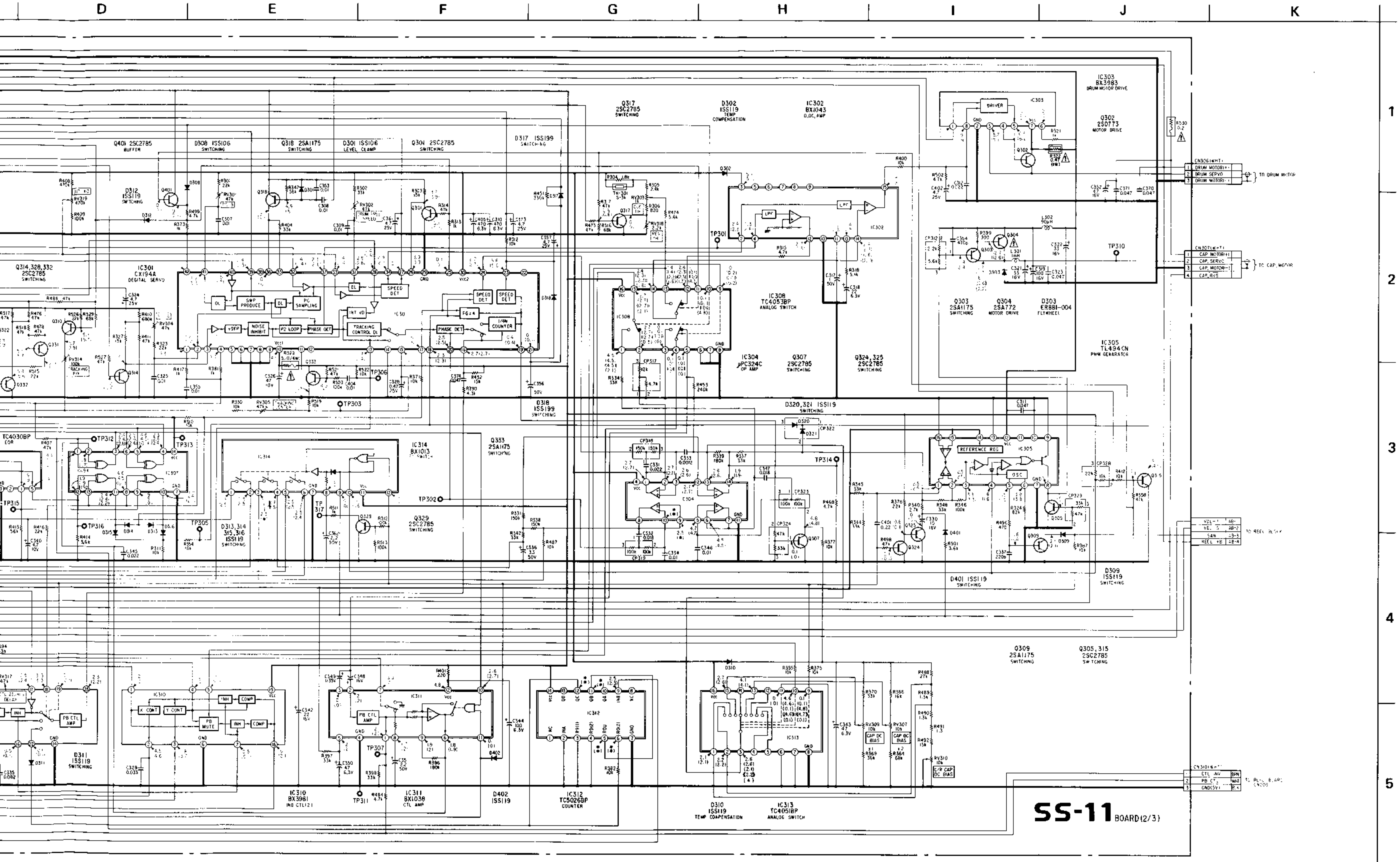
- No mark: REC mode
- ( ) : PB mode
- < > : FF mode
- [ ] : REW mode

When indicating parts by reference number, please include the board name.

Voltage table of IC006

Pin \ Mode	PB (FWD)	PB (REVERSE)	FF	REW	CUE	REV	THREADING UNTHREADING	E-E
1	0	0	0	0	4.6	4.6	4.6	4.6
2	0	0	4.6	4.6	0	0	4.6	4.6
3	0	4.6	0	4.6	0	4.6	0	4.6/0




SS-11 BOARD (2/3)
IC301 CX194A DEGITAL SERVO
IC302 BX1043 D.O.C. AMP
IC303 BX3983 DRUM MOTOR DRIVE
IC304 μPC324C OP AMP
IC305 TL494CN PWM GENERATOR
IC308 TC4053BP ANALOG SWITCH
IC310 BX3981 IND CTL(2)
IC311 BX1038 CTL AMP
IC312 TC5026BP COUNTER
IC313 TC4051BP ANALOG SWITCH
IC314 BX1013 SWITCH
Q302 2SD773 MOTOR DRIVE
Q303 2SA1175 SWITCHING
Q304 2SA772 MOTOR DRIVE
D303 ERB81-004 FLYWHEEL
Q307 2SC2785 SWITCHING
Q309 2SA1175 SWITCHING
Q305,315 2SC2785 SWITCHING
Q317 2SC2785 SWITCHING
Q318 2SA1175 SWITCHING
Q301 2SC2785 SWITCHING
Q401 2SC2785 BUFFER
Q324,325 2SC2785 SWITCHING
Q329 2SC2785 SWITCHING
Q333 2SA1175 SWITCHING
Q314,328,332 2SC2785 SWITCHING
D301 1SS106 LEVEL CLAMP
D302 1SS119 TEMP COMPENSATION
D308 1SS106 SWITCHING
D310 1SS119 TEMP COMPENSATION
D311 1SS119 SWITCHING
D312 1SS119 SWITCHING
D317 1SS199 SWITCHING
D318 1SS199 SWITCHING
D320,321 1SS119 SWITCHING
D313,314,315,316 1SS119 SWITCHING
D309 1SS119 SWITCHING
D401 1SS119 SWITCHING
D402 1SS119
TO DRUM MOTOR
TO CAP. MOTOR
TO REEL BLOCK
TO PB CTL BOARD

3-24. PRINTED WIRING BOARD – *Ref. No. 2000 ~ 2500 series* –

– Conductor Side –

A B C D E F G

1

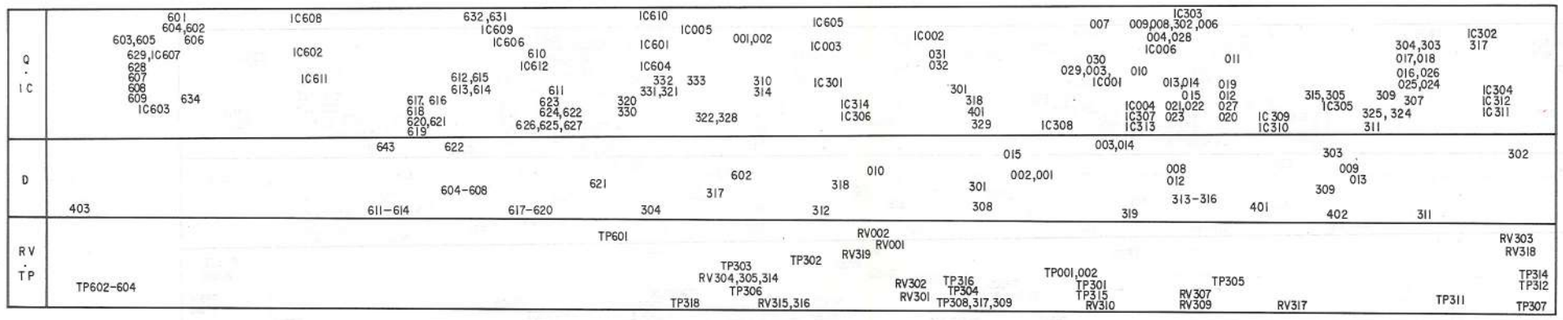
2

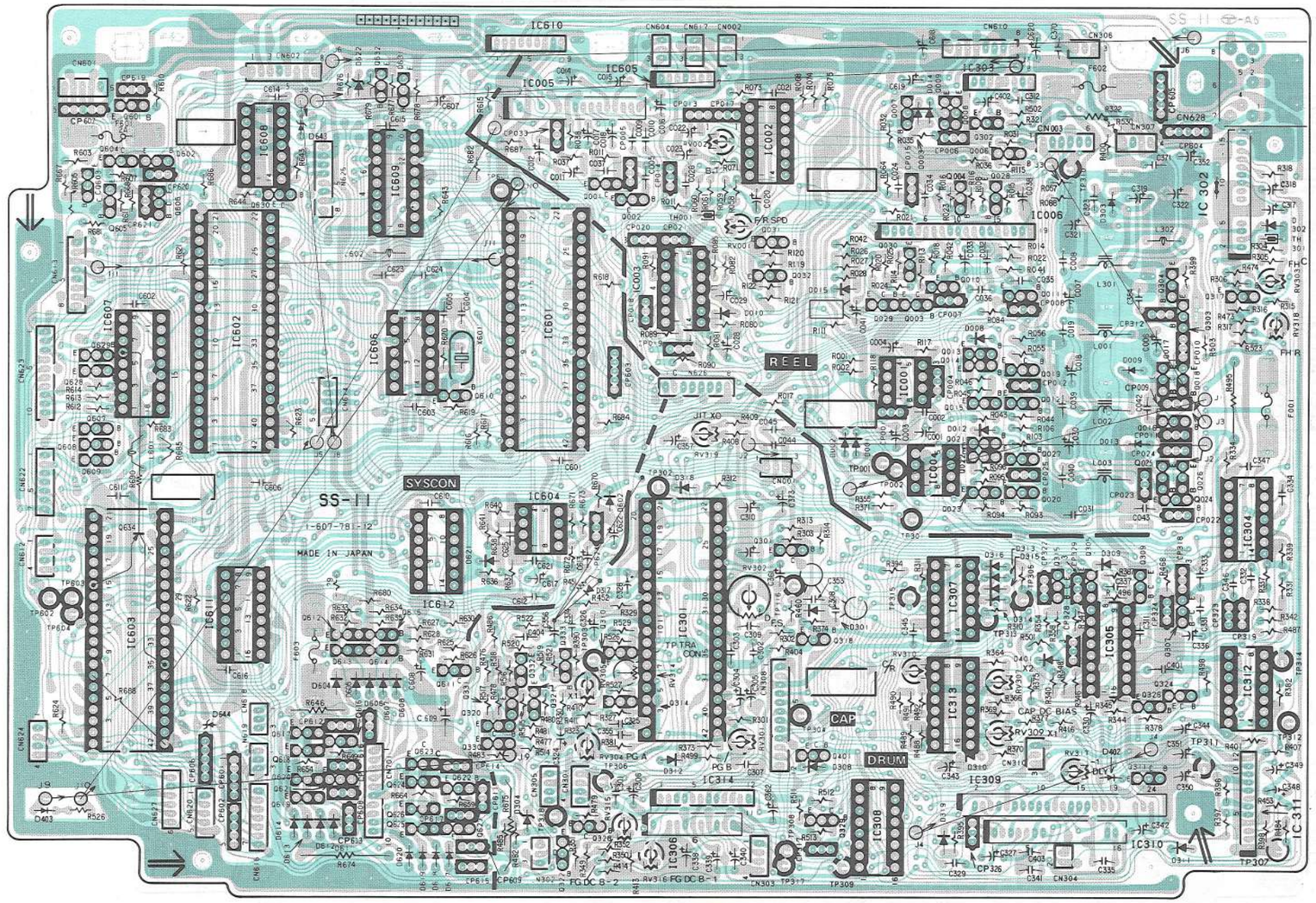
3

4

5

– SS-11 Board –





REEL CAPSTAN CAPSTAN REEL [MOTOR]

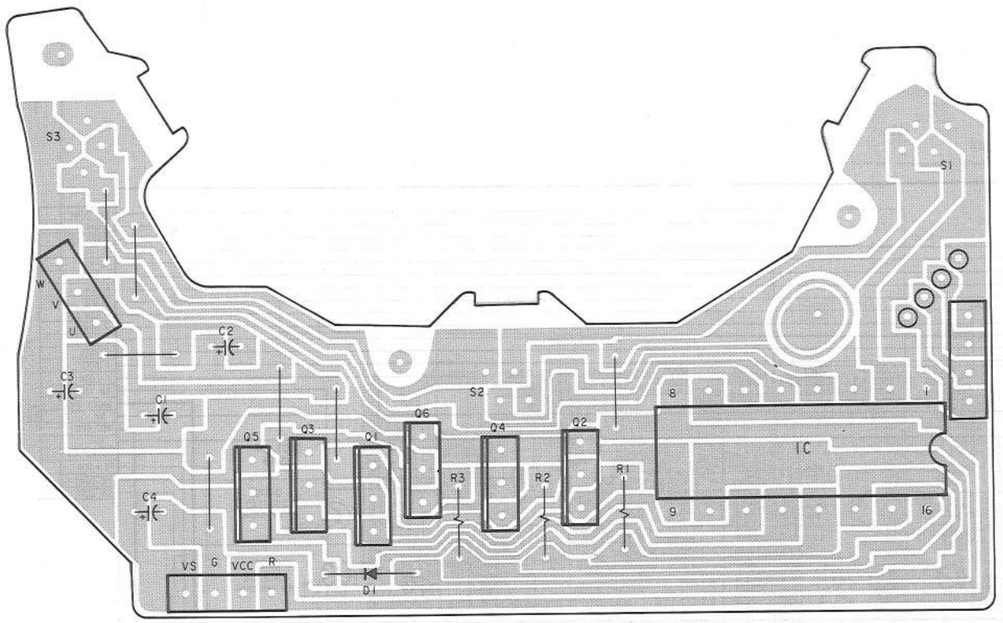
A B C D E F G

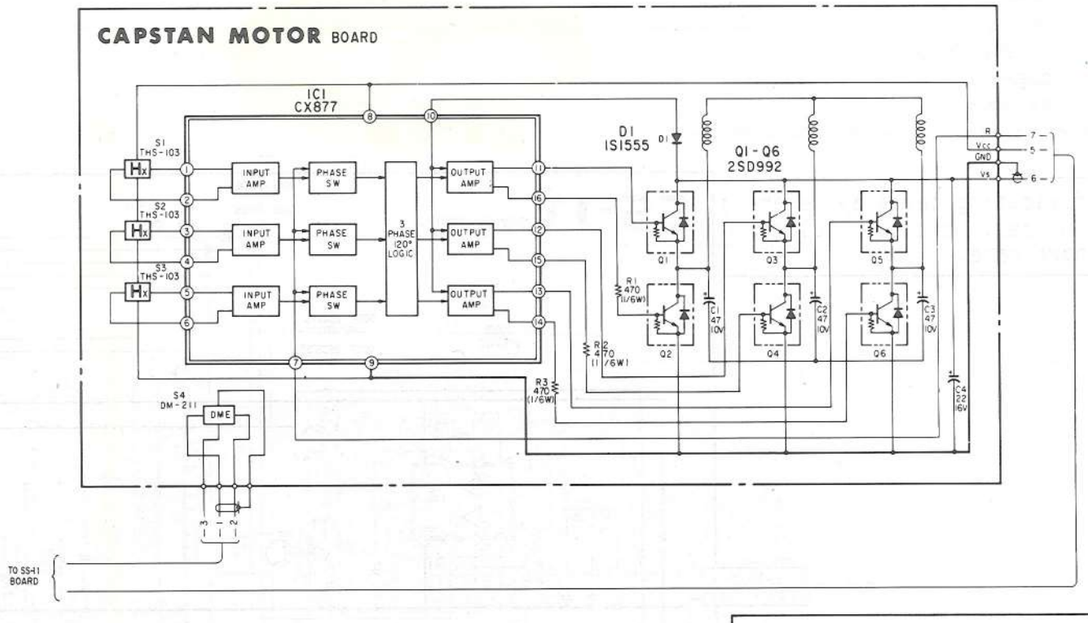
1

2

3-25. CAPASTAN MOTOR SCHEMATIC DIAGRAM & PRINTED WIRING BOARD

– Ref. No. 9000 series –





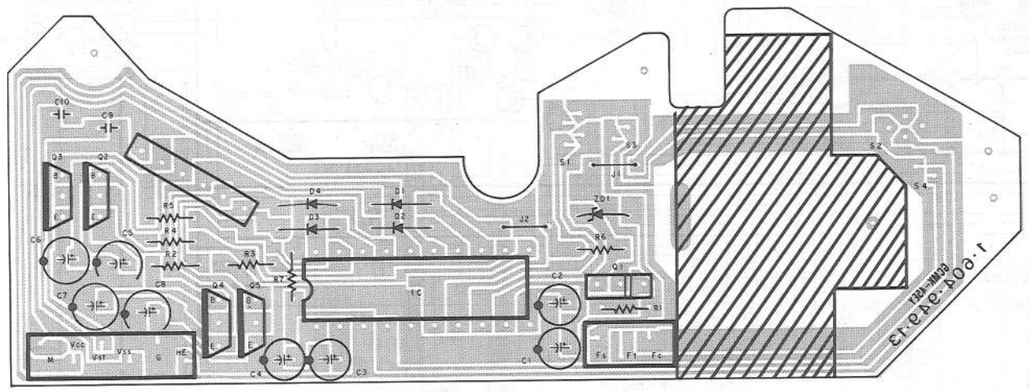
When indicating parts by reference number, please include the board name.

3

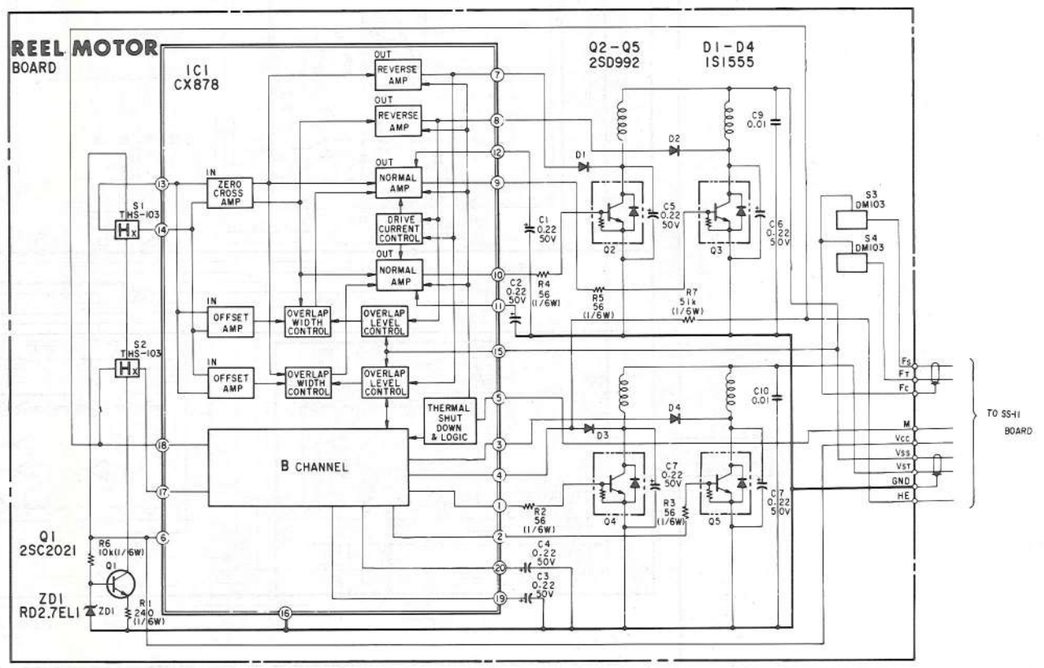
3-26. REEL MOTOR SCHEMATIC DIAGRAM & PRINTED WIRING BOARD

– Ref. No. 9100 series –

4



5



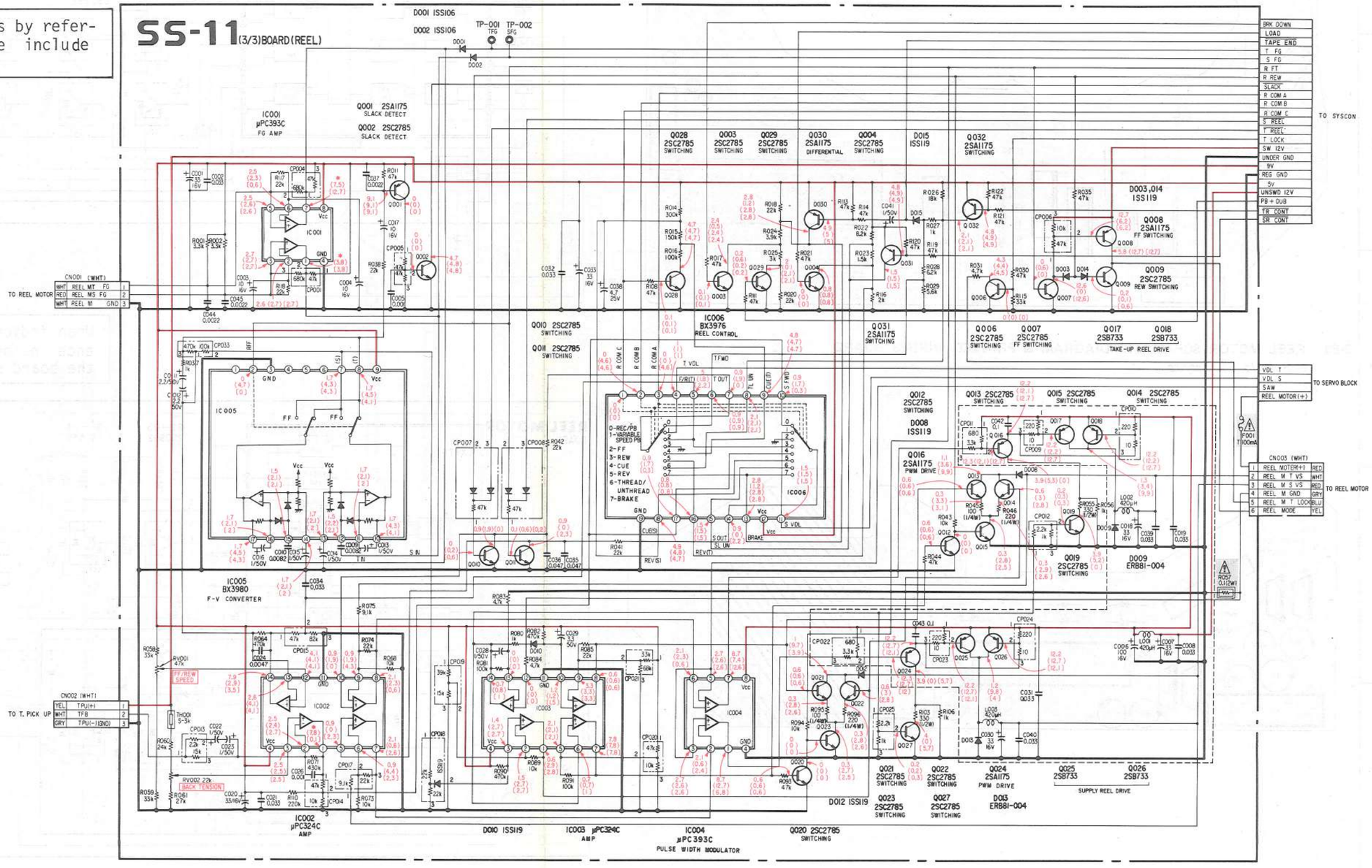
SS-11 (3/3) [SERVO]

3-27. SCHEMATIC DIAGRAM — *Ref. No. 2800 series* —

Note:

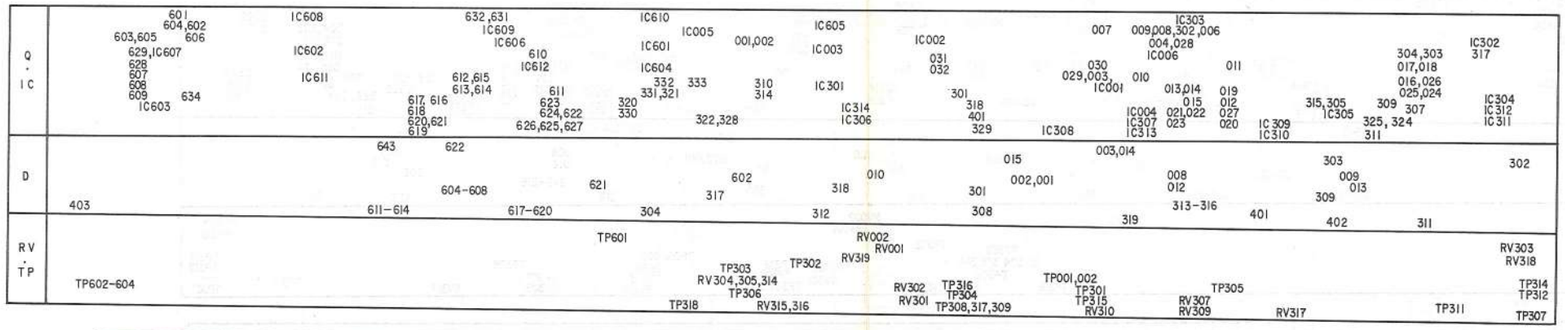
- No mark: REC mode
- ( ) : PB mode
- [ ] : x2 mode
- (( )) : x1 REVERSE mode
- < > : CUE mode
- ≪ ≫ : REV mode
- Marked * is not able to measure the voltage of its position.

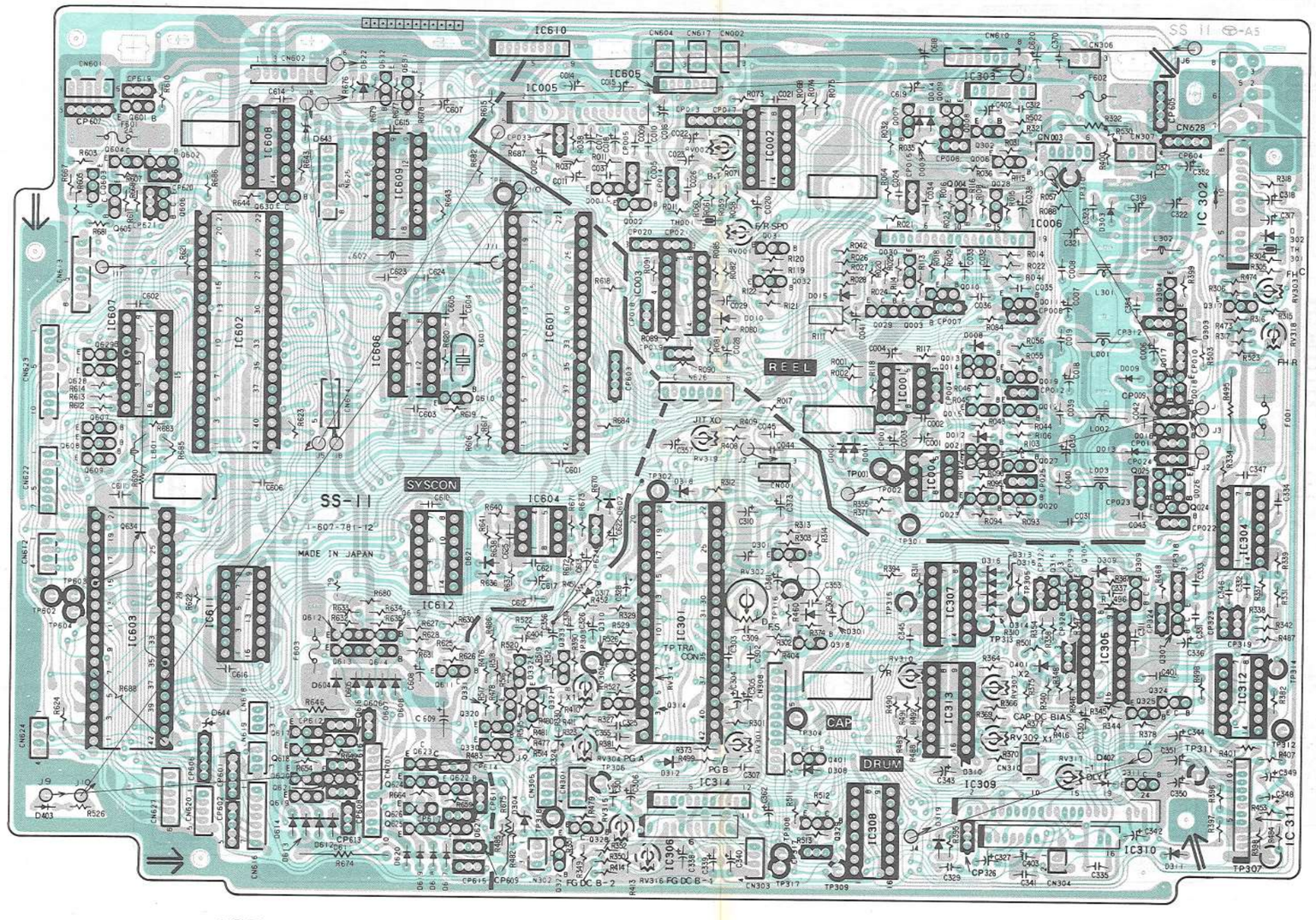
When indicating parts by reference number, please include the board name.



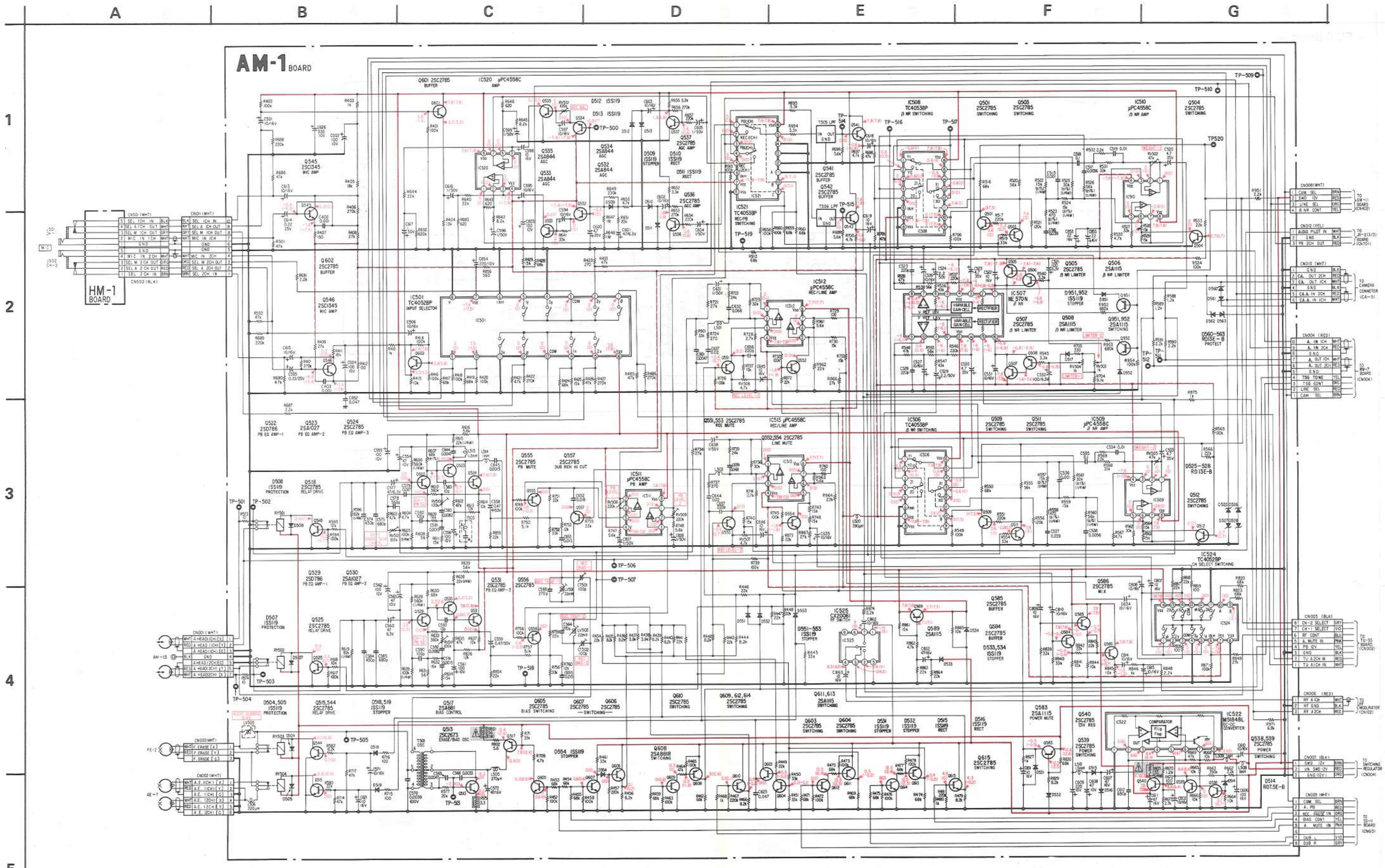
3-28. PRINTED WIRING BOARD – *Ref. No. 2800 series* –
– Conductor Side –

– SS-11 Board –





3-29. SCHEMATIC DIAGRAM — *Ref. No. 4000 series* —

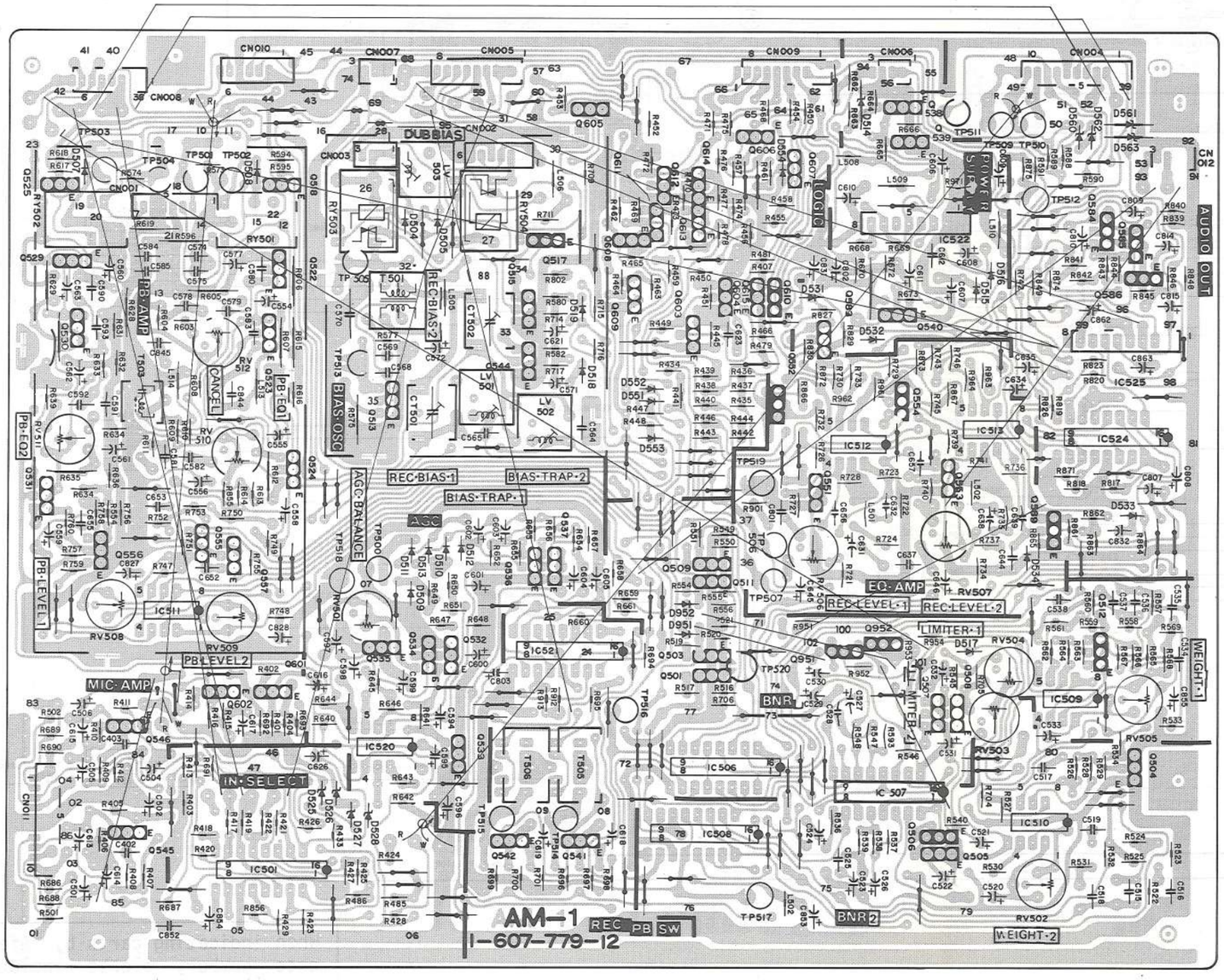


When indicating parts by reference number, please include the board name.

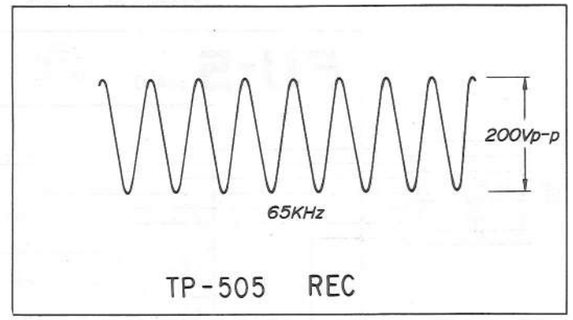
3-30. PRINTED WIRING BOARD — *Ref. No. 4000 series* —
— Conductor Side —

— AM-1 Board —

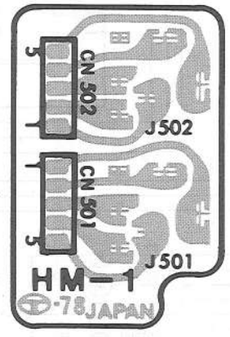
Q・IC	525 529 530 531 556 546 545 IC511 555,557 602 IC501 518 522 523 524 601 513 535 534 IC520 532 533 542 517 515 544 536 605 537 IC521 541 608 609 612 611 614 613 603 509 511 503 501 IC508 606 604,615,610 IC506 607 552 583 551 951 IC512 952 540 538 539 554 IC522 553 507,508 506 505 IC507 IC513 584 585 586 IC525 IC524 512 504 IC510 IC509 Q・IC
D	507 508 504,505 525,526 511,513,510,512 527,528 509 519 518 552 551 553 952 951 554 531 514 532 516 515 517 534 560 562 561 563 533 D
TP・ADJ	503 RV511 504 RV508 501 502 RV512 RV510 RV509 505 513 518 500 RV501 LV503 CT502 CT501 LV501,LV502 515 514 516 519 506 507 520 517 RV506 511 509 510 512 RV504 RV503 RV507 RV502 RV505 TP・ADJ



AM-1 BOARD



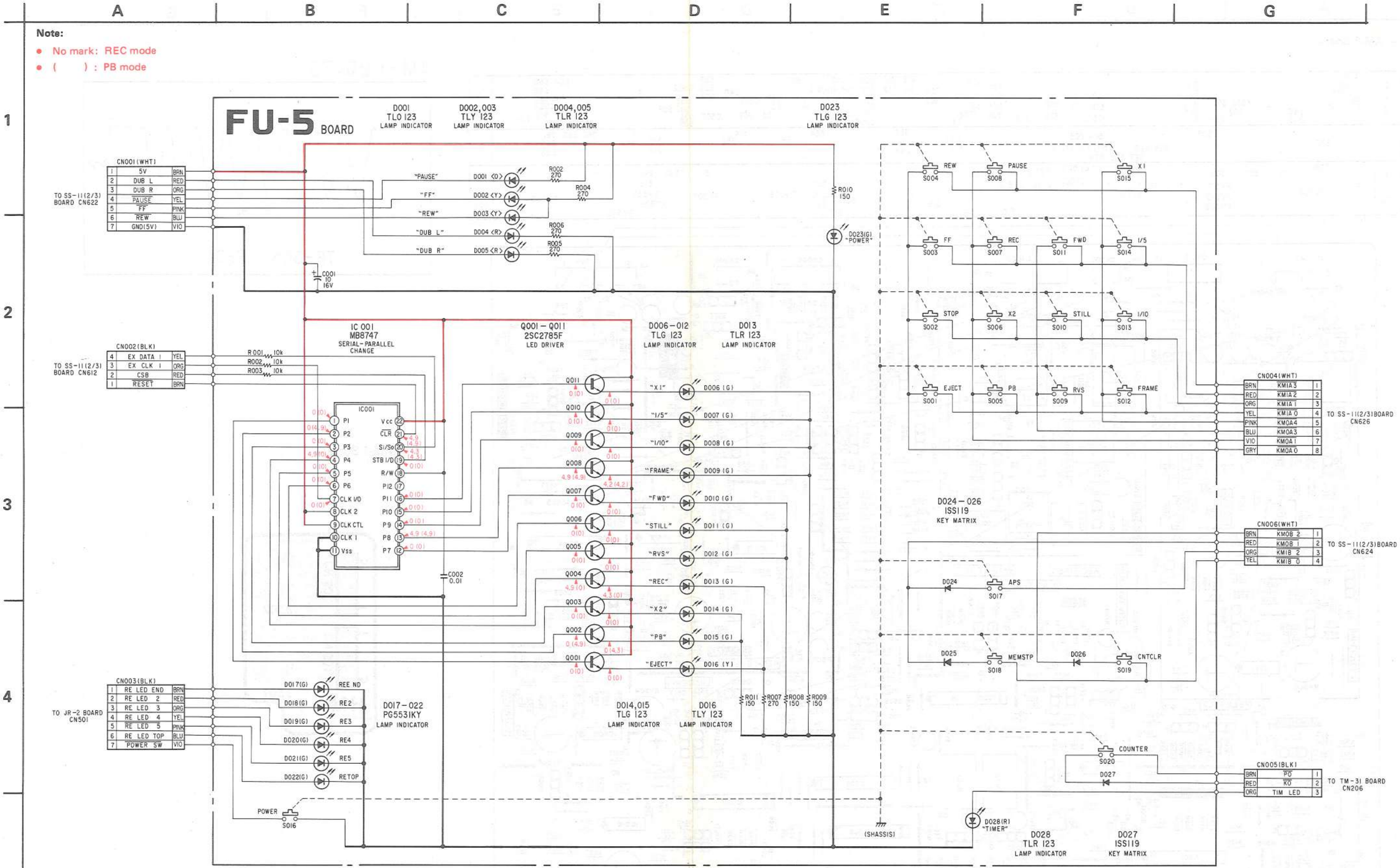
— HM-1 Board —



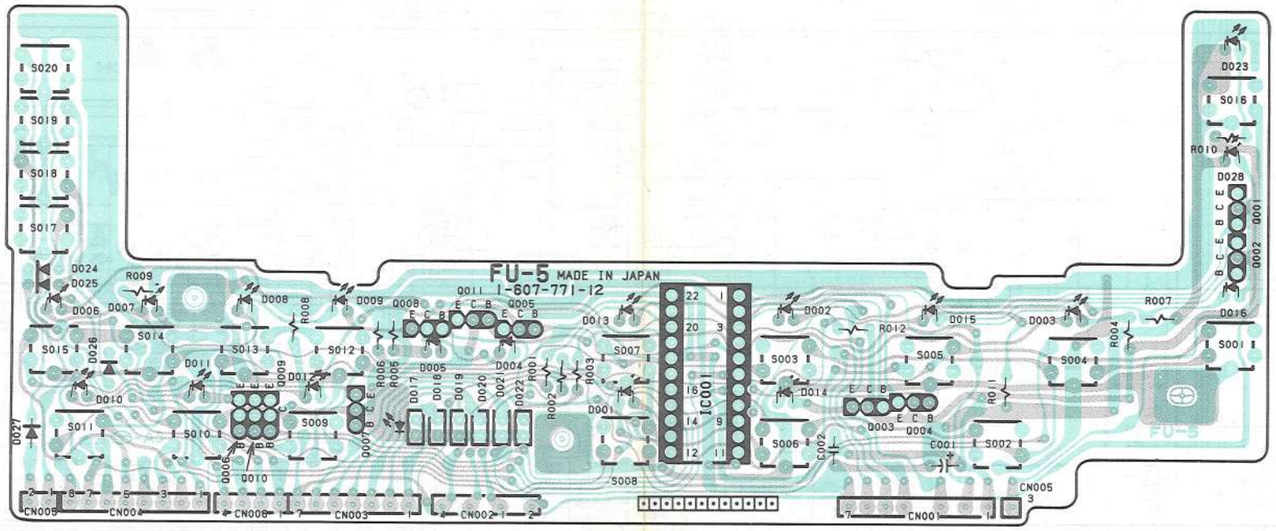
3-31. SCHEMATIC DIAGRAM — *Ref. No. 3000 series* —

Note:

- No mark: REC mode
- ( ) : PB mode



When indicating parts by reference number, please include the board name.



3-32. PRINTED WIRING BOARD *– Ref. No. 3000 series –*

– Conductor Side –

FU-5 **FU-5** [FUNCTION SW]

A	B	C	D	E	F	G

– FU-5 Board –

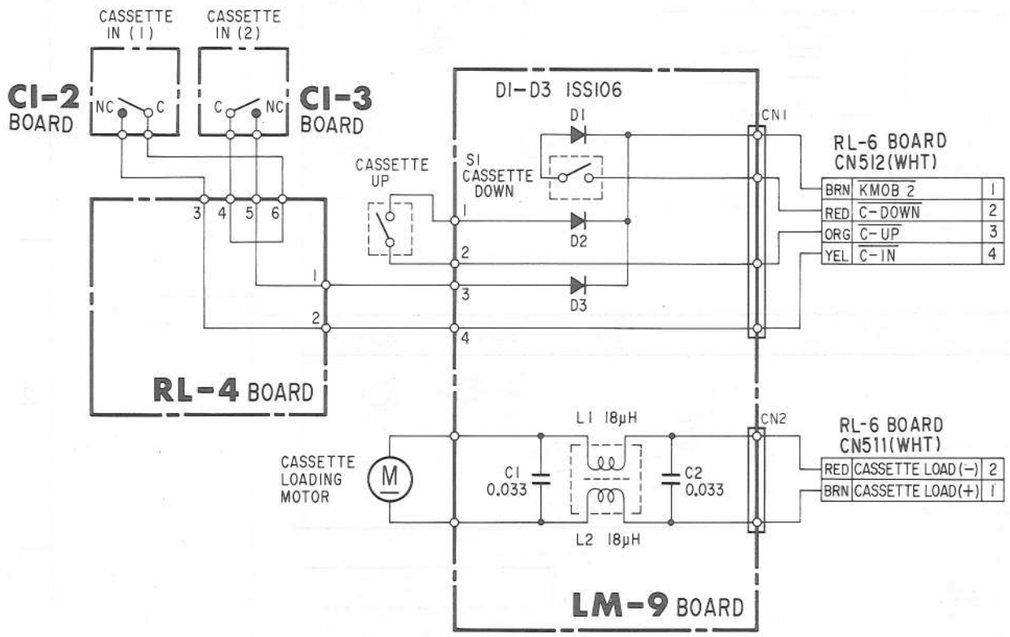
Q IC		006,010,009 007 008 011	005 IC001	003 004	001 002
D	024 025 026 027,006,010 007	011 008 012 009 005 017,018,019,020,021,022	004 013 001 002 014	015 003	023 028 016

3

4

5

3-33. SCHEMATIC DIAGRAMS — *Ref. No. LM-9 BOARD: 9500 series* —

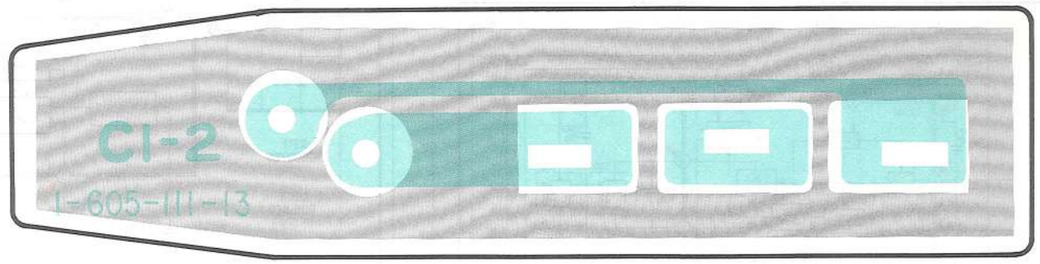


When indicating parts by reference number, please include the board name.

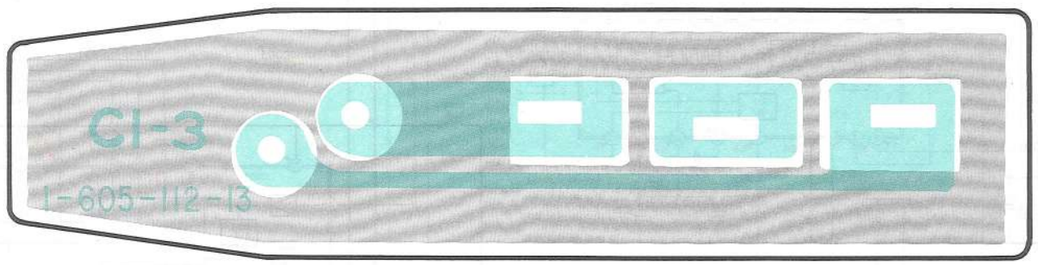
3-34. PRINTED WIRING BOARD — *Ref. No. LM-9 BOARD: 9500 series* —

— Conductor Side —

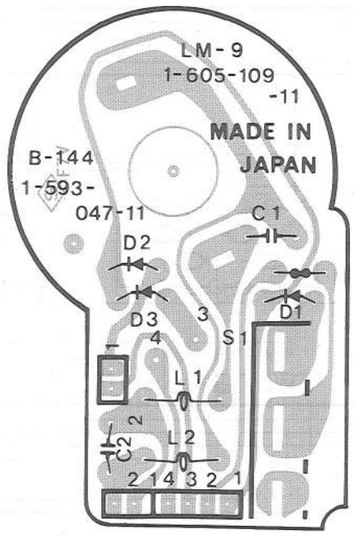
— C1-2 Board —



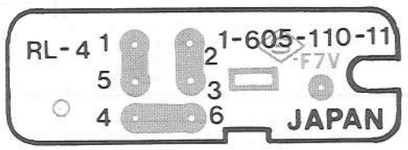
— C1-3 Board —



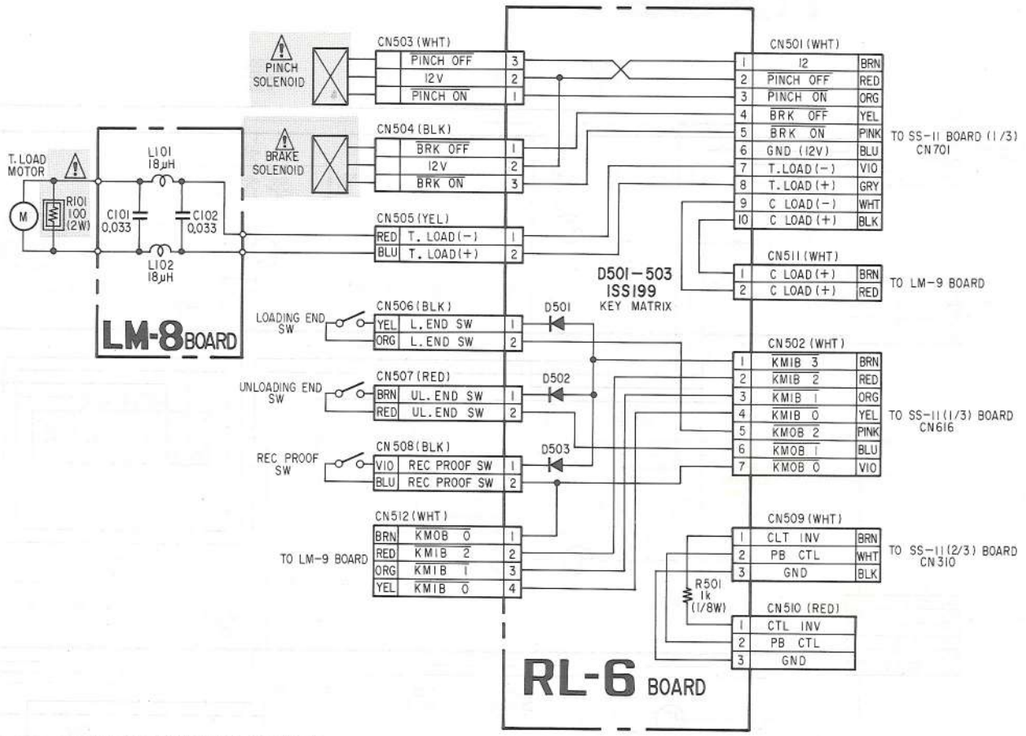
— LM-9 Board —



— RL-4 Board —

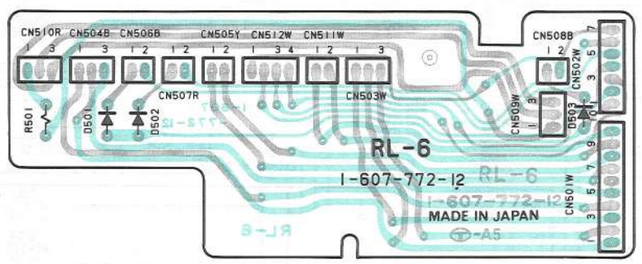


3-35. SCHEMATIC DIAGRAM — *Ref. No. RL-6 BOARD: 13000 series, LM-8 BOARD: 9300 series* —

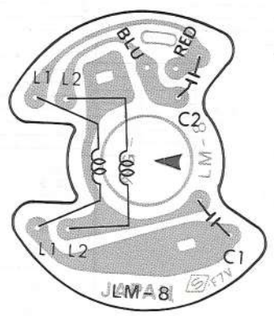


3-36. PRINTED WIRING BOARD
— Conductor Side —

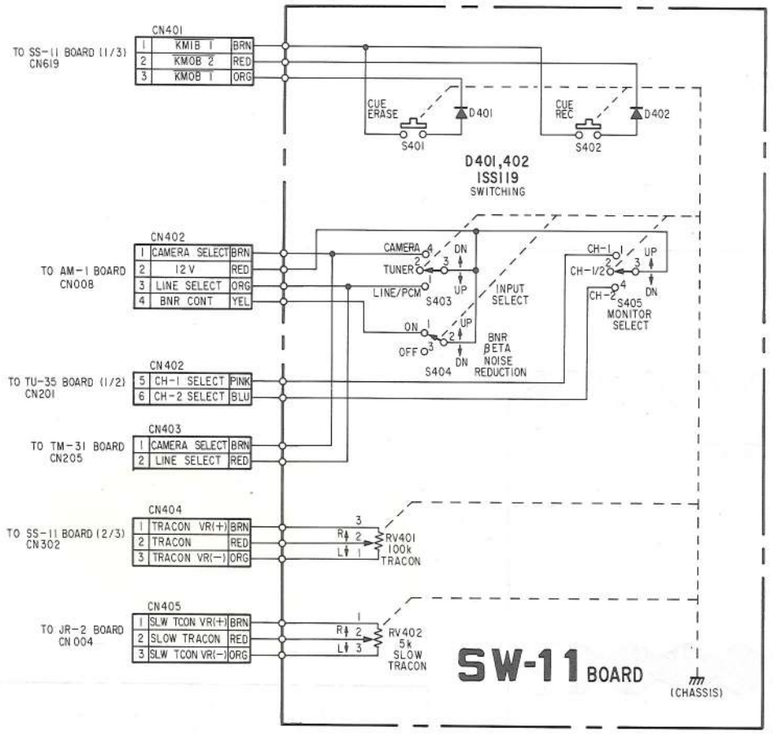
— RL-6 Board —



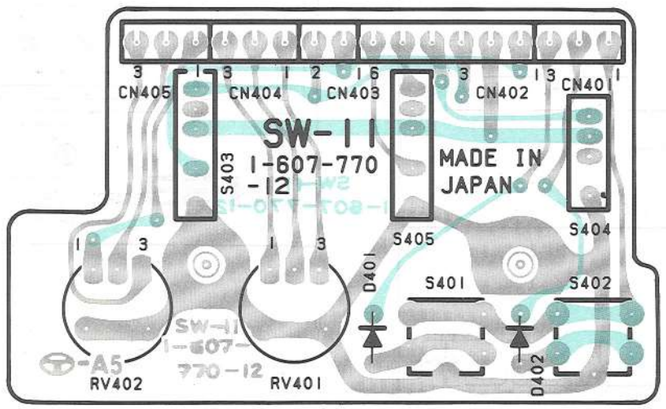
— LM-8 Board —



3-37. SCHEMATIC DIAGRAM — *Ref. No. 23000 series* —



3-38. PRINTED WIRING BOARD
— Conductor Side —



When indicating parts by reference number, please include the board name.

3-39. SCHEMATIC DIAGRAM — *Ref. No. TU-35 BOARD: 5100 ~ 5300 series, CH-33 BOARD: 5500 series, MT-1 BOARD: 8100 series* —

A B C D E F G H

1 2 3 4 5

Note:

- No mark: MONO mode
- ( ) : BILINGUAL mode
- < > : REC mode
- Reading are taken under conditions:
  AERIAL IN . . . . . Channel E-3
  Program indicator . . . . . PROG 1

TU-35 BOARD

CN204 ① MONORAL — 0.38Vp-p, 19μSEC

CN204 ① BILINGUAL — 0.5Vp-p, 0.38mSEC

5Vp-p, 60μSEC — IC 201 ③

4.2Vp-p, 63μSEC — IC 201 ⑭

CH-33 BOARD

S501 (1) S502 (2) S503 (3) S504 (4) S505 (5) S506 (10)
S507 (6) S508 (7) S509 (8) S510 (9) S511 (11) S512 (12)

D501 TLRI23 STEREO INDICATOR
D502 TLYI23 BILINGUAL INDICATOR

CN501 (WHT)

1	I 3	BRN
2	I 2	RED
3	I 1	ORG
4	K 2	YEL
5	K 1	PINK
6	⌀D	BLU
7	⌀C	VIO
8	⌀B	GRY
9	⌀A	WHT
10	SW 12V	BLK
11	ST	OCHRE
12	BT	SKYBLU

When indicating parts by reference number, please include the board name.

TU-35 BOARD (1/2)

D301 RD24EB2 −24V ZENER
Q303,304 2SC2785 SWITCHING
Q305 2SA881 SWITCH
Q002 2SC2009 RF AMP
Q001 2SC2785 ACTIVE FILTER
D303 RD5.1EB ZENER
Q301,302 2SD773-4 SWITCHING
D302 1SS119 RECTIFIER
Q108 2SC2785 SWITCHING
Q109 − 111 2SA1175 SWITCHING
D102 1SS119 PROTECT
IC101 M50118P VS CONTROLLER
IC102 M5G1400P MEMORY
Q101 2SC403SP-4 VC SWITCHING
IC103 μPC574J 35V ZENER
IC104 M54570L BAND SW
D101 1SS119 PROTECT
D106,107 TLRI23 MODE IND.
D109 TLYI23 BAND IND.
D104 1SS119 PROTECT
D108 TLRI23 BAND IND.
D110 TLG123 BAND IND.
D103 1SS119 PROTECT
Q112 2SC27[illegible] SWITCHING

CN301 (WHT) — TO SW-REG BOARD CN651

BRN	UN 12V	1
RED	SW 12V	2
ORG	UN −26V	3
YEL	UN 38V	4
WHT	GND	5

CN101 (RED) — TO JR-2 BOARD CN201

BRN	20	1
RED	70	2
ORG	UN 12V	3
WHT	TR	4
BLK	GND	5

CN102 (WHT) — TO TM-31 BOARD CN202

BRN	BACK UP 5V	1
RED	PROG CONT	2
ORG	PR UP	3
YEL	PR RST	4
PINK	GND	5
BLU	PR LOCK	6

CN103 (WHT)

BRN	I 3	1
RED	I 2	2
ORG	I 1	3
	K 3	4
YEL	K 2	5
PINK	K 1	6
BLU	⌀D	7
VIO	⌀C	8
GRY	⌀B	9
WHT	⌀A	10

CN104 (WHT) — TO TM-31 BOARD CN204

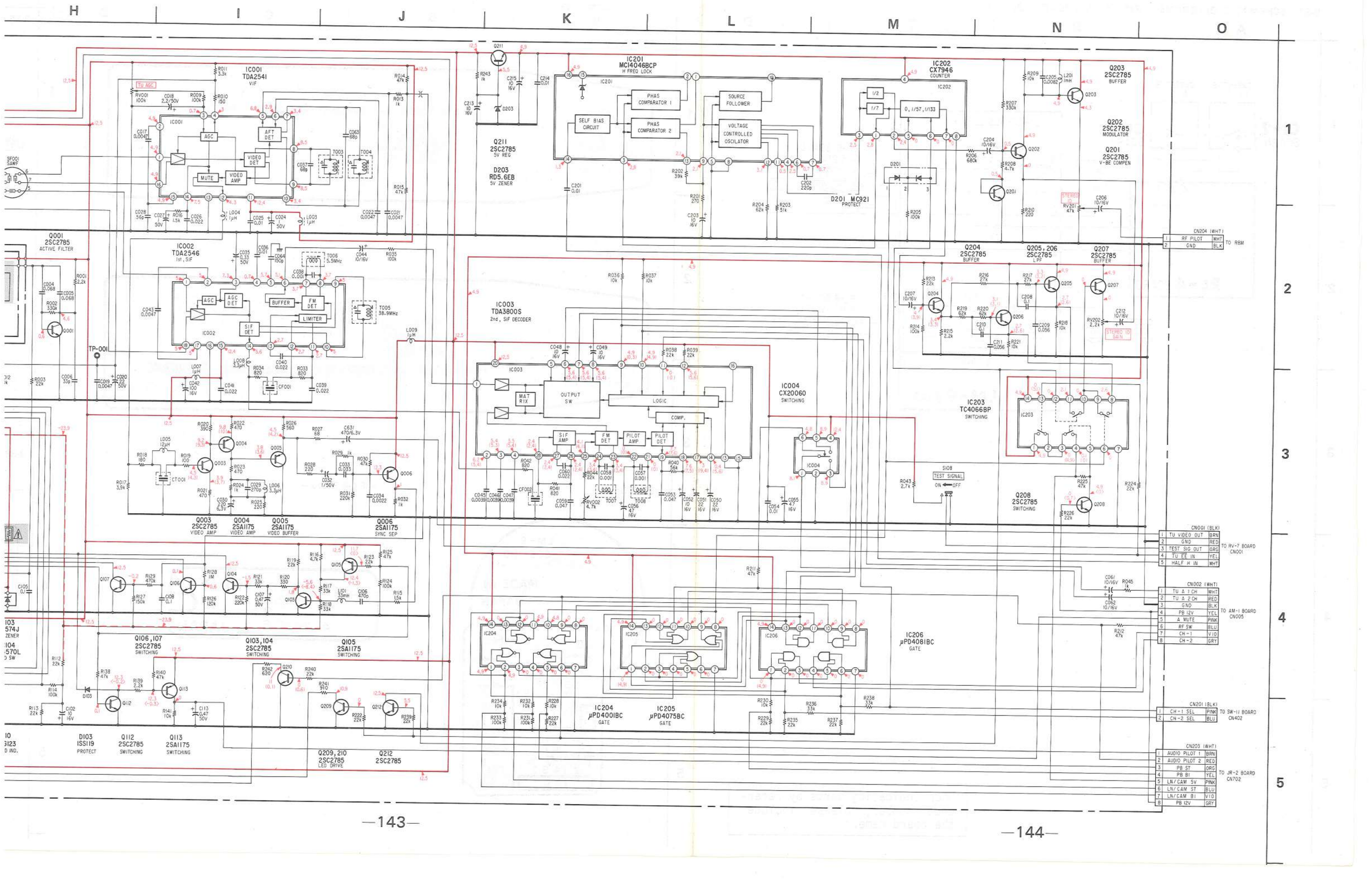
BRN	S D	1
RED	P 11	2
ORG	P 10	3
YEL	P 03	4
PINK	P 02	5
BLU	P 01	6
VIO	P 00	7

CN202 (WHT)

BLK	SW 12V	1
OCHRE	ST	2
SKYBLU	BT	3

SI01 AP, SI02 AFT UP, SI03 RESET, SI04 S.UP, SI05 AFT DN, SI06 AFT ON, SI07 S.DN

TU-401 UHF/VHF TUNER (BT-881)


H
I
J
K
L
M
N
O
1
2
3
4
5
IC001 TDA2541 VIF
IC002 TDA2546 1st, SIF
IC003 TDA3800S 2nd, SIF DECODER
IC004 CX20060 SWITCHING
IC201 MC14046BCP H FREQ LOCK
IC202 CX7946 COUNTER
IC203 TC4066BP SWITCHING
IC204 µPD4001BC GATE
IC205 µPD4075BC GATE
IC206 µPD4081BC GATE
Q001 2SC2785 ACTIVE FILTER
Q003 2SC2785 VIDEO AMP
Q004 2SA1175 VIDEO AMP
Q005 2SA1175 VIDEO BUFFER
Q006 2SA1175 SYNC SEP
Q106,107 2SC2785 SWITCHING
Q103,104 2SC2785 SWITCHING
Q105 2SA1175 SWITCHING
Q209,210 2SC2785 LED DRIVE
Q211 2SC2785 5V REG
Q212 2SC2785
Q201 2SC2785 V-BE COMPEN
Q202 2SC2785 MODULATOR
Q203 2SC2785 BUFFER
Q204 2SC2785 BUFFER
Q205,206 2SC2785 LPF
Q207 2SC2785 BUFFER
Q208 2SC2785 SWITCHING
D103 ISS119 PROTECT
D201 MC921 PROTECT
D203 RD5.6EB 5V ZENER
Q112 2SC2785 SWITCHING
Q113 2SA1175 SWITCHING
TU AGC
AGC
AFT DET
VIDEO DET
VIDEO AMP
MUTE
BUFFER
AGC DET
FM DET
LIMITER
SIF DET
MAT RIX
OUTPUT SW
LOGIC
COMP.
SIF AMP
FM DET
PILOT AMP
PILOT DET
PHAS COMPARATOR 1
PHAS COMPARATOR 2
SELF BIAS CIRCUIT
SOURCE FOLLOWER
VOLTAGE CONTROLLED OSCILATOR
1/2
1/7
0, 1/57, 1/133
SW108 TEST SIGNAL ON OFF
STEREO ID GAIN
CN204 (WHT)
1 RF PILOT WHT
2 GND BLK
TO RBM
CN001 (BLK)
1 TU VIDEO OUT BRN
2 GND RED
3 TEST SIG OUT ORG
4 TU IF IN YEL
5 HALF H IN WHT
TO RV-7 BOARD CN001
CN002 (WHT)
1 TU A 1CH WHT
2 TU A 2CH RED
3 GND BLK
4 PB 12V YEL
5 A MUTE PINK
6 RF SW BLU
7 CH-1 VIO
8 CH-2 GRY
TO AM-1 BOARD CN005
CN201 (BLK)
1 CH-1 SEL PINK
2 CH-2 SEL BLU
TO SW-11 BOARD CN402
CN203 (WHT)
1 AUDIO PILOT 1 BRN
2 AUDIO PILOT 2 RED
3 PB ST ORG
4 PB BI YEL
5 LN/CAM 5V PINK
6 LN/CAM ST BLU
7 LN/CAM BI VIO
8 PB 12V GRY
TO JR-2 BOARD CN702
TP-001
SF001 SAWF
CT001
CF001
CF002

TU-35 (1/2) CH-33 MT-1 (TUNER, VIF, SIF, TUNING CONTROL)

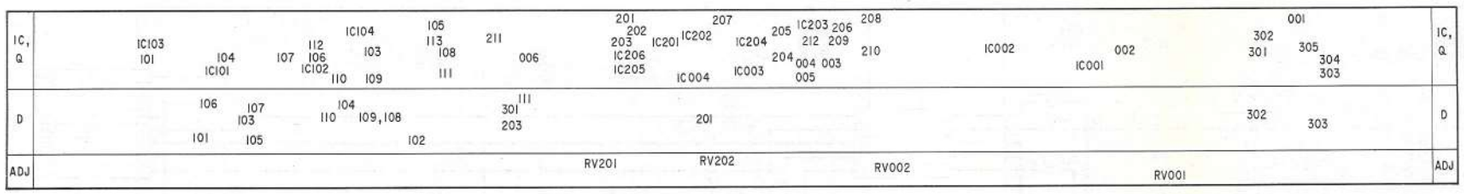
3-40. PRINTED WIRING BOARD – *Ref. No. TU-35 BOARD: 5100 ~ 5300 series, CH-33 BOARD: 5500 series, MT-1 BOARD: 8100 series* –

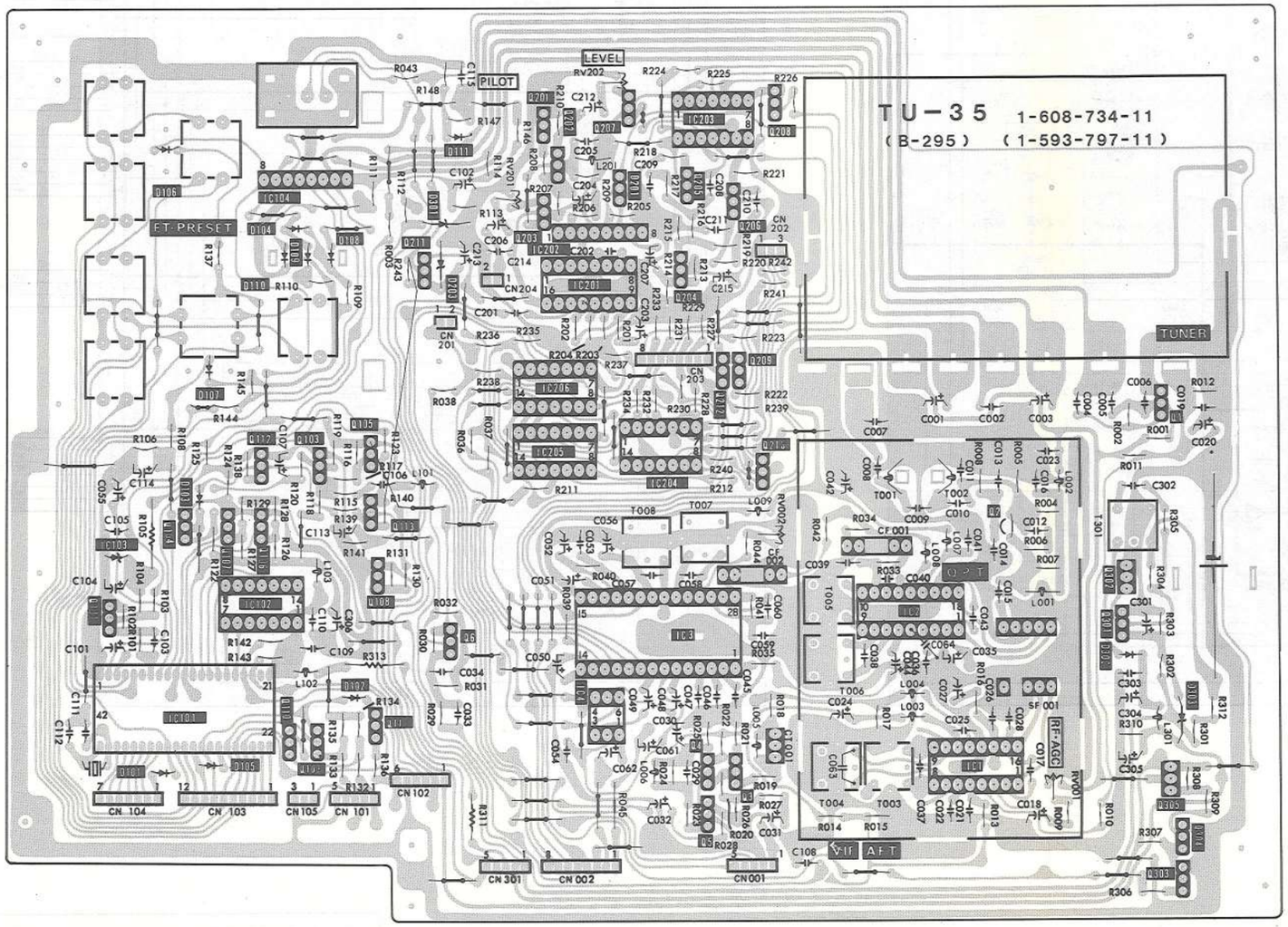
–Conductor Side –

A B C D E F G

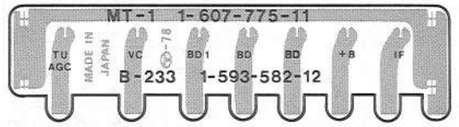
1 2 3 4 5

– TU-35 Board –

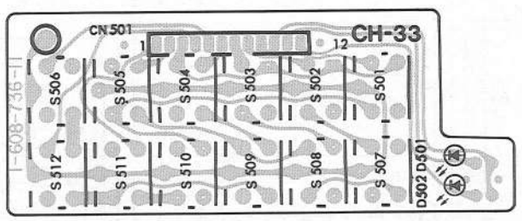




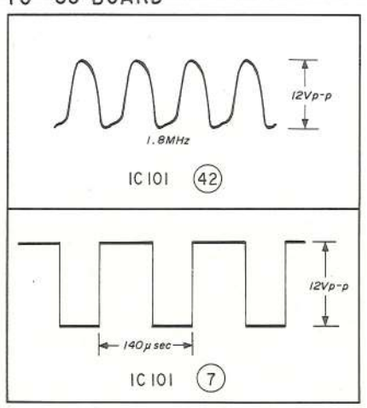
– MT-1 Board –



– CH-33 Board –



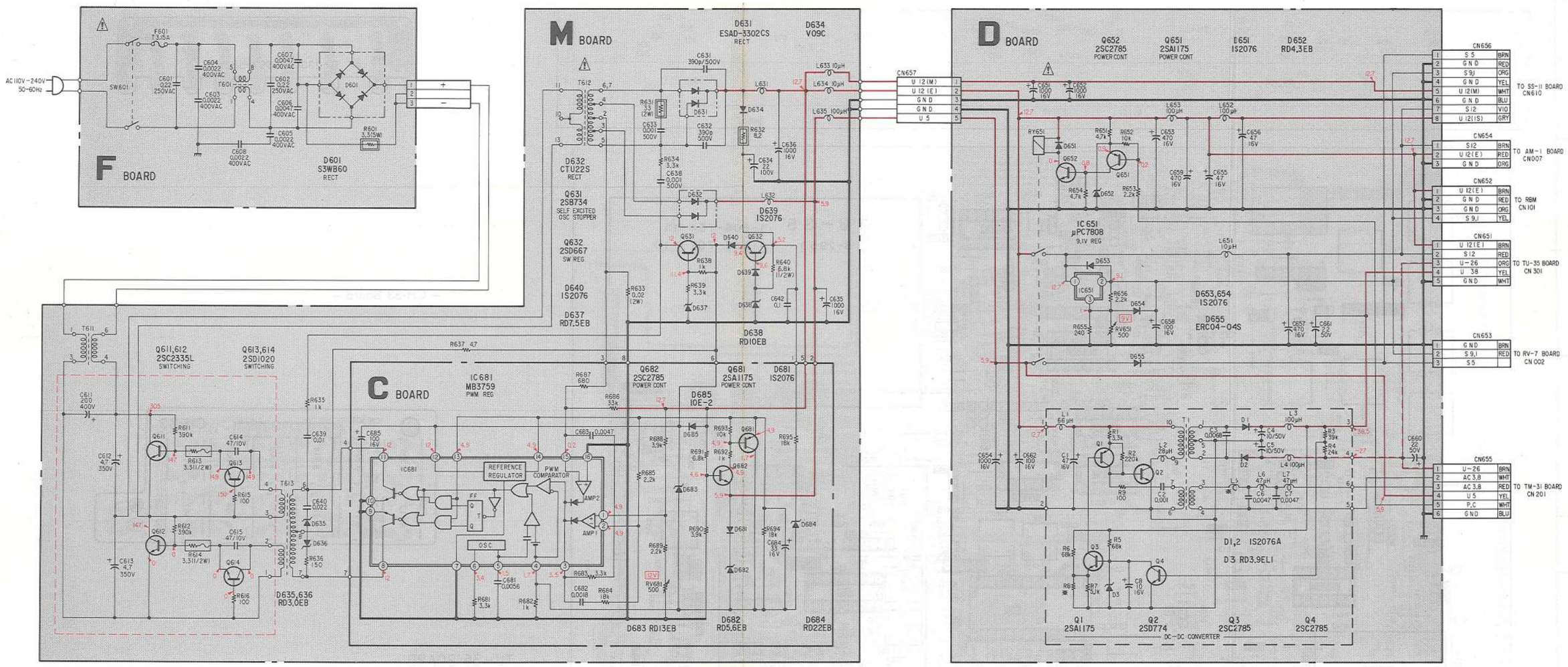
TU-35 BOARD



3-41. SCHEMATIC DIAGRAM — *Ref. No. 8600 series* —

Note:

- No mark: E-E mode
- ⊏⊐⊏⊐ : Voltages are measured from emitter of Q612.

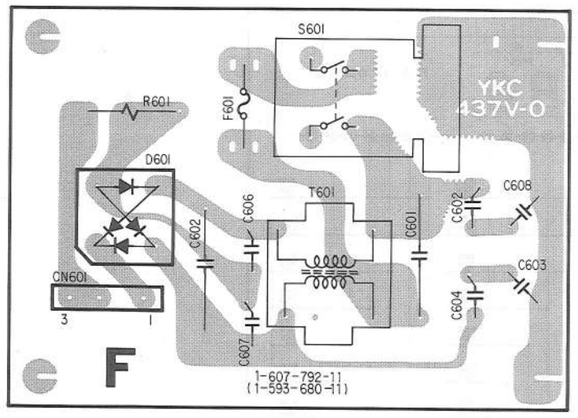


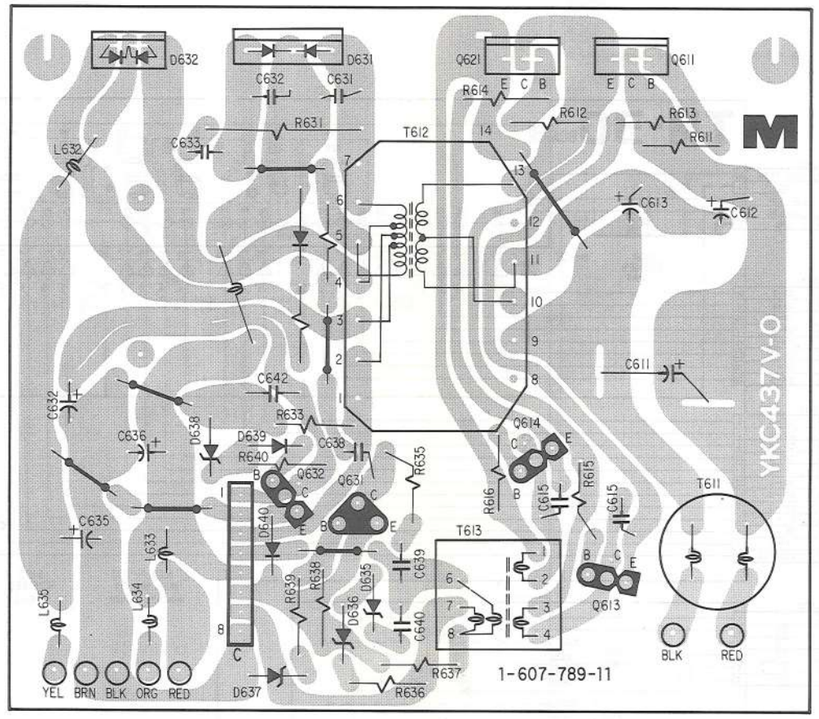
When indicating parts by reference number, please include the board name.

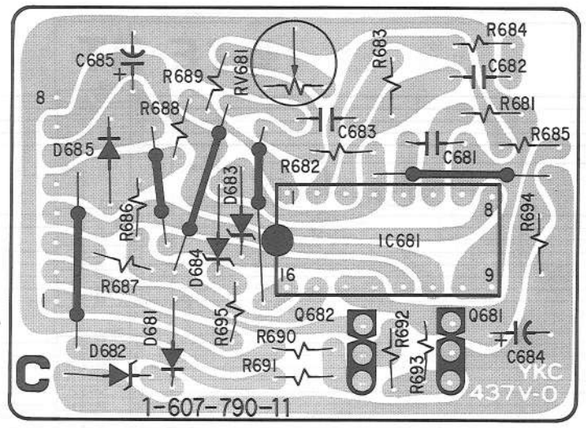
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

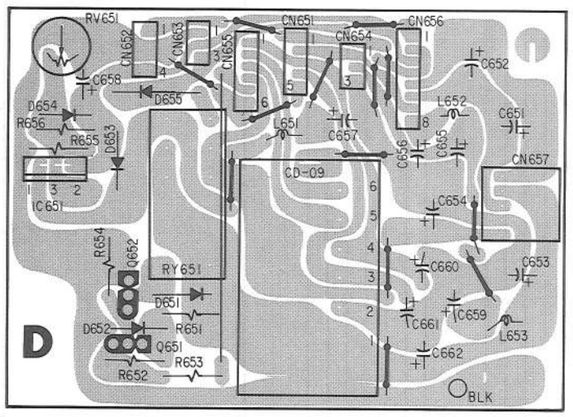
3-42. PRINTED WIRING BOARD — *Ref. No. 8600 series* —

— Conductor Side —

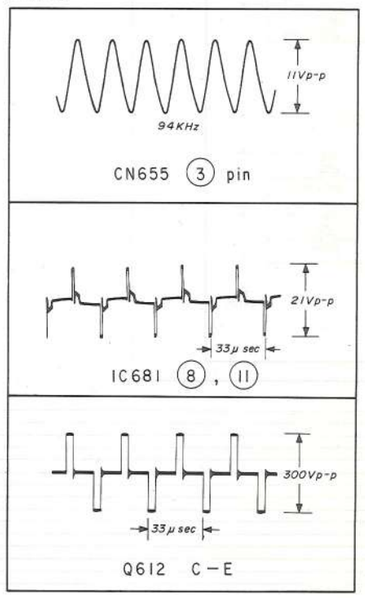




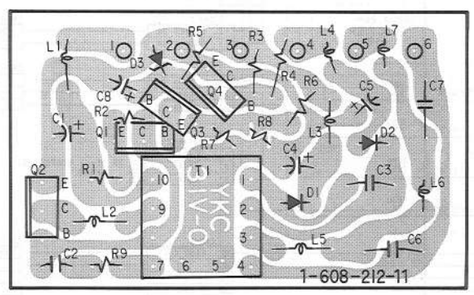




SR 11E



DC-DC CONVERTER(CD-09)



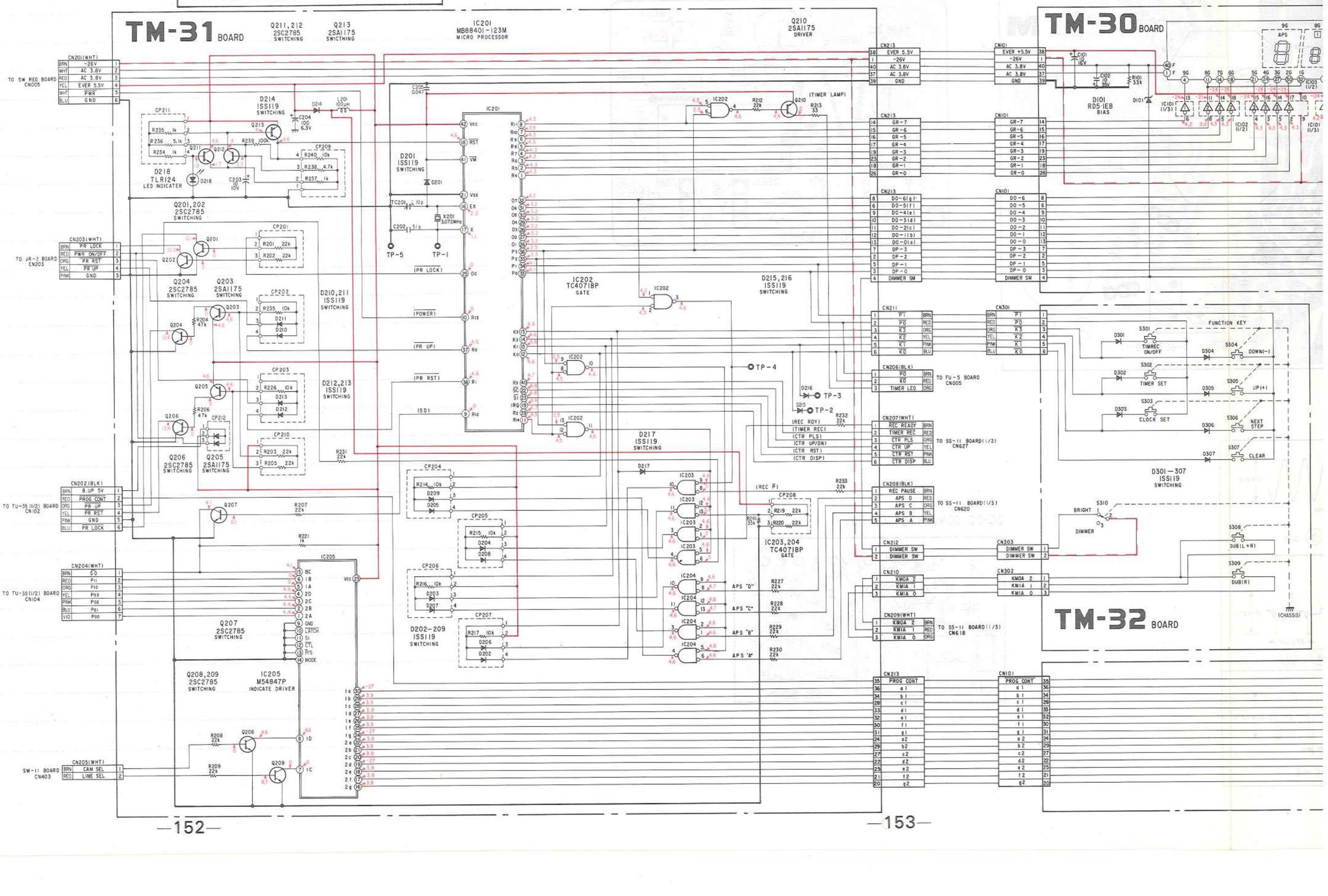
MEMO

3-43. SCHEMATIC DIAGRAM — *Ref. No. TM-30 BOARD: 6100 series, TM-31 BOARD: 6200 series, TM-32 BOARD: 6300 series* —

Note:

- No mark: E-E mode
- Marked * is not able to measure the voltage of its position.

When indicating parts by reference number, please include the board name.



D E F G H I J K

1 2 3 4 5

TM-30 BOARD

IC201
MB8840I-123M
MICRO PROCESSOR

Q210
2SAII75
DRIVER

(TIMER LAMP)

IC202
TC4071BP
GATE

D215,216
ISSII9
SWITCHING

D217
ISSII9
SWITCHING

IC203,204
TC4071BP
GATE

D101
RD5·1EB
BIAS

FL101 FIP 10 BM8

IC101 – 103
MSL 915 RS
INDICATE DRIVER

D102
RD8.2EB
BIAS

FUNCTION KEY

S301 TIMREC ON/OFF
S302 TIMER SET
S303 CLOCK SET
S304 DOWN(–)
S305 UP(+)
S306 NEXT STEP
S307 CLEAR
S308 DUB(L+R)
S309 DUB(R)
S310 DIMMER

D301 – 307
ISSII9
SWITCHING

TO FU-5 BOARD CN005

TO SS-II BOARD(1/3) CN627

TO SS-II BOARD(1/3) CN620

TO SS-II BOARD(1/3) CN618

TM-32 BOARD

(CHASSIS)

3-44. PRINTED WIRING BOARD

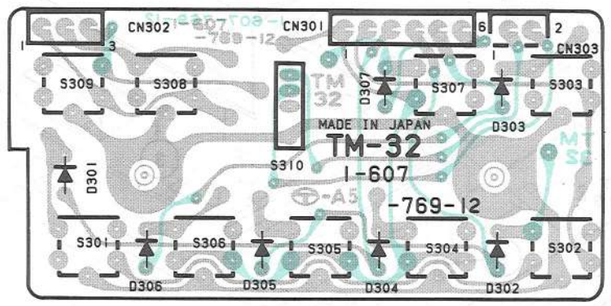
– Conductor Side –

– Ref. No. TM-30 BOARD: 6100 series, TM-31 BOARD: 6200 series, TM-32 BOARD: 6300 series –

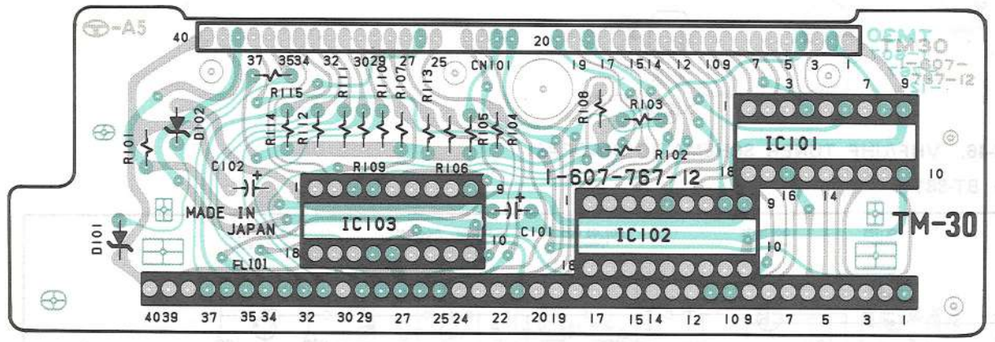
TM-32 TM-31 TM-30 TM-30 TM-31 TM-32 [TIMER]

A B C D E F G H

– TM-32 Board –

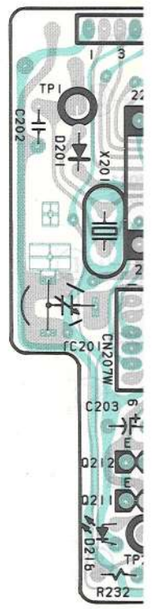


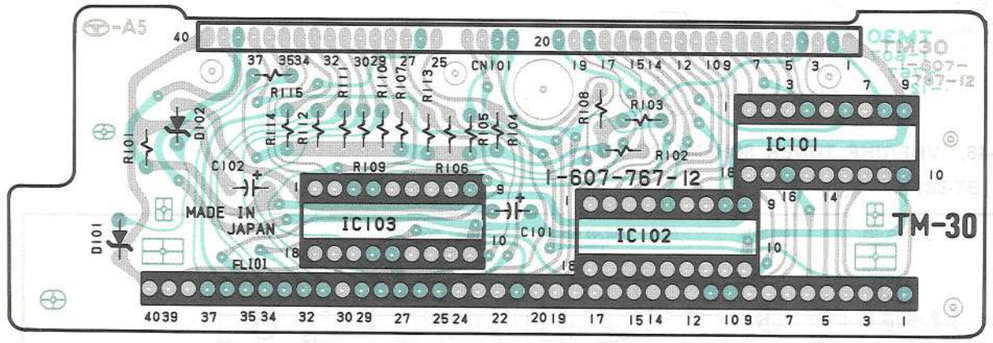
– TM-30 Board –



– TM-31

Q, IC	
D	201 218
TP	1





D E F G H I J K

— TM-30 Board —

— TM-31 Board —

	H	I	J	K
Q·IC		212 211 213 207 IC201 210	IC203 IC205 IC202 208	209 IC204 201 202 206 205 203 204
D	201 218	217 215 216		214
TP	1	2 5	3 4	

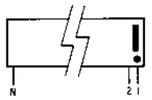
TM-31 BOARD

TP-1

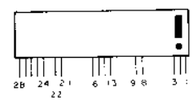
1
2
3
4
5

3-45. SEMICONDUCTORS

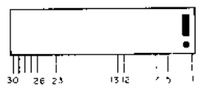
BX-1013
BX-1016
BX-1038
BX-3976
BX-3978
BX-3983



BX-1028

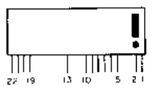


BX-1029



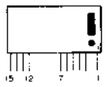
BX-1030

BX-1032

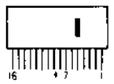


BX-1033
BX-1033A

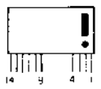
BX-1034
BX-1034A



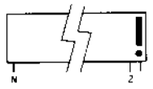
BX-1039



BX-1043



BX-1047



BX-3980

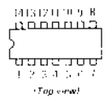
BX-3981

CX-194A
CX-194B-0

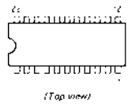
CX-20008
CX20061
CX7946
M51848L
M54570L

CX20060

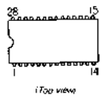
CX-7905A
HD14001BP
HD14011BP
HD14013BP
HD14066BP
HD14069UBP
HD14071BP
HD14070BP
HD14075BP
M5G1400P
MB3614
MB84001B
MB84011B
MB84013B
MB84066B
MB84069UBP
MB84070B
MB84075B
MB84081C
TC4001BP
TC4011BP
TC4013BP
TC4030BP
TC4066BP
TC4069UBP
TC4071BP
TC4075BP
TC4081BP
TC40H004P
TC5026BP
TDA2541
μPC324C
μPD4013BC
μPD4030BC
μPD4066BC
μPD4069UBC
μPD4071BC
μPD4075BC
μPD4081BC



CX-7926
CX-7927

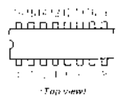


CX-863
CX863A
CX-866
CX-866A
CX-869
TDA3800S
μPD652C040

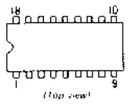


CX-864
CX-867
CX-868

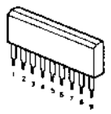
CX-870A
HD14046BP
HD14053BP
HD14538BP
NES70N
NE571N
MB3759
MB84051B
MB84052B
MB84053B
MC14046BCP
MC14538BCP
TA7660P
TC4049BP
TC4051BP
TC4052BP
TC4053BP
TL494CN
μPD4051BP
μPD4053BC



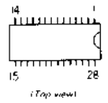
CX-882
MSL915RS
TDA2546



CX-894

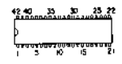


HD38757A05



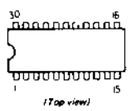
NJM2903D
NJM4558D
μPC393C
μPC4558C

M50118AP
MB88401-123M
MB88401-127M
MB88401-128M
MB88401-129M
MB88401-179M
MB88401-180M
MB88401-181M

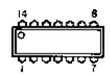


M51848L

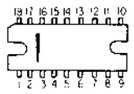
M54847P



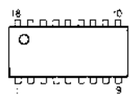
MB3759



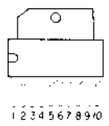
MB8747



MB8758



TA7060AP

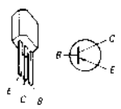


μPC1373H
μPC1391H

μPC574J

μPC7808H

2SA1027R
2SA1027



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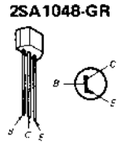
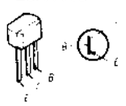


2SA1115



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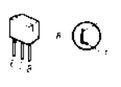

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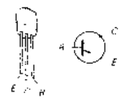
2SA773



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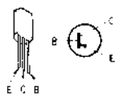
2SB740



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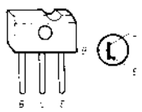
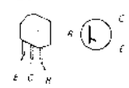
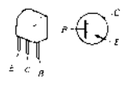


2SB733
2SB733U2
2SB734
2SB772



2SD773



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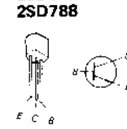
2SD786
2SD677A
2SD788



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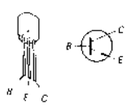

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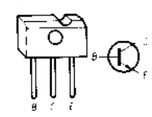
2SC2673



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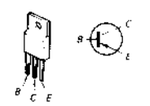
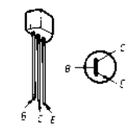
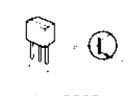


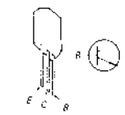
2SC2458



2SC2785



2SC403SP
2SC2603



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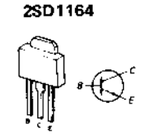
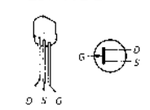


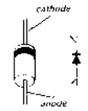
2SK152-2



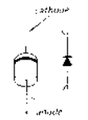
10E1
10E2
1S1555
1S1585
1S2076A
RD3.0E-B
RD3.9E-L1
RD4.3E-B2
RD5.1E-B
RD5.1EB3
RD5.6EB1
RD5.6E-B2
RD7.5E-B
RD8.2E-B
RD10E-B
RD10E-B1
RD10E-B2
RD10E-B3
RD10E-N2
RD13E-B
RD13E-B1
RD22E-B3
RD24E-B2
RD24E-B2Z

V09G
U05G

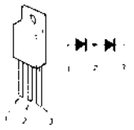
1SS106
1SS133
1SS148
ERB12-01RK
ERB12-02RK
ERB12-04RK
ERB81-004
GP08B
GP08D
GP08G



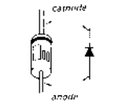
1SS119



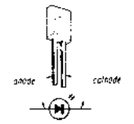
ESAD33-02CS
CTU22S



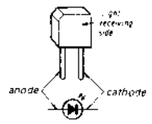
ERC04-04S



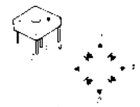
PG5531KY-3



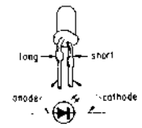
PH302B



S3WB60Z

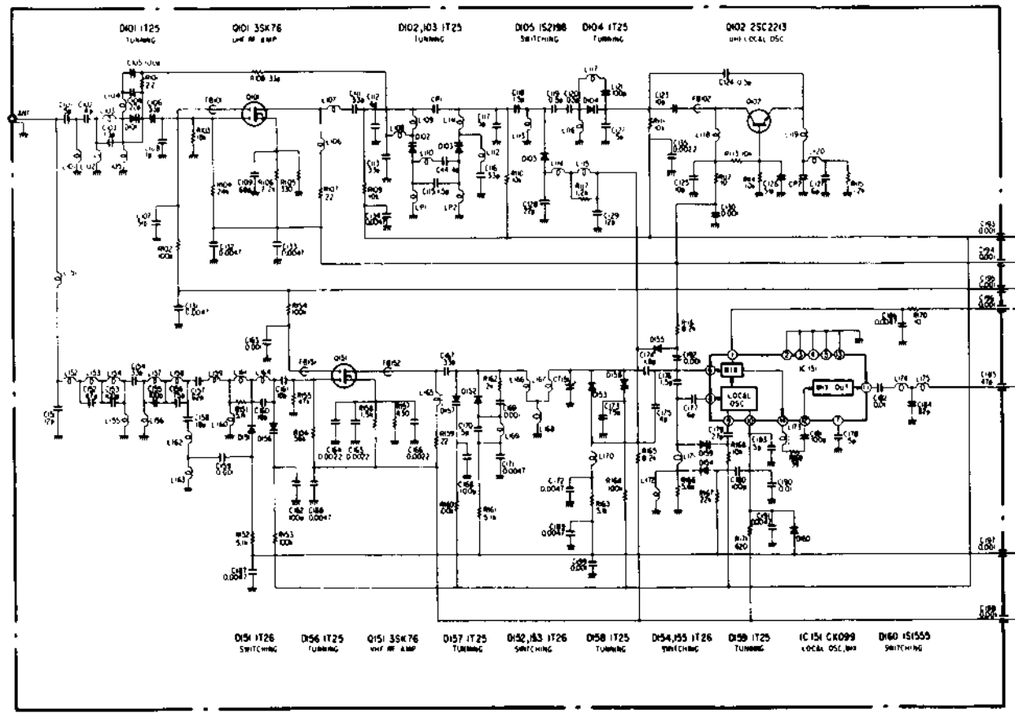


TLG123A
TLR123
TLR124
TLO123



3-46. VHF/UHF TUNER SCHEMATIC DIAGRAM

• BT-881



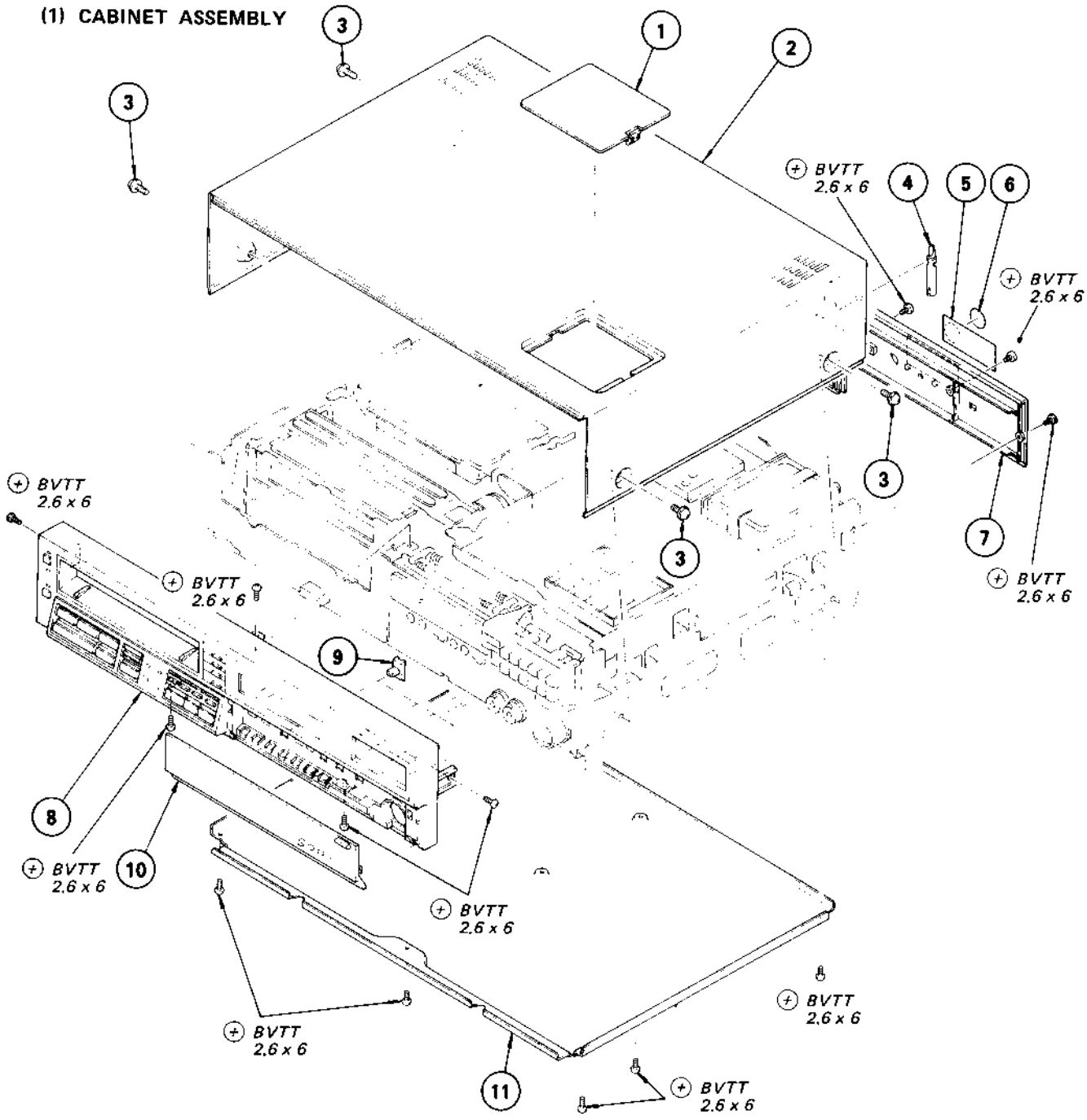
Note: Tuner reference numbers are not included in the Electrical Parts List.

SECTION 4
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

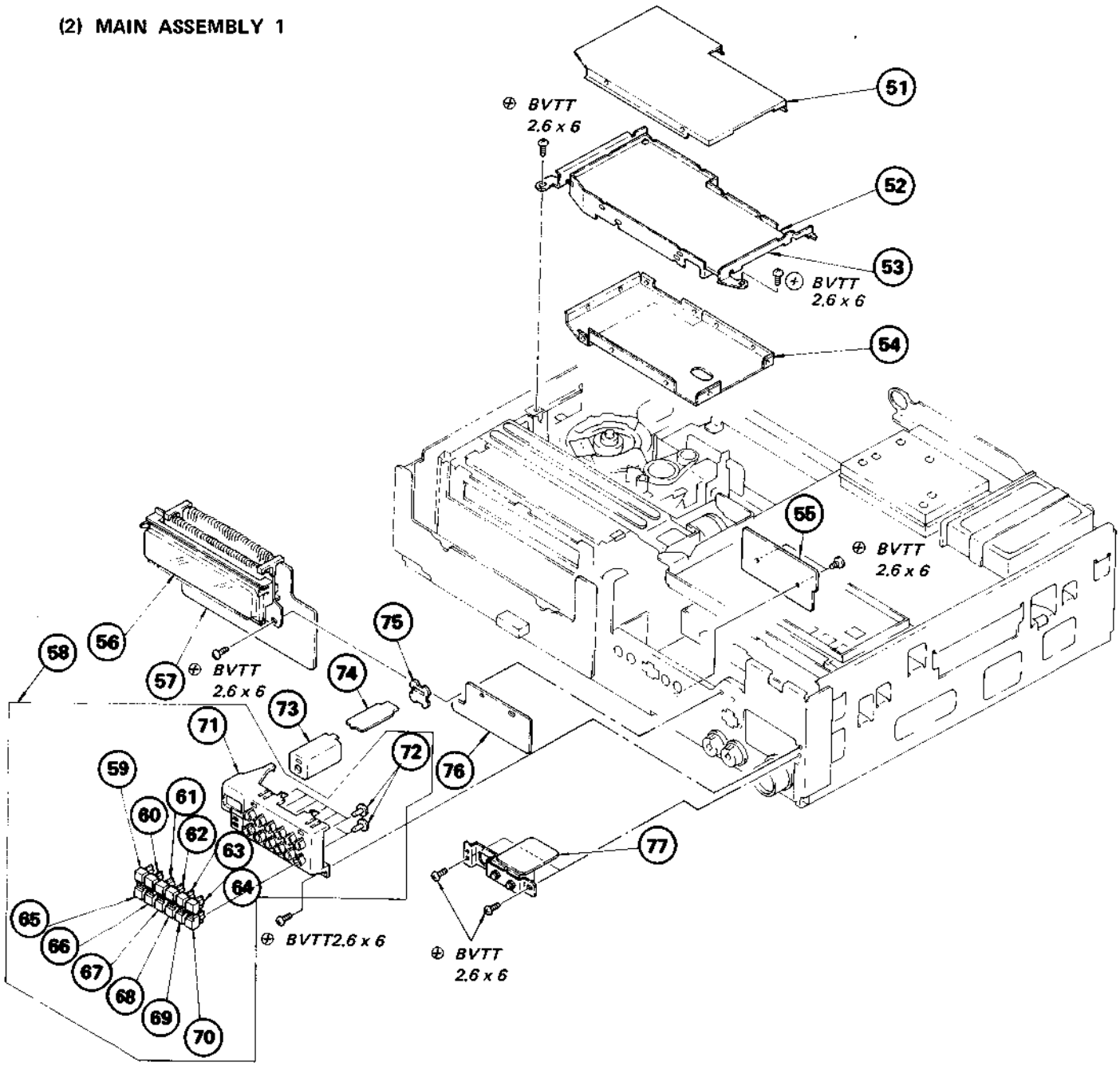
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1) CABINET ASSEMBLY



No.	Part No.	Description	Remark
1	3-675-509-00	DOOR, PRESET	
2	X-3670-079-0	CASE ASSY, UPPER	
3	3-703-354-11	SCREW (OS), CASE, CLAW	
4	3-656-301-00	SCREWDRIVER, CONTROL	
5	♦:3-677-901-01	LABEL, MODEL NUMBER	
6	♦:3-656-407-00	LABEL, F MARK	
7	3-675-535-11	PANEL, REAR	
8	X-3670-901-0	PANEL ASSY, FRONT	9
9	3-674-377-00	BUTTON, SLIDE	
10	X-3670-902-0	DOOR ASSY, FRONT	
11	♦:X-3670-091-0	PLATE ASSY, BOTTOM	

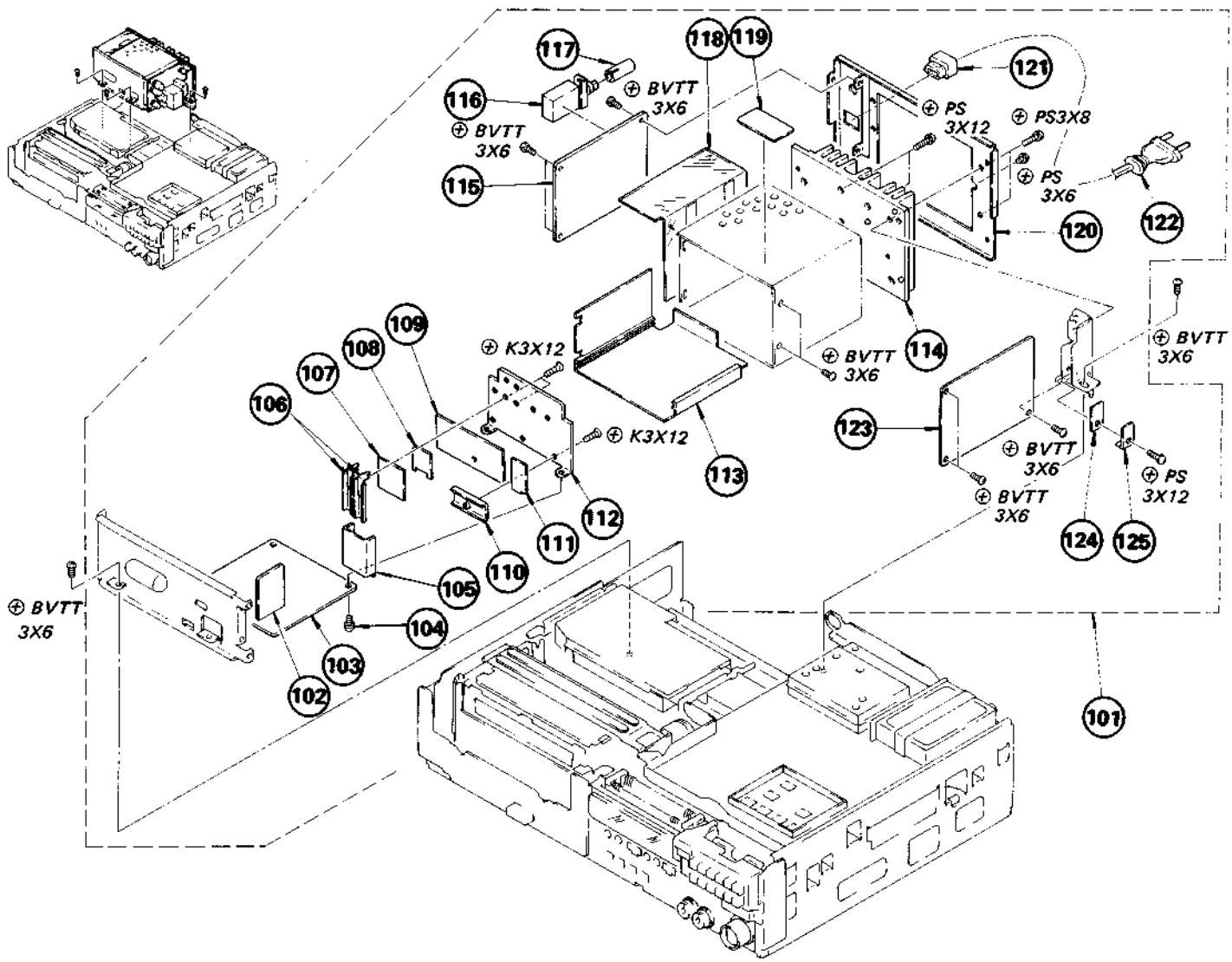
(2) MAIN ASSEMBLY 1



No.	Part No.	Description	Remark
51	♦:3-675-568-00	LID, UPPER, RP SHIELD CASE	
52	♦:A-6711-356-A	RP-7 BOARD, COMPLETE	
53	♦:3-675-567-00	CASE (MAIN), SHIELD, RP	
54	♦:X-3670-092-0	LID ASSY, BOTTOM, RP SHIELD CASE	
55	♦:1-607-769-00	TM-32 BOARD	
56	♦:1-607-767-00	TM-30 BOARD	
57	♦:1-607-768-00	TM-31 BOARD	
58	A-6734-155-A	TUNING BLOCK ASSY 59,60,61,62,63,64,65 66,67,68,69,70,71,72	
59	2-364-706-01	BUTTON (1), CHANNEL	
60	2-364-715-01	BUTTON (2), CHANNEL	
61	2-364-716-01	BUTTON (3), CHANNEL	
62	2-364-717-01	BUTTON (4), CHANNEL	
63	2-364-718-01	BUTTON (5), CHANNEL	

No.	Part No.	Description	Remark
64	3-675-529-00	BUTTON (10, 20), CHANNEL	
65	3-675-531-00	BUTTON (6) (VT), CHANNEL	
66	2-364-720-01	BUTTON (7), CHANNEL	
67	2-364-721-01	BUTTON (8), CHANNEL	
68	2-364-722-01	BUTTON (9), CHANNEL	
69	3-675-532-00	BUTTON (0), CHANNEL	
70	3-675-529-11	BUTTON (10, 20), CHANNEL	
71	♦:3-675-542-00	HOLDER, CHANNEL BUTTON	
72	3-669-528-00	CAP, BUTTON	
73	♦:4-342-117-00	CASE, SHIELD (MAIN), R	
74	♦:1-606-794-00	N BOARD	
75	♦:4-342-118-00	LID, SHIELD CASE, R	
76	♦:1-607-736-00	CH-33 BOARD	
77	♦:1-607-774-00	HM-1 BOARD	

(3) POWER SUPPLY (SR-11E) ASSEMBLY

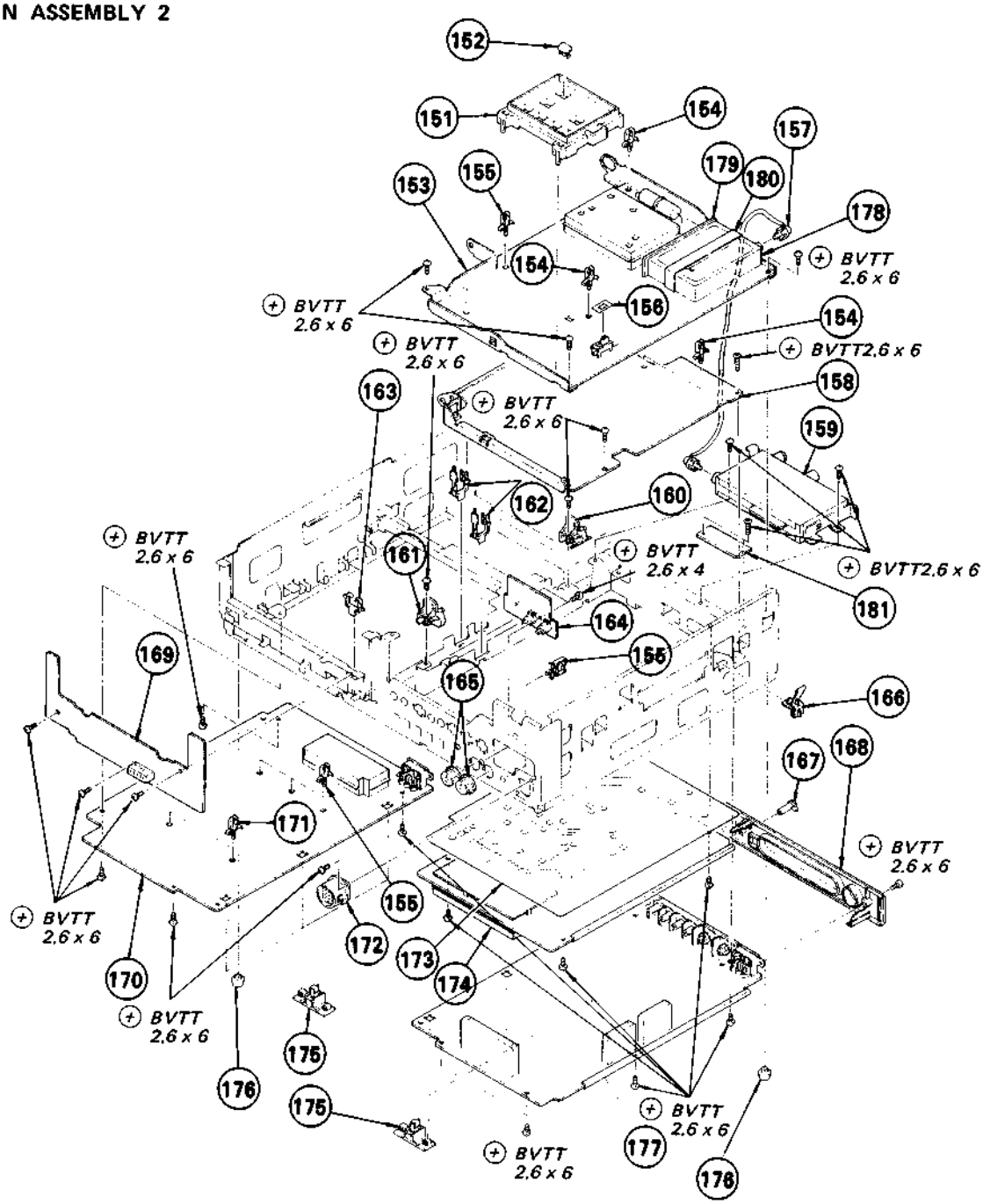


No.	Part No.	Description	Remark
101	⚠ 2-443-435-11	POWER BLOCK (SR11E)	102-125
102	♦:1-607-790-11	C BOARD	
103	♦:1-607-789-11	M BOARD	
104	2-430-772-01	SCREW, +PSW 3X8	
105	2-430-267-01	COVER, INSULATING	
106	♦:2-430-799-01	RETAINER, TRANSISTOR	
107	2-430-209-01	SHEET, RUBBER	
108	2-430-944-01	PLATE, COPPER	
109	2-430-271-01	SHEET, RUBBER	
110	♦:2-430-746-01	RETAINER, DIODE	
111	2-430-270-01	SHEET, RUBBER	
112	2-430-943-01	HEAT SINK	
113	♦:2-430-266-01	HOLDER, PCB	

No.	Part No.	Description	Remark
114	2-430-942-01	HEAT SINK	
115	♦:1-607-792-11	F BOARD	
116	⚠ 1-553-834-11	PUSH SWITCH	
117	4-334-115-01	KNOB, CLOCK-D	
118	2-430-268-01	COVER, F BOARD	
119	2-439-042-01	LABEL, MODEL NUMBER	
120	♦:2-403-497-01	PANEL	
121	⚠ 1-793-244-22	STOPPER, CORD	
122	⚠ 1-694-817-12	CORD, POWER	
123	♦:1-607-791-11	D BOARD	
124	2-430-269-01	SHEET, RUBBER	
125	♦:2-430-945-01	RETAINER, IC	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

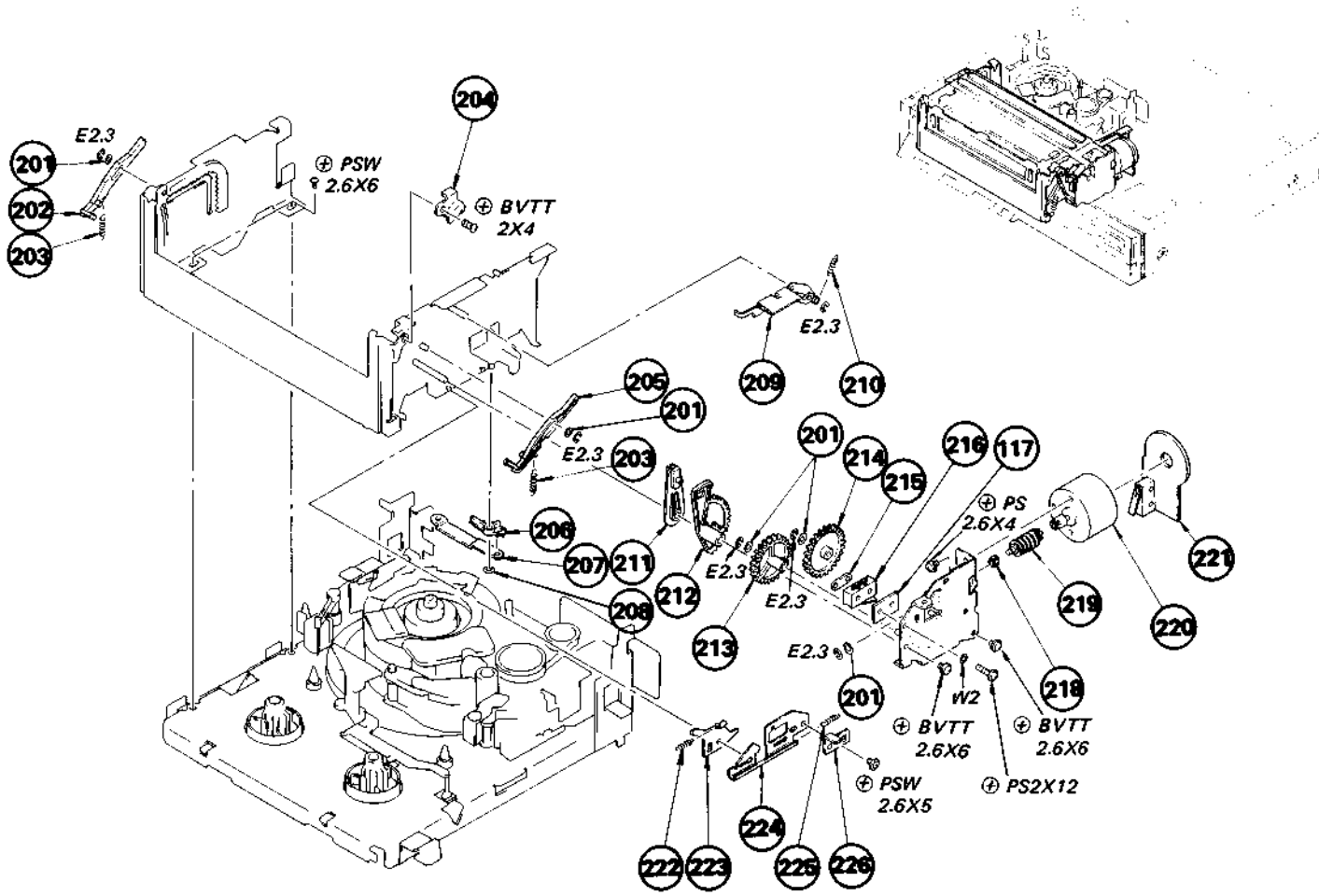
(4) MAIN ASSEMBLY 2



No.	Part No.	Description	Remark
151	A-6734-153-A	PANEL ASSY, PRESET	152
152	3-662-243-00	BUTTON, PRESET	
153	♦:A-6721-154-A	TU-35 BOARD, COMPLETE	
154	♦:3-644-407-00	CLIP, AC WIRE E	
155	♦:3-655-214-00	CLIP, CABLE	
156	3-662-259-00	CLOTH, MASKING	
157	♦:1-555-716-61	CABLE, PIN	
158	♦:A-6715-174-A	JR-2 BOARD, COMPLETE	
159	Δ:1-464-242-00	BOOSTER, MODULATOR (RBM-115-ES)	
160	♦:3-674-386-00	HINGE (B), JR	
161	♦:3-674-385-00	HINGE (A), JR	
162	♦:3-701-822-00	HOLDER, WIRE	
163	♦:4-310-385-00	HOLDER, WIRE	
164	♦:1-607-770-00	SW-11 BOARD	
165	3-675-520-00	BUTTON, TRACK CONTROL	
166	♦:4-308-891-00	SUPPORTER, CHASSIS	

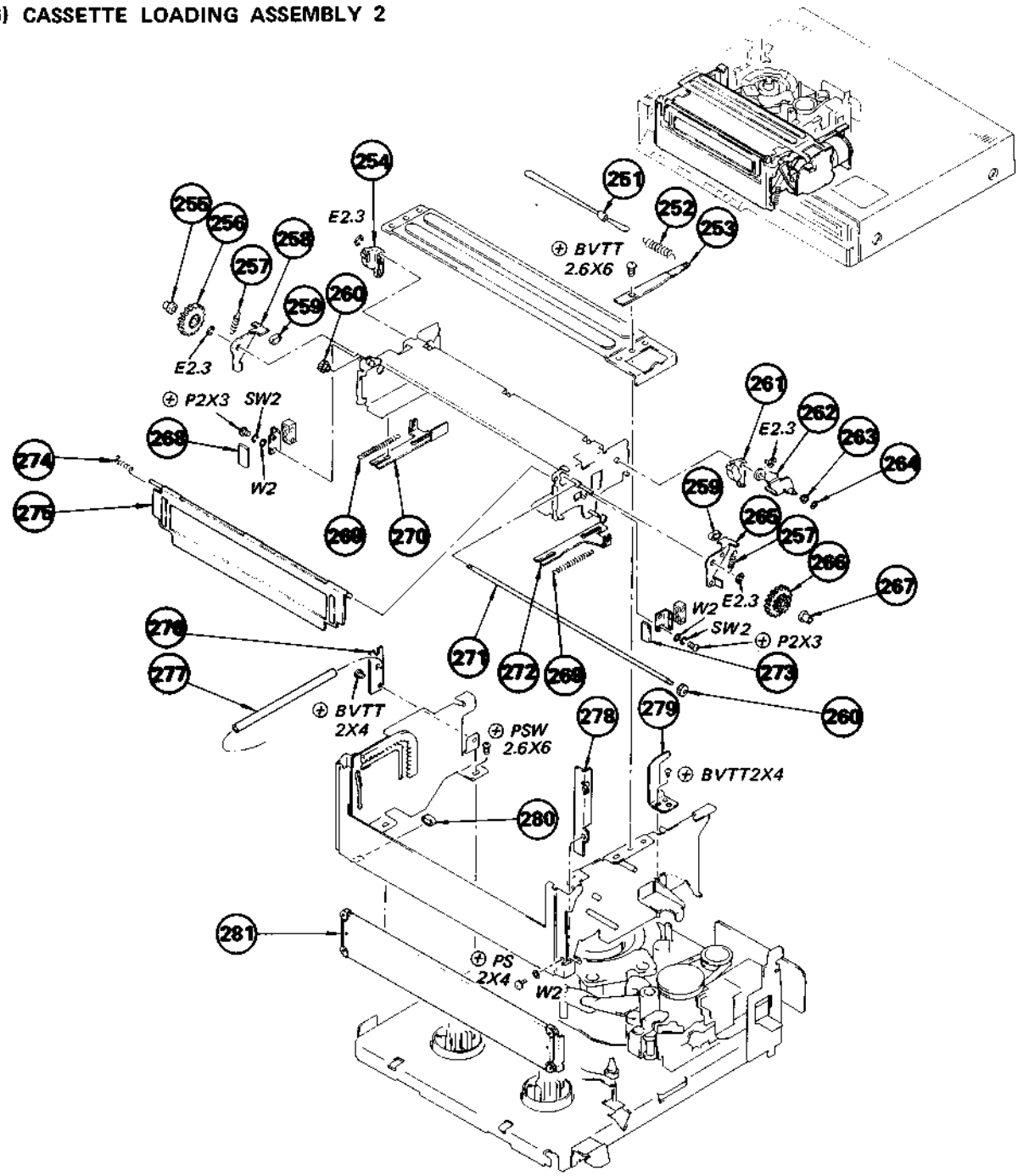
No.	Part No.	Description	Remark
167	3-670-149-00	KNOB, V SYNCHRONOUS	
168	3-675-537-00	PANEL, CONNECTOR	
169	♦:A-6717-301-A	FU-5 (ES) BOARD, COMPLETE	
170	♦:A-6715-153-A	SS-11 BOARD, COMPLETE	
171	♦:4-309-753-01	CLIP, CABLE	
172	♦:1-933-483-00	HARNESS (CA-5)	
173	♦:3-675-570-00	SHEET, INSULATING	
174	♦:A-6713-152-A	AM-1 (ES) BOARD, COMPLETE	
175	♦:3-671-187-00	CLIP, ANCHOR	
176	3-670-155-00	LEG	
177	♦:A-6711-392-A	RV-7 (ES) BOARD, COMPLETE	
178	Δ:1-463-350-00	TUNER (BT-881)	
179	♦:1-607-775-00	MT-1 BOARD	
180	♦:3-662-383-00	BAND, RETAINER, TUNER	
181	♦:1-608-998-00	PC BOARD, SL-2	

(5) CASSETTE LOADING ASSEMBLY 1



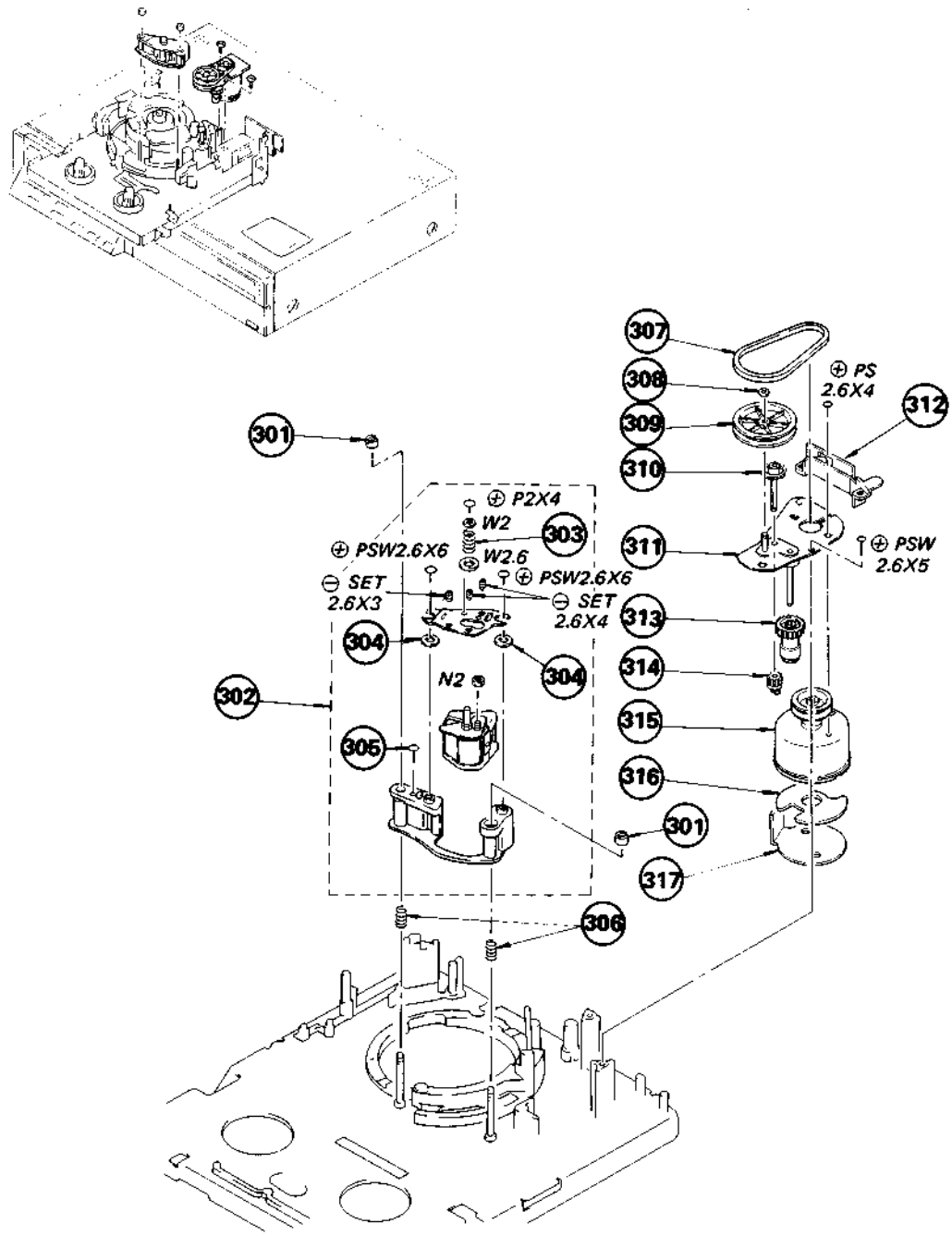
No.	Part No.	Description	Remark
201	3-701-439-21	WASHER	
202	3-670-056-00	ARM (L), DOOR	
203	3-500-130-00	SPRING, TENSION	
204	♣:3-671-819-00	COVER, SECTOR GEAR	
205	3-670-057-00	ARM (R), DOOR	
206	3-670-001-00	LEVER, UNLOCK	
207	3-670-034-00	JOINT, UNLOCK	
208	3-669-465-00	WASHER (1.5), STOPPER	
209	♣:3-670-152-00	ARM, LOCK, UP	
210	3-536-767-XX	SPRING, TENSION	
211	3-670-136-00	ARM, HOLDER DRIVING	
212	3-670-151-00	GEAR, SECTOR	
213	3-670-016-00	GEAR (A)	
214	♣:3-670-015-00	WHEEL, WORM	
215	♣:3-646-476-00	NUT, PLATE	
216	1-552-664-00	SWITCH, MICRO S1 (CASSETE UP)	
217	3-534-263-00	INSULATOR	
218	♣:3-670-168-00	BEARING, WORM	
219	X-3670-001-0	WORM ASSY	
220	X-3670-002-0	MOTOR ASSY, FL	
221	♣:A-6728-246-A	LM-9 BOARD, COMPLETE	
222	3-530-248-XX	SPRING, TENSION	
223	♣:3-670-010-00	STOPPER, LOCK	
224	♣:3-670-009-00	PLATE, LOCK	
225	3-630-615-XX	SPRING, TENSION	
226	♣:3-670-011-00	PLATE, ADJUSTMENT, CD	

(6) CASSETTE LOADING ASSEMBLY 2



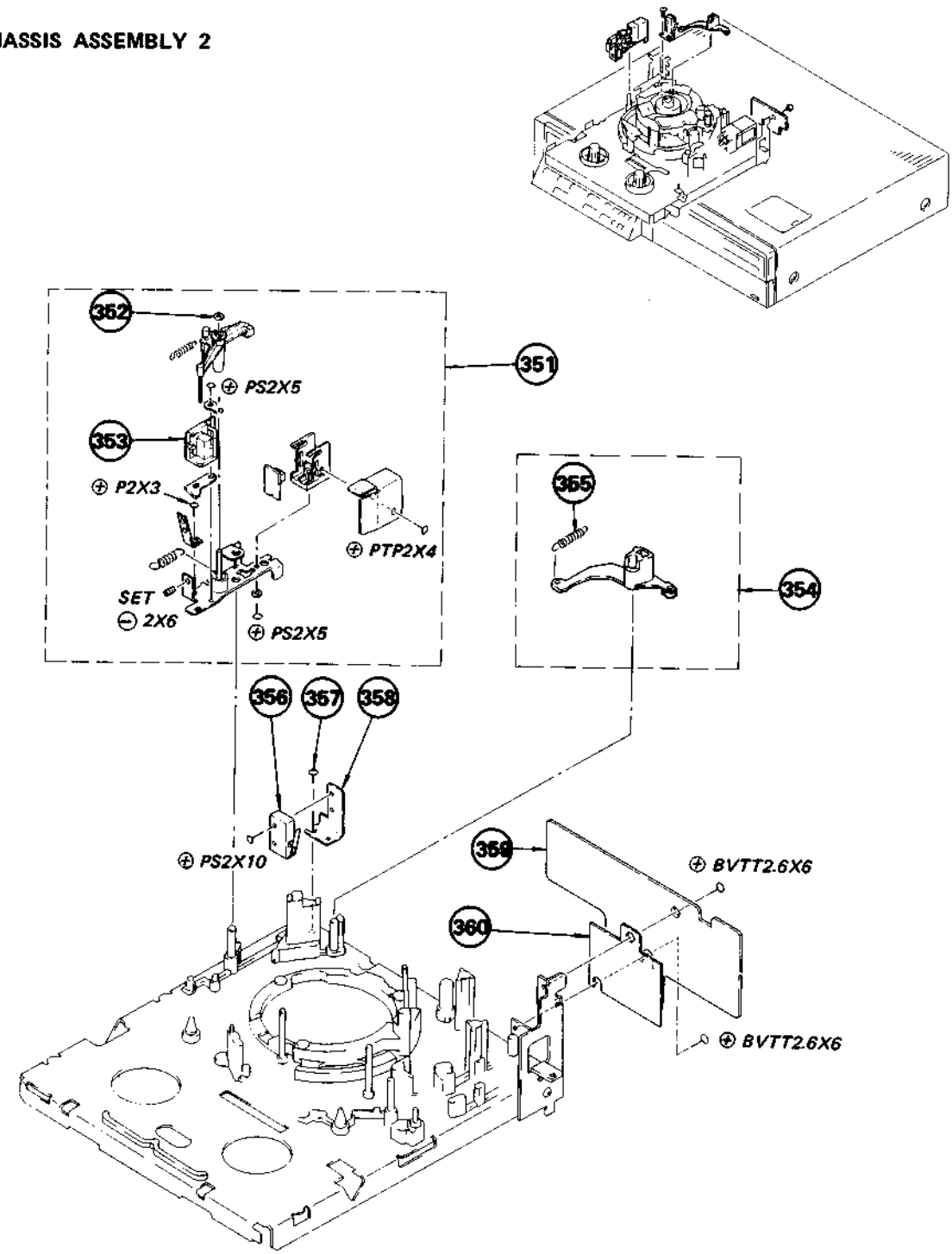
No.	Part No.	Description	Remark
251	3-671-863-00	STRING, PULL, WIRE	
252	3-535-021-00	SPRING, TENSION	
253	3-671-864-00	PLATE, SPRING HOOK	
254	3-670-003-00	CAM (L), C-IN	
255	3-670-018-00	ROLLER, GUIDE	
256	3-670-006-00	GEAR (E)	
257	3-670-169-00	SPRING, TENSION	
258	♦:3-670-031-00	RETAINER (L), CASSETTE	
259	♦:3-646-334-00	CUSHION	
260	3-670-007-00	GEAR (C)	
261	3-670-004-00	CAM (R), C-IN	
262	♦:X-3670-005-0	ARM ASSY, OPEN LID	
263	3-670-054-00	ROLLER, OPEN LID	
264	3-669-465-00	WASHER (1.5), STOPPER	
265	♦:3-670-041-00	RETAINER (R), CASSETTE	
266	3-670-005-00	GEAR (B)	
267	3-671-892-00	ROLLER (M), GUIDE	
268	♦:1-605-111-14	CI-2 BOARD	
269	3-489-310-XX	SPRING, TENSION	
270	♦:3-670-036-00	PLATE (L), SLIDE, C	
271	♦:3-670-053-00	SHAFT, JOINT	
272	♦:3-670-037-00	PLATE (R), SLIDE, C	
273	♦:1-605-112-14	CI-3 BOARD	
274	3-670-058-00	SPRING, LEAF	
275	3-670-150-21	PLATE, BLIND	
276	♦:A-6728-247-A	RL-4 BOARD, COMPLETE	
277	♦:3-670-170-00	TUBE, RUBBER	
278	♦:3-670-032-00	RAIL (R)	
279	♦:3-670-012-00	OPEN LID	
280	3-573-469-00	RETAINER, LEAD, SD	
281	X-3670-083-0	DOOR ASSY, CASSETTE	

(7) CHASSIS ASSEMBLY 1



No.	Part No.	Description	Remark
301	3-669-318-00	NUT, ADJUSTMENT, GUIDE	
302	A-6761-049-A	ACE ASSY (S-2)	303,304,305
303	♦:3-669-316-00	SPRING, COMPRESSION	
304	3-669-598-00	WASHER, CTL	
305	3-669-480-11	+ PTPWH 2	
306	3-669-317-00	SPRING, COMPRESSION	
307	3-669-327-00	BELT, RUBBER	
308	3-669-465-00	WASHER (1.5), STOPPER	
309	X-3670-087-0	PULLEY ASSY, GEAR	
310	3-669-332-00	GEAR (BA)	
311	X-3670-088-0	PC BOARD ASSY (D), MOTOR, L	
312	♦:3-671-826-00	CLAMP (M), HARNESS	
313	X-3669-321-0	GEAR (C) ASSY	
314	3-669-333-00	GEAR (BC)	
315	A-6737-090-A	MOTOR ASSY, L	
316	♦:1-605-071-00	LM-8 BOARD	
317	♦:3-669-613-00	INSULATOR, L MOTOR	

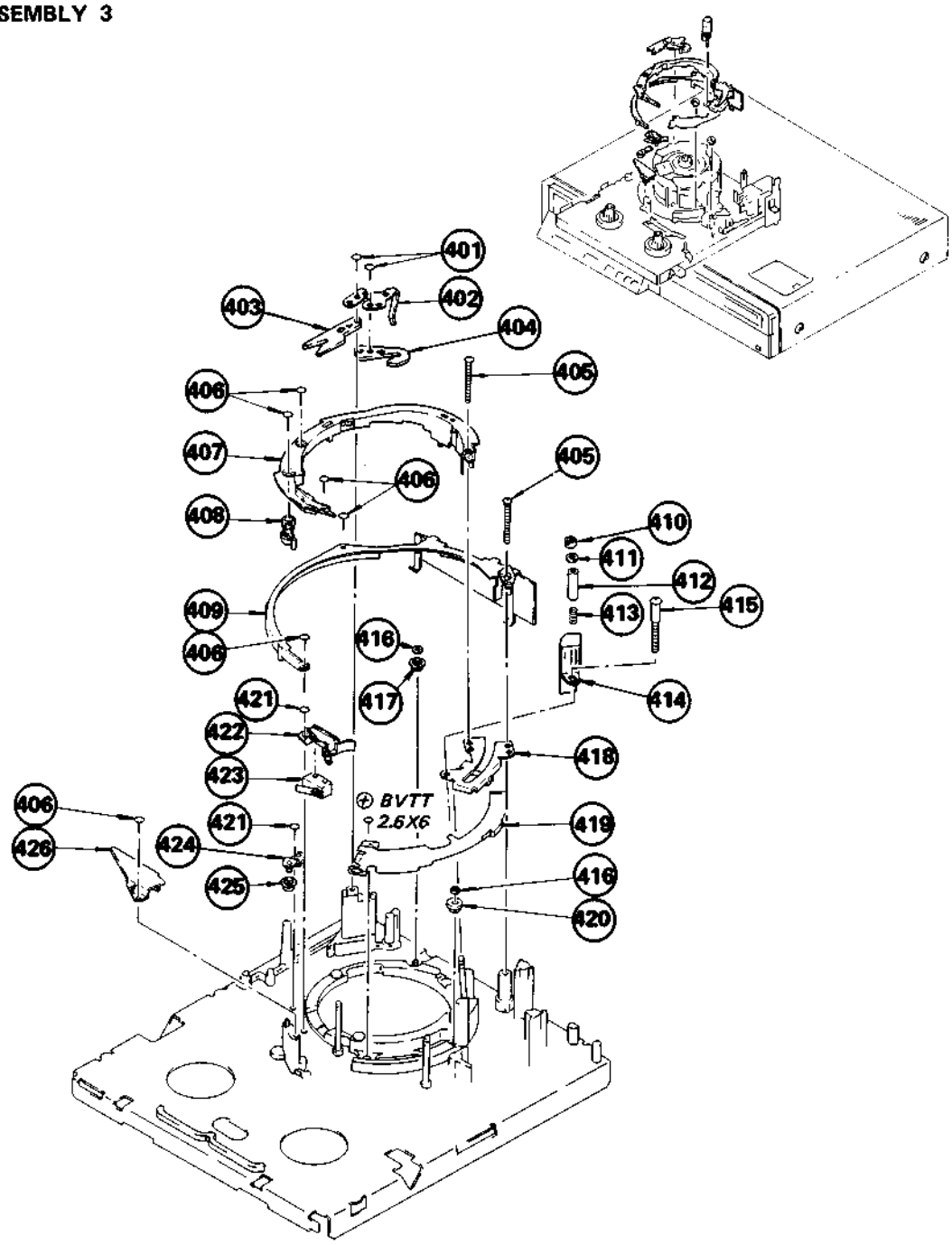
(8) CHASSIS ASSEMBLY 2



No.	Part No.	Description	Remark
351	A-6742-041-A	TP ASSY	352,353
352	3-669-465-00	WASHER (1.5), STOPPER	
353	1-235-054-00	COIL, SENSOR, S	
354	X-3669-351-4	ARM ASSY, LOCK	355
355	3-531-860-00	SPRING, TENSION	

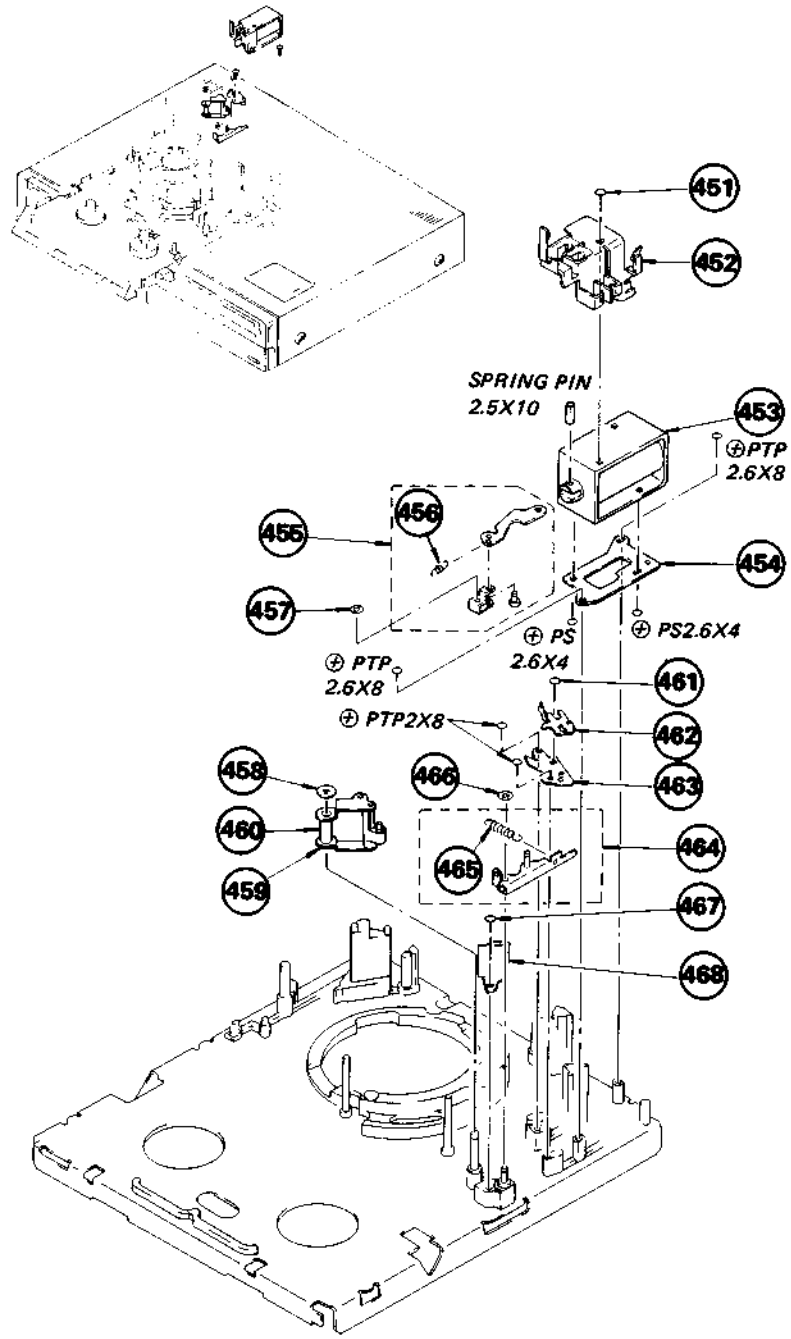
No.	Part No.	Description	Remark
356	1-553-539-00	SWITCH, MICRO S2 (THREADING END)	
357	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
358	♣:3-672-542-00	BRACKET, SWITCH, LE	
359	♣:1-607-772-00	RL-6 BOARD	
360	♣:3-675-549-00	INSULATOR, RL-6	

(9) CHASSIS ASSEMBLY 3



No.	Part No.	Description	Remark
401	3-669-480-00	+ PTPWH 2	
402	♣:3-672-540-00	PLATE, GROUND, TAPE GUIDE	
403	♣:3-669-618-00	PLATE (2), ADJUST	
404	♣:3-672-507-00	PLATE (3-1), ADJUSTMENT	
405	3-669-466-00	SCREW (M 2.6)	
406	3-669-480-11	+ PTPWH 2	
407	♣:3-669-584-00	GUIDE (1), SHUTTLE	
408	X-3669-327-0	ARM ASSY, SWITCH, ULE	
409	♣:3-669-585-00	GUIDE (2), SHUTTLE	
410	3-669-446-00	NUT, GUIDE, NO. 6	
411	3-669-447-00	FLANGE, GUIDE, NO. 6	
412	3-669-445-00	SPACER, GUIDE, NO. 6	
413	3-669-615-00	SPRING, COMPRESSION	
414	8-825-508-10	HEAD, FE	
415	3-669-606-00	SCREW (2.6)	
416	3-669-465-00	WASHER (1.5), STOPPER	
417	3-669-630-00	ROLLER (C), RING	
418	♣:X-3669-313-0	BASE ASSY, SLANT	
419	♣:3-669-477-00	LINER, LINK, PIN	
420	3-669-597-00	ROLLER (B), RING	
421	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
422	♣:3-669-355-00	HOLDER, SWITCH, ULE	
423	1-553-718-00	SWITCH, MICRO S4 (UNTHREADING END)	
424	♣:X-3669-329-0	PLATE ASSY, ADJUSTMENT	
425	3-669-360-00	ROLLER, RING	
426	♣:3-669-476-04	PLATE, GUIDE	

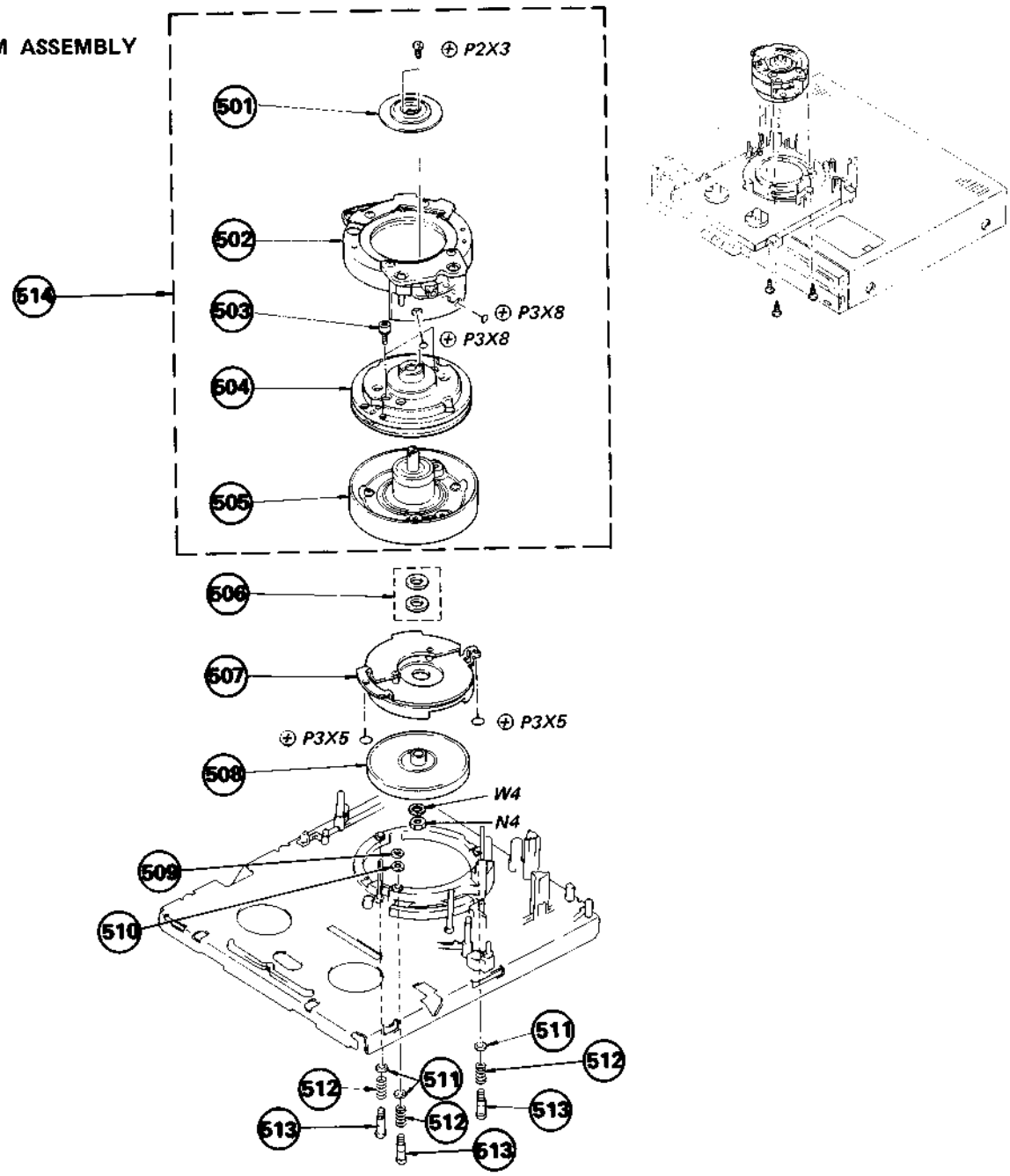
(10) CHASSIS ASSEMBLY 4



No.	Part No.	Description	Remark
451	3-669-607-11	+PSW (SMALL ROUND) (2.6)	
452	♣:3-671-827-00	CLAMP (D), HARNESS	
453	⚠1-454-282-11	SOLENOID, PLUNGER (PINCH ROLLER)	
454	♣:3-669-459-00	BRACKET, SOLENOID	
455	X-3670-062-0	ARM ASSY, PINCH SOLENOID	456
456	3-669-440-00	SPRING, TENSION	
457	3-669-465-00	WASHER (1.5), STOPPER	
458	3-669-596-00	WASHER (2.3), STOPPER	
459	♣:X-3670-059-2	ARM ASSY, PINCH PRESS	460
460	♣:3-674-340-02	SLEEVE, GUIDE, NO. 10	
461	3-669-607-00	+PSW (SMALL ROUND) 2.6	
463	♣:3-669-349-00	PLATE, LOCK, T	
464	♣:X-3670-057-0	ARM ASSY, PINCH LIMITTER	465
465	3-465-159-XX	SPRING, TENSION	
466	3-669-595-00	WASHER (2), STOPPER	
467	3-669-480-11	+ PTPWH 2	
468	1-235-055-00	COIL SENSOR, T	

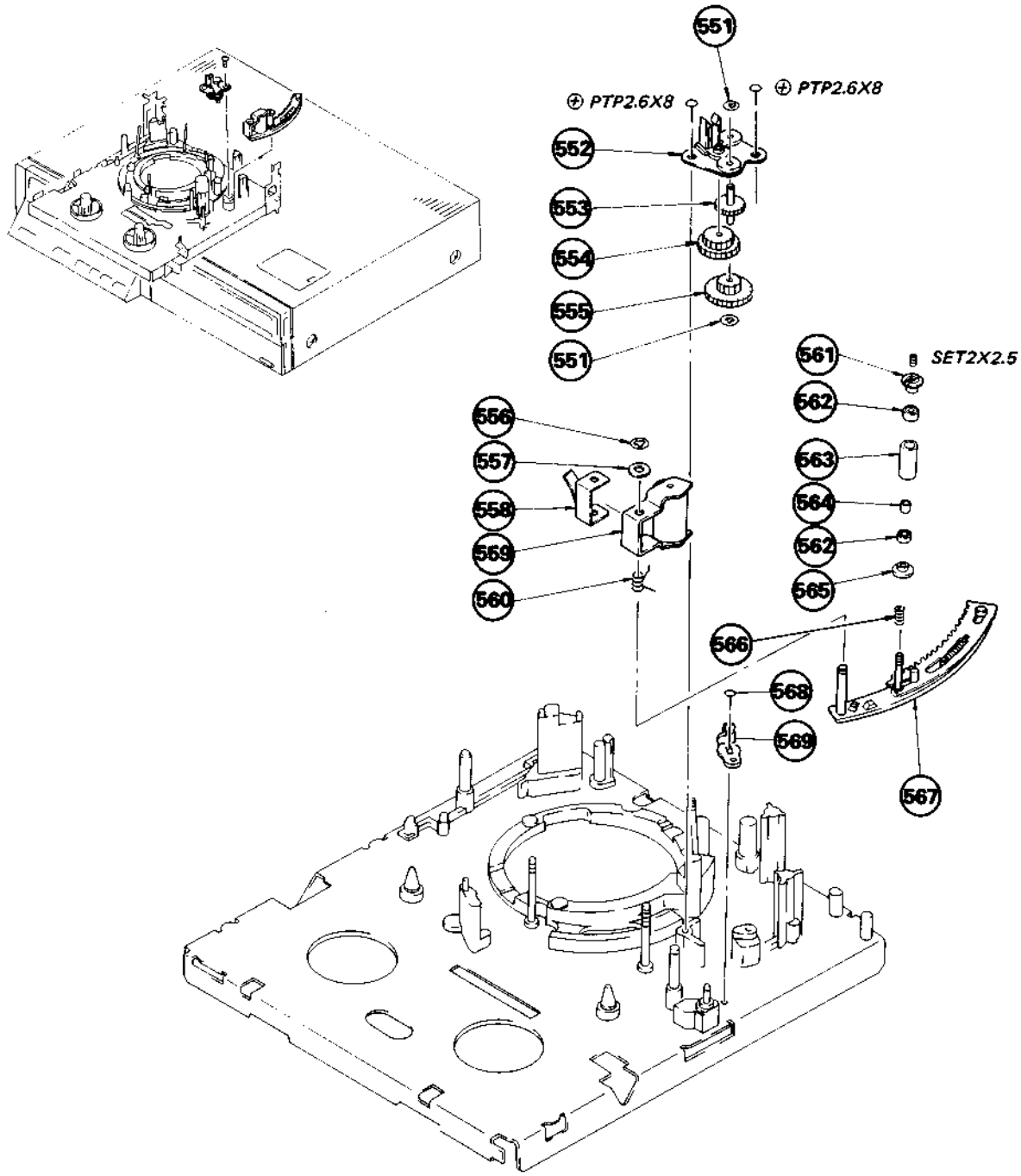
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(11) DRUM ASSEMBLY



No.	Part No.	Description	Remark
501	♣:X-3669-106-0	DAMPER ASSY	
502	A-6760-101-A	DRUM ASSY, UPPER	
503	3-669-157-00	BOLT (WASHER) (2.6X8)	
504	A-6762-088-A	DISK ASSY (DSR-21-R)	
505	A-6760-096-A	FRANGE ASSY, DRUM, LOWER	
506	X-3669-105-0	SPACER BLOCK ASSY	
507	X-2621-204-2	STATOR ASSY, D	
508	X-2621-202-0	ROTOR ASSY, D	
509	♣:3-669-462-00	PLATE, ADJUSTMENT, LIMITER, PINCH	
510	♣:3-669-646-00	SPACER, DRUM	
510	♣:3-669-646-11	SPACER, DRUM	
511	3-669-600-11	WASHER, FLAT (3.5)	
512	3-429-123-00	SPRING	
513	3-669-302-00	SCREW, FITTING	
514	A-6050-139-A	DRUM ASSY (DSH-21A-R) 501-505	

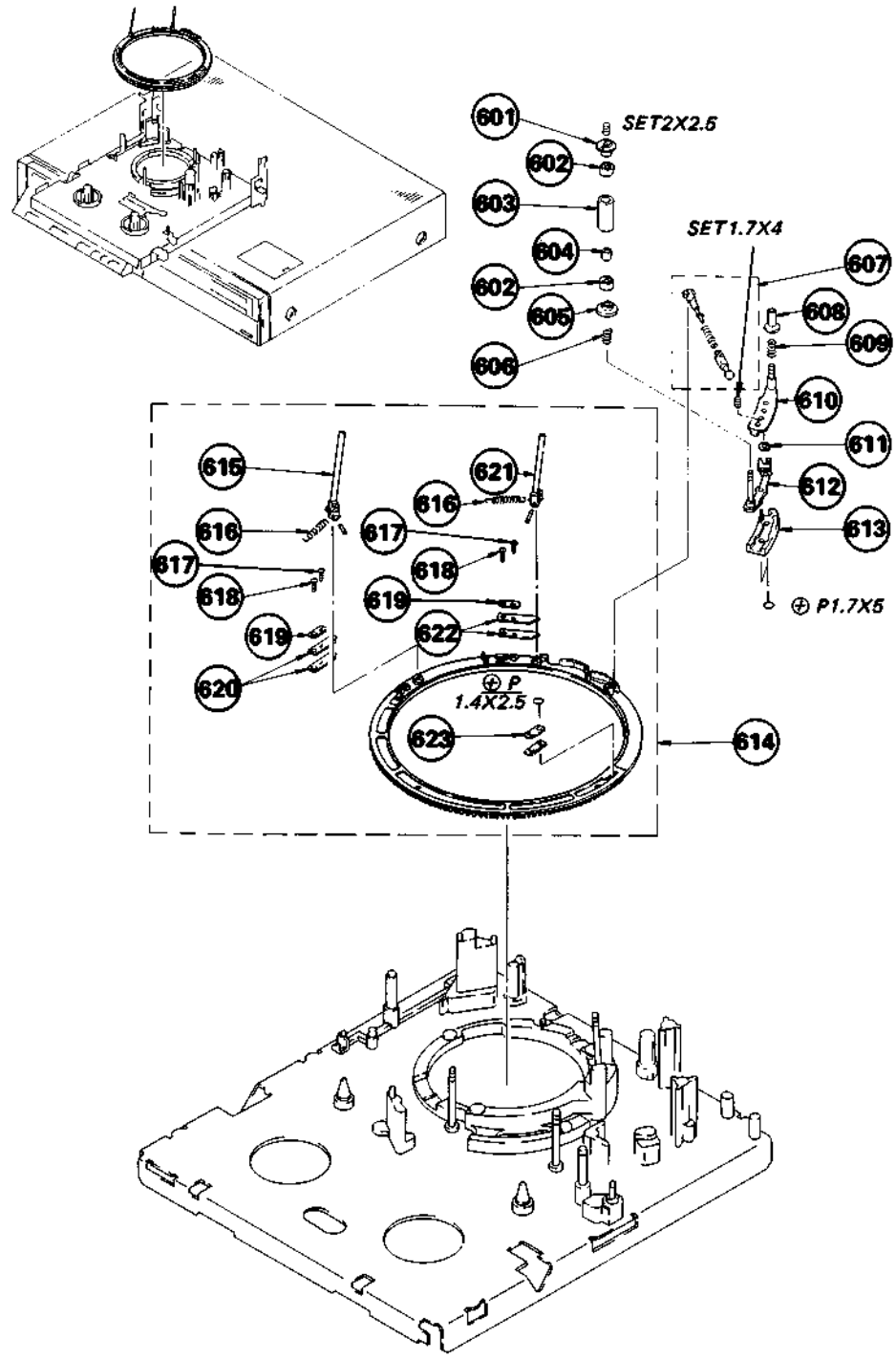
(12) CHASSIS ASSEMBLY 5



No.	Part No.	Description	Remark
551	3-669-465-00	WASHER (1.5), STOPPER	
552	X-3669-326-0	CHASSIS ASSY, GEAR, DRIVE	
553	X-3669-305-0	GEAR (F) ASSY	
554	3-669-338-00	GEAR (E)	
555	3-669-337-00	GEAR (D)	
556	3-669-596-00	WASHER (2.3), STOPPER	
557	3-701-439-01	WASHER	
558	♦:3-674-345-00	SPRING	
559	X-3670-063-0	ARM ASSY, PINCH ROLLER	
560	3-669-444-00	SPRING, TORSION	

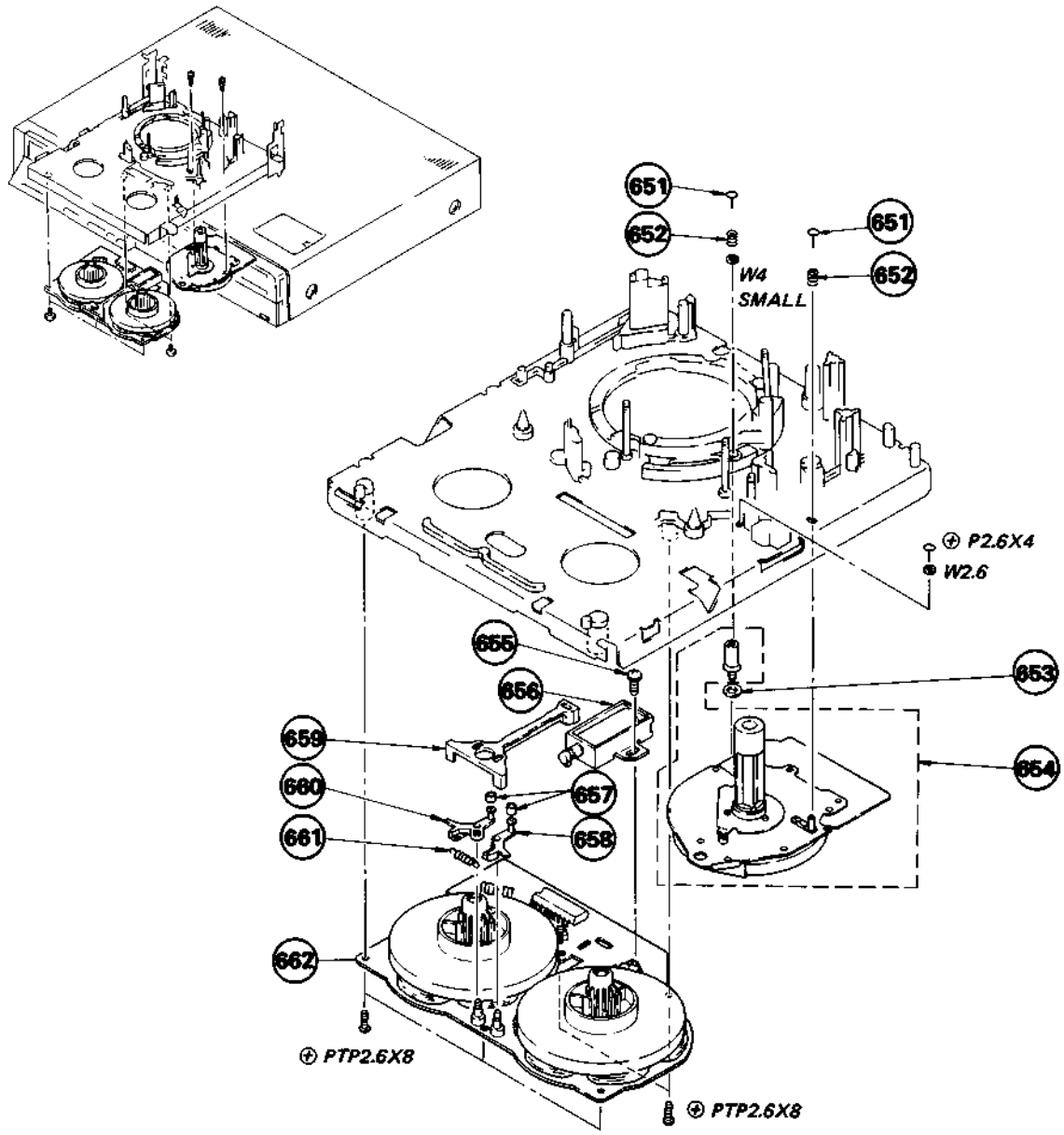
No.	Part No.	Description	Remark
561	3-669-431-00	FLANGE (UPPER), GUIDE	
562	3-669-443-00	BEARING, BALL (NO FLANGE)	
563	3-669-438-00	ROLLER, GUIDE	
564	3-657-841-31	SPACER (DIA. 2)	
565	3-669-432-00	FLANGE (LOWER), GUIDE	
566	3-669-452-00	SPRING, COMPRESSION	
567	♦:X-3669-350-0	GEAR ASSY, SLIDER	
568	3-669-607-31	+PSW (SMALL ROUND) (2.6)	
569	♦:3-669-350-00	STOPPER, SLIDER	

(13) CHASSIS ASSEMBLY 6



No.	Part No.	Description	Remark
601	3-669-431-00	FLANGE (UPPER), GUIDE	
602	3-669-443-00	BEARING, BALL (NO FLANGE)	
603	3-669-668-00	ROLLER, GUIDE	
604	3-657-841-31	SPACER (DIA. 2)	
605	3-669-667-00	FLANGE (LOWER), GUIDE	
606	3-669-666-00	SPRING, COMPRESSION	
607	X-3669-316-0	ROD ASSY, PUSH	
608	♣:3-669-643-00	SLEEVE, GUIDE, NO. 4	
609	3-672-531-00	SPRING, COMPRESSION	
610	♣:X-3669-314-0	PLATE ASSY, SHUTTLE	
611	3-701-437-11	WASHER	
612	♣:X-3669-315-0	HEAD ASSY, TILT	
613	♣:3-669-540-00	BLOCK, SHUTTLE	
614	X-3669-353-0	RING ASSY, THREADING, S	615-623
615	♣:X-3669-303-4	GUIDE ASSY, NO. 2	
616	3-669-473-00	SPRING, TENSION	
617	3-669-478-00	SCREW (1X3), TAPPING	
618	3-669-479-11	SCREW (1.4X3.5), TAPPING	
619	♣:3-669-472-00	RETAINER, SPRING, LEAF	
620	3-669-470-02	SPRING (2), LEAF	
621	♣:X-3669-304-5	GUIDE ASSY, NO. 3	
622	3-669-471-03	SPRING (3), LEAF, LIMITER	
623	♣:3-669-616-00	RETAINER	

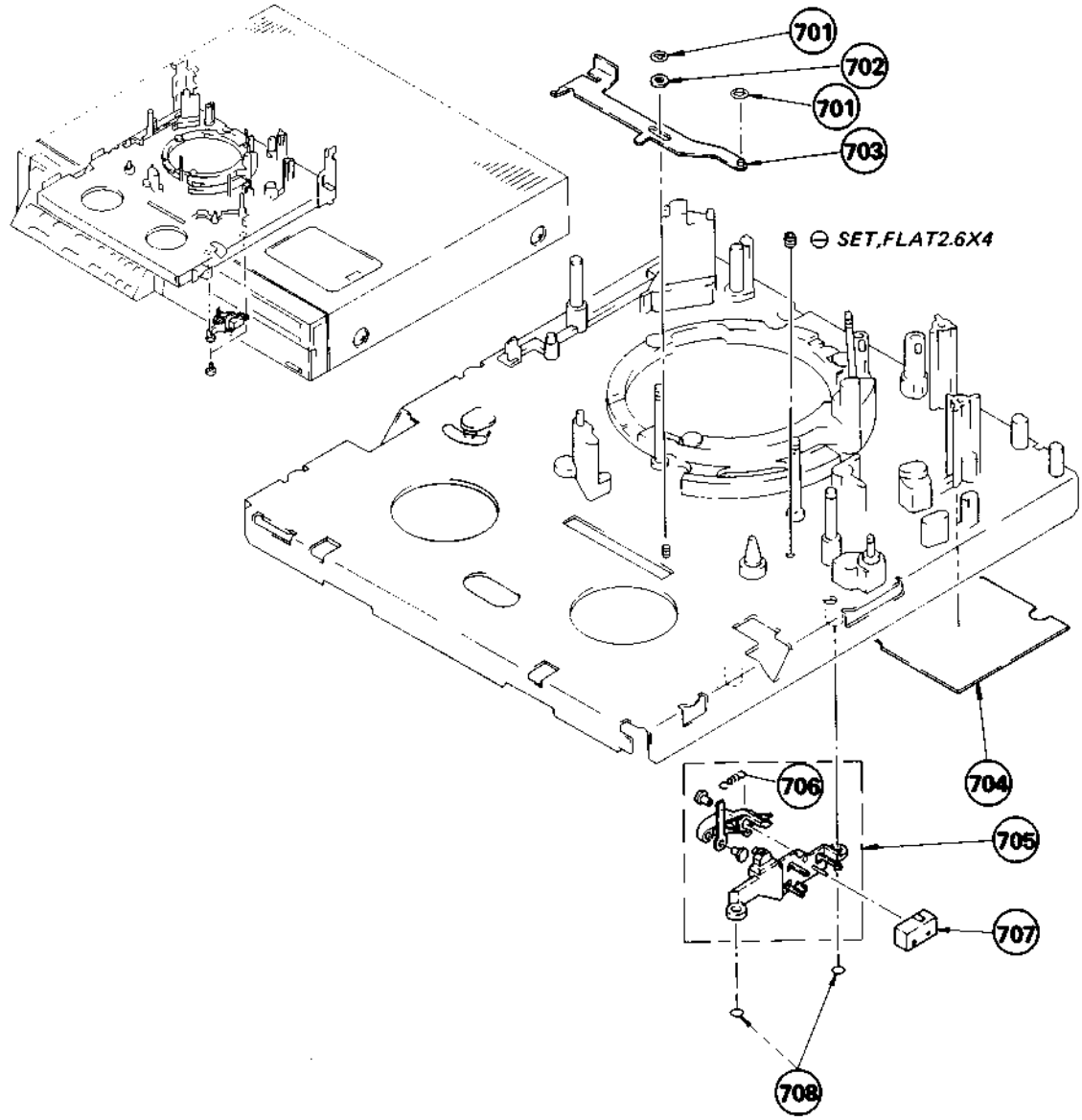
(14) CHASSIS ASSEMBLY 7



No.	Part No.	Description	Remark
651	3-669-633-00	SCREW, + PW2	
652	3-669-602-00	SPRING, COMPRESSION	
653	3-669-697-00	SPACER, CAPSTAN	
654	8-838-027-11	MOTOR, DC (BHF-1901B)	
655	3-669-663-00	+PSW 2.6	
656	⚠ 1-454-281-31	SOLENOID, PLUNGER (BRAKE)	

No.	Part No.	Description	Remark
657	3-669-305-00	BUSHING	
658	♣:3-669-303-00	BRAKE, T	
659	♣:3-669-530-00	ARM, BRAKE	
660	♣:3-669-304-00	BRAKE, S	
661	3-491-360-00	SPRING, TENSION	
662	8-838-021-21	MOTOR, DC (BHF-1800C)	

(15) CHASSIS ASSEMBLY 8



No.	Part No.	Description	Remark
701	3-669-595-00	WASHER (2), STOPPER	
702	3-701-438-21	WASHER	
703	♣:X-3670-021-0	PLATE ASSY, UNLOCK	
704	♣:3-669-599-00	INSULATOR	
705	♣:X-3669-323-0	MR ASSY	706
706	♣:3-669-411-00	SPRING, TENSION	
707	1-553-717-00	SWITCH, MICRO S3 (REC PROOF)	
708	3-669-480-11	+ PTPWH 2	

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- =>: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

COILS
- MMH : mH, UH : μH

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
♦:1-606-794-00		N BOARD *******			
		CAPACITOR			
C1	1-123-617-00	ELECT	10MF	20%	16V
C2	1-123-617-00	ELECT	10MF	20%	16V
C3	1-123-617-00	ELECT	10MF	20%	16V
C4	1-161-019-00	CERAMIC	0.033MF	10%	25V
C5	1-108-567-00	MYLAR	0.0033MF	5%	50V
C6	1-123-821-00	ELECT	47MF	20%	16V
		DIODE			
D1	8-719-110-32	DIODE PH302B			
		IC			
IC1	8-759-113-73	IC UPC1373H			
		COIL			
L1	1-404-310-00	COIL			
**********					
♦:A-6711-356-A		RP-7 BOARD, COMPLETE **********			
		CAPACITOR			
C701	1-161-013-00	CERAMIC	0.01MF	10%	25V
C702	1-161-013-00	CERAMIC	0.01MF	10%	25V
C703	1-161-013-00	CERAMIC	0.01MF	10%	25V
C704	1-123-611-00	ELECT	1MF	20%	50V
C705	1-161-013-00	CERAMIC	0.01MF	10%	25V
C706	1-123-622-00	ELECT	22MF	20%	16V
C707	1-161-013-00	CERAMIC	0.01MF	10%	25V
C708	1-161-013-00	CERAMIC	0.01MF	10%	25V
C709	1-123-611-00	ELECT	1MF	20%	50V
C712	1-161-013-00	CERAMIC	0.01MF	10%	25V
C713	1-161-013-00	CERAMIC	0.01MF	10%	25V
C714	1-161-013-00	CERAMIC	0.01MF	10%	25V
C715	1-161-013-00	CERAMIC	0.01MF	10%	25V
C716	1-102-951-00	CERAMIC	15PF	5%	50V
C717	1-161-013-00	CERAMIC	0.01MF	10%	25V
C718	1-123-612-00	ELECT	2.2MF	20%	50V
C719	1-161-013-00	CERAMIC	0.01MF	10%	25V
C720	1-123-612-00	ELECT	2.2MF	20%	50V
C721	1-102-951-00	CERAMIC	15PF	5%	50V
C722	1-161-013-00	CERAMIC	0.01MF	10%	25V
C723	1-102-951-00	CERAMIC	15PF	5%	50V
C724	1-123-612-00	ELECT	2.2MF	20%	50V
C725	1-123-612-00	ELECT	2.2MF	20%	50V
C726	1-161-013-00	CERAMIC	0.01MF	10%	25V
C727	1-102-821-00	CERAMIC	360PF	5%	50V
C729	1-123-617-00	ELECT	10MF	20%	16V
C730	1-102-824-00	CERAMIC	430PF	5%	50V
C731	1-161-013-00	CERAMIC	0.01MF	10%	25V
C732	1-161-013-00	CERAMIC	0.01MF	10%	25V
C733	1-161-013-00	CERAMIC	0.01MF	10%	25V
C734	1-161-013-00	CERAMIC	0.01MF	10%	25V
C735	1-161-013-00	CERAMIC	0.01MF	10%	25V
C736	1-161-013-00	CERAMIC	0.01MF	10%	25V
C737	1-161-013-00	CERAMIC	0.01MF	10%	25V
C738	1-101-890-00	CERAMIC	75PF	5%	50V
C739	1-102-824-00	CERAMIC	430PF	5%	50V
C741	1-161-013-00	CERAMIC	0.01MF	10%	25V
C742	1-161-013-00	CERAMIC	0.01MF	10%	25V
C743	1-161-013-00	CERAMIC	0.01MF	10%	25V
C744	1-123-820-00	ELECT	33MF	20%	16V
C745	1-161-013-00	CERAMIC	0.01MF	10%	25V
C746	1-123-622-00	ELECT	22MF	20%	16V
C748	1-123-622-00	ELECT	22MF	20%	16V
C749	1-161-013-00	CERAMIC	0.01MF	10%	25V
C750	1-123-622-00	ELECT	22MF	20%	16V
C751	1-161-013-00	CERAMIC	0.01MF	10%	25V
C752	1-161-013-00	CERAMIC	0.01MF	10%	25V
C753	1-161-013-00	CERAMIC	0.01MF	10%	25V
C754	1-161-013-00	CERAMIC	0.01MF	10%	25V
C755	1-161-059-00	CERAMIC	0.047MF	10%	50V
C756	1-161-025-00	CERAMIC	0.1MF	10%	25V
C757	1-161-013-00	CERAMIC	0.01MF	10%	25V
C758	1-123-622-00	ELECT	22MF	20%	16V
C759	1-161-013-00	CERAMIC	0.01MF	10%	25V
C760	1-123-617-00	ELECT	10MF	20%	16V
C761	1-102-959-00	CERAMIC	22PF	5%	50V
C762	1-102-959-00	CERAMIC	22PF	5%	50V
C763	1-102-959-00	CERAMIC	22PF	5%	50V
C764	1-161-013-00	CERAMIC	0.01MF	10%	25V
C765	1-123-617-00	ELECT	10MF	20%	16V
C766	1-101-890-00	CERAMIC	75PF	5%	50V
C767	1-161-013-00	CERAMIC	0.01MF	10%	25V
C768	1-161-013-00	CERAMIC	0.01MF	10%	25V
		CONNECTOR			
CN701♦:1-560-463-00		PIN, CONNECTOR 8P			
CN702♦:1-560-463-00		PIN, CONNECTOR 8P			
CN703♦:1-560-461-00		PIN, CONNECTOR 5P			
CN704♦:1-560-464-00		PIN, CONNECTOR 10P			
		DIODE			
D701 =>8-719-901-33		DIODE 1SS133			
D702 =>8-719-901-33		DIODE 1SS133			
D703 =>8-719-901-33		DIODE 1SS133			
		IC			
IC701=>8-759-906-30		IC CX-863A			

RP-7

Ref.No.	Part No.	Description			Remark
		COIL			
L701	1-408-421-00	MICRO INDUCTOR 100UH			
L702	1-408-397-00	MICRO INDUCTOR 1UH			
L703	1-408-421-00	MICRO INDUCTOR 100UH			
L704	1-408-397-00	MICRO INDUCTOR 1UH			
L705	1-408-421-00	MICRO INDUCTOR 100UH			
L706	1-408-397-00	MICRO INDUCTOR 1UH			
L707	1-408-423-00	MICRO INDUCTOR 150UH			
L708	1-408-414-00	MICRO INDUCTOR 27UH			
L709	1-408-414-00	MICRO INDUCTOR 27UH			
L710	1-408-414-00	MICRO INDUCTOR 27UH			
L711	1-408-421-00	MICRO INDUCTOR 100UH			
L712	1-408-421-00	MICRO INDUCTOR 100UH			
L713	1-408-423-00	MICRO INDUCTOR 150UH			
L714	1-408-421-00	MICRO INDUCTOR 100UH			
		TRANSISTOR			
Q701	8-765-422-00	TRANSISTOR 2SK152-2			
Q703	8-729-178-54	TRANSISTOR 2SC2785			
Q704	8-729-603-50	TRANSISTOR 2SC403SP			
Q705	8-765-422-00	TRANSISTOR 2SK152-2			
Q706	8-729-178-54	TRANSISTOR 2SC2785			
Q707	8-729-603-50	TRANSISTOR 2SC403SP			
Q708	8-765-422-30	TRANSISTOR 2SK152-2			
Q710	8-729-178-54	TRANSISTOR 2SC2785			
Q711	8-729-178-54	TRANSISTOR 2SC2785			
Q712	8-729-178-54	TRANSISTOR 2SC2785			
Q713	8-729-178-54	TRANSISTOR 2SC2785			
Q714	8-729-603-50	TRANSISTOR 2SC403SP			
Q715	8-729-603-50	TRANSISTOR 2SC403SP			
Q716	8-729-603-50	TRANSISTOR 2SC403SP			
Q717	8-729-603-50	TRANSISTOR 2SC403SP			
Q718	=>8-729-374-02	TRANSISTOR 2SB740			
Q719	8-729-178-54	TRANSISTOR 2SC2785			
		RESISTOR			
R701	1-246-796-00	CARBON	12K	1/8W	
R702	1-246-850-00	CARBON	3.6K	1/8W	
R703	1-246-780-00	CARBON	560	1/8W	
R704	1-246-778-00	CARBON	390	1/8W	
R706	1-246-850-00	CARBON	3.6K	1/8W	
R707	1-246-836-00	CARBON	240	1/8W	
R709	1-246-796-00	CARBON	12K	1/8W	
R710	1-246-780-00	CARBON	560	1/8W	
R712	1-246-850-00	CARBON	3.6K	1/8W	
R713	1-246-778-00	CARBON	390	1/8W	
R716	1-246-850-00	CARBON	3.6K	1/8W	
R717	1-246-836-00	CARBON	240	1/8W	
R718	1-246-796-00	CARBON	12K	1/8W	
R719	1-246-850-00	CARBON	3.6K	1/8W	
R720	1-246-780-00	CARBON	560	1/8W	
R722	1-246-778-00	CARBON	390	1/8W	

Ref.No.	Part No.	Description			Remark
R725	1-246-843-00	CARBON	910	1/8W	
R726	1-246-791-00	CARBON	4.7K	1/8W	
R727	1-246-791-00	CARBON	4.7K	1/8W	
R728	1-246-791-00	CARBON	4.7K	1/8W	
R729	1-246-795-00	CARBON	10K	1/8W	
R730	1-246-846-00	CARBON	1.6K	1/8W	
R731	1-246-785-00	CARBON	1.5K	1/8W	
R732	1-246-795-00	CARBON	10K	1/8W	
R733	1-246-791-00	CARBON	4.7K	1/8W	
R734	1-246-791-00	CARBON	4.7K	1/8W	
R735	1-246-791-00	CARBON	4.7K	1/8W	
R736	1-246-799-00	CARBON	22K	1/8W	
R737	1-246-799-00	CARBON	22K	1/8W	
R738	1-246-775-00	CARBON	220	1/8W	
R740	1-246-783-00	CARBON	1K	1/8W	
R741	1-246-791-00	CARBON	4.7K	1/8W	
R742	1-246-772-00	CARBON	120	1/8W	
R743	1-246-835-00	CARBON	200	1/8W	
R744	1-246-791-00	CARBON	4.7K	1/8W	
R745 ⚠	1-247-031-00	CARBON	27	5% 1/8W	F
R746	1-246-845-00	CARBON	1.3K	1/8W	
R747	1-246-851-00	CARBON	4.3K	1/8W	
R748 ⚠	1-247-031-00	CARBON	27	5% 1/8W	F
R749	1-246-783-00	CARBON	1K	1/8W	
R750	1-246-775-00	CARBON	220	1/8W	
R751	1-246-783-00	CARBON	1K	1/8W	
R752	1-246-853-00	CARBON	6.2K	1/8W	
R753	1-246-853-00	CARBON	6.2K	1/8W	
R754	1-246-783-00	CARBON	1K	1/8W	
R755	1-246-777-00	CARBON	330	1/8W	
R756	1-246-853-00	CARBON	6.2K	1/8W	
R757	1-246-785-00	CARBON	1.5K	1/8W	
R758	1-246-795-00	CARBON	10K	1/8W	
R759	1-246-783-00	CARBON	1K	1/8W	
R760	1-246-801-00	CARBON	33K	1/8W	
R761	1-246-801-00	CARBON	33K	1/8W	
R762	1-246-803-00	CARBON	47K	1/8W	
R763	1-246-803-00	CARBON	47K	1/8W	
		VARIABLE RESISTOR			
RV701	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K			
RV702	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K			
RV703	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K			
RV704	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K			
RV705	1-226-702-00	RES, ADJ, METAL GLAZE 2.2K			
		TRANSFORMER			
T701	1-427-522-00	TRANSFORMER, INPUT OUTPUT			
T702	1-427-521-00	TRANSFORMER			
T703	1-427-521-00	TRANSFORMER			
T704	1-409-352-00	COIL, TRAP			
T705	1-409-353-00	COIL, TRAP			

⚠ The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
♦:	A-6711-392-A	RV-7(ES) BOARD, COMPLETE				
		**********				
	1-533-162-00	HOLDER, FUSE				
	1-536-723-00	TERMINAL BOARD, CONTROL PANEL				
		FILTER				
BPF001	1-235-098-00	FILTER, BAND PASS				
		CAPACITOR				
C001	1-123-324-00	ELECT	1000MF	20%	16V	
C002	1-123-356-00	ELECT	10MF	20%	16V	
C003	1-123-356-00	ELECT	10MF	20%	16V	
C004	1-123-356-00	ELECT	10MF	20%	16V	
C005	1-101-005-00	CERAMIC	0.022MF		50V	
C006	1-123-318-00	ELECT	33MF	20%	16V	
C007	1-123-318-00	ELECT	33MF	20%	16V	
C008	1-101-005-00	CERAMIC	0.022MF		50V	
C009	1-101-005-00	CERAMIC	0.022MF		50V	
C010	1-102-936-00	CERAMIC	3PF	0.25PF	50V	
C011	1-101-888-00	CERAMIC	68PF	5%	50V	
C012	1-123-381-00	ELECT	2.2MF	20%	50V	
C013	1-102-962-00	CERAMIC	30PF	5%	50V	
C014	1-123-330-00	ELECT	22MF	20%	16V	
C015	1-101-004-00	CERAMIC	0.01MF		50V	
C016	1-123-330-00	ELECT	22MF	20%	16V	
C017	1-101-001-00	CERAMIC	0.001MF		50V	
C018	1-101-001-00	CERAMIC	0.001MF		50V	
C019	1-123-381-00	ELECT	2.2MF	20%	50V	
C020	1-123-381-00	ELECT	2.2MF	20%	50V	
C021	1-101-006-00	CERAMIC	0.047MF		50V	
C022	1-123-328-00	ELECT	4.7MF	20%	25V	
C023	1-123-356-00	ELECT	10MF	20%	16V	
C024	1-102-965-00	CERAMIC	39PF	5%	50V	
C025	1-102-948-00	CERAMIC	11PF	5%	50V	
C026	1-102-948-00	CERAMIC	11PF	5%	50V	
C027	1-123-318-00	ELECT	33MF	20%	16V	
C028	1-123-328-00	ELECT	4.7MF	20%	25V	
C029	1-123-318-00	ELECT	33MF	20%	16V	
C030	1-123-356-00	ELECT	10MF	20%	16V	
C031	1-123-356-00	ELECT	10MF	20%	16V	
C032	1-123-328-00	ELECT	4.7MF	20%	25V	
C033	1-102-114-00	CERAMIC	470PF	10%	50V	
C034	1-101-005-00	CERAMIC	0.022MF		50V	
C035	1-102-977-00	CERAMIC	200PF	5%	50V	
C036	1-123-318-00	ELECT	33MF	20%	16V	
C037	1-102-114-00	CERAMIC	470PF	10%	50V	
C038	1-101-059-00	CERAMIC	510PF	5%	50V	
C039	1-108-595-00	MYLAR	0.047MF	5%	50V	
C040	1-161-063-00	CERAMIC	0.1MF	20%	25V	
C041	1-102-973-00	CERAMIC	100PF	5%	50V	
C042	1-102-977-00	CERAMIC	200PF	5%	50V	
C043	1-123-356-00	ELECT	10MF	20%	16V	
C044	1-161-063-00	CERAMIC	0.1MF	20%	25V	
C045	1-102-947-00	CERAMIC	10PF	5%	50V	
C046	1-123-306-00	ELECT	47MF	20%	10V	
C047	1-123-328-00	ELECT	4.7MF	20%	25V	
C048	1-101-880-00	CERAMIC	47PF	5%	50V	
C049	1-123-318-00	ELECT	33MF	20%	16V	
C050	1-123-356-00	ELECT	10MF	20%	16V	
C051	1-123-318-00	ELECT	33MF	20%	16V	
C052	1-123-318-00	ELECT	33MF	20%	16V	
C053	1-123-330-00	ELECT	22MF	20%	16V	
C054	1-108-557-00	MYLAR	0.0012MF	5%	50V	
C055	1-102-117-00	CERAMIC	820PF	10%	50V	
C056	1-101-006-00	CERAMIC	0.047MF		50V	
C057	1-102-531-00	CERAMIC	150PF	5%	50V	
C058	1-101-005-00	CERAMIC	0.022MF		50V	
C059	1-123-318-00	ELECT	33MF	20%	16V	
C060	1-123-318-00	ELECT	33MF	20%	16V	
C061	1-108-555-00	MYLAR	0.001MF	5%	50V	
C062	1-108-555-00	MYLAR	0.001MF	5%	50V	
C063	1-102-531-00	CERAMIC	150PF	5%	50V	
C064	1-123-380-00	ELECT	1MF	20%	50V	
C065	1-101-004-00	CERAMIC	0.01MF		50V	
C066	1-101-004-00	CERAMIC	0.01MF		50V	
C067	1-101-003-00	CERAMIC	0.0047MF		50V	
C068	1-101-006-00	CERAMIC	0.047MF		50V	
C069	1-101-001-00	CERAMIC	0.001MF		50V	
C070	1-123-356-00	ELECT	10MF	20%	16V	
C071	1-101-005-00	CERAMIC	0.022MF		50V	
C072	1-123-382-00	ELECT	3.3MF	20%	50V	
C073	1-123-380-00	ELECT	1MF	20%	50V	
C074	1-123-356-00	ELECT	10MF	20%	25V	
C075	1-123-356-00	ELECT	10MF	20%	25V	
C076	1-101-004-00	CERAMIC	0.01MF		50V	
C077	1-102-110-00	CERAMIC	220PF	10%	50V	
C078	1-101-004-00	CERAMIC	0.01MF		50V	
C079	1-102-525-00	CERAMIC	68PF	5%	50V	
C080	1-102-525-00	CERAMIC	68PF	5%	50V	
C081	1-102-953-00	CERAMIC	18PF	5%	50V	
C082	1-101-004-00	CERAMIC	0.01MF		50V	
C083	1-101-004-00	CERAMIC	0.01MF		50V	
C084	1-101-005-00	CERAMIC	0.022MF		50V	
C085	1-102-113-00	CERAMIC	390PF	10%	50V	
C086	1-101-005-00	CERAMIC	0.022MF		50V	
C087	1-123-318-00	ELECT	33MF	20%	16V	
C088	1-123-318-00	ELECT	33MF	20%	16V	
C089	1-101-005-00	CERAMIC	0.022MF		50V	
C090	1-101-004-00	CERAMIC	0.01MF		50V	
C091	1-101-004-00	CERAMIC	0.01MF		50V	
C092	1-101-004-00	CERAMIC	0.01MF		50V	
C093	1-101-005-00	CERAMIC	0.022MF		50V	
C094	1-102-511-00	CERAMIC	13PF	5%	50V	
C095	1-101-006-00	CERAMIC	0.047MF		50V	
C096	1-101-006-00	CERAMIC	0.047MF		50V	

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description			Remark
C097	1-123-333-00	ELECT	100MF	20%	16V
C098	1-101-006-00	CERAMIC	0.047MF		50V
C099	1-101-001-00	CERAMIC	0.001MF		50V
C100	1-123-318-00	ELECT	33MF	20%	16V
C101	1-101-006-00	CERAMIC	0.047MF		50V
C102	1-101-006-00	CERAMIC	0.047MF		50V
C103	1-101-001-00	CERAMIC	0.001MF		50V
C104	1-101-005-00	CERAMIC	0.022MF		50V
C105	1-101-001-00	CERAMIC	0.001MF		50V
C106	1-102-512-00	CERAMIC	16PF	5%	50V
C107	1-101-005-00	CERAMIC	0.022MF		50V
C108	1-123-330-00	ELECT	22MF	20%	16V
C109	1-131-341-00	ELECT(SOLID)	0.1MF	10%	25V
C110	1-101-006-00	CERAMIC	0.047MF		50V
C111	1-101-004-00	CERAMIC	0.01MF		50V
C112	1-101-004-00	CERAMIC	0.01MF		50V
C113	1-101-004-00	CERAMIC	0.01MF		50V
C114	1-101-004-00	CERAMIC	0.01MF		50V
C115	1-101-004-00	CERAMIC	0.01MF		50V
C116	1-101-005-00	CERAMIC	0.022MF		50V
C117	1-123-382-00	ELECT	3.3MF	20%	50V
C118	1-102-520-00	CERAMIC	39PF	5%	50V
C119	1-102-508-00	CERAMIC	10PF	0.5PF	50V
C120	1-161-063-00	CERAMIC	0.1MF	20%	25V
C121	1-101-006-00	CERAMIC	0.047MF		50V
C122	1-101-006-00	CERAMIC	0.047MF		50V
C123	1-101-006-00	CERAMIC	0.047MF		50V
C124	1-101-004-00	CERAMIC	0.01MF		50V
C125	1-101-004-00	CERAMIC	0.01MF		50V
C126	1-102-960-00	CERAMIC	24PF	5%	50V
C127	1-102-960-00	CERAMIC	24PF	5%	50V
C128	1-101-004-00	CERAMIC	0.01MF		50V
C129	1-161-063-00	CERAMIC	0.1MF	20%	25V
C130	1-101-004-00	CERAMIC	0.01MF		50V
C131	1-123-318-00	ELECT	33MF	20%	16V
C132	1-102-948-00	CERAMIC	11PF	5%	50V
C133	1-101-006-00	CERAMIC	0.047MF		50V
C134	1-102-112-00	CERAMIC	330PF	10%	50V
C135	1-123-328-00	ELECT	4.7MF	20%	25V
C136	1-102-112-00	CERAMIC	330PF	10%	50V
C137	1-102-112-00	CERAMIC	330PF	10%	50V
C138	1-101-005-00	CERAMIC	0.022MF		50V
C140	1-101-004-00	CERAMIC	0.01MF		50V
C141	1-101-005-00	CERAMIC	0.022MF		50V
C142	1-101-005-00	CERAMIC	0.022MF		50V
C143	1-123-318-00	ELECT	33MF	20%	16V
C144	1-123-318-00	ELECT	33MF	20%	16V
C145	1-123-356-00	ELECT	10MF	20%	16V
C146	1-101-006-00	CERAMIC	0.047MF		50V
C147	1-102-511-00	CERAMIC	13PF	5%	50V
C148	1-102-522-00	CERAMIC	51PF	5%	50V
C149	1-102-522-00	CERAMIC	51PF	5%	50V
C150	1-102-511-00	CERAMIC	13PF	5%	50V

Ref.No.	Part No.	Description			Remark
C151	1-101-005-00	CERAMIC	0.022MF		50V
C152	1-123-328-00	ELECT	4.7MF	20%	25V
C153	1-101-005-00	CERAMIC	0.022MF		50V
C154	1-123-318-00	ELECT	33MF	20%	16V
C155	1-102-529-00	CERAMIC	100PF	5%	50V
C156	1-123-328-00	ELECT	4.7MF	20%	25V
C157	1-101-005-00	CERAMIC	0.022MF		50V
C158	1-101-005-00	CERAMIC	0.022MF		50V
C159	1-123-318-00	ELECT	33MF	20%	16V
C160	1-101-005-00	CERAMIC	0.022MF		50V
C161	1-123-318-00	ELECT	33MF	20%	16V
C162	1-102-960-00	CERAMIC	24PF	5%	50V
C163	1-101-004-00	CERAMIC	0.01MF		50V
C164	1-123-318-00	ELECT	33MF	20%	16V
C165	1-101-005-00	CERAMIC	0.022MF		50V
C166	1-101-006-00	CERAMIC	0.047MF		50V
C167	1-101-884-00	CERAMIC	56PF	5%	50V
C168	1-102-937-00	CERAMIC	4PF	0.25PF	50V
C169	1-101-004-00	CERAMIC	0.01MF		50V
C170	1-101-004-00	CERAMIC	0.01MF		50V
C171	1-123-380-00	ELECT	1MF	20%	50V
C172	1-123-328-00	ELECT	4.7MF	20%	25V
C173	1-123-328-00	ELECT	4.7MF	20%	25V
C174	1-101-004-00	CERAMIC	0.01MF		50V
C178	1-123-328-00	ELECT	4.7MF	20%	25V
C179	1-101-006-00	CERAMIC	0.047MF		50V
C180	1-123-330-00	ELECT	22MF	20%	16V
C181	1-101-004-00	CERAMIC	0.01MF		50V
C182	1-161-063-00	CERAMIC	0.1MF	20%	25V
C183	1-161-063-00	CERAMIC	0.1MF	20%	25V
C184	1-123-333-00	ELECT	100MF	20%	16V
C185	1-123-311-00	ELECT	1000MF	20%	10V
C186	1-123-356-00	ELECT	10MF	20%	16V
C187	1-102-821-00	CERAMIC	360PF	5%	50V
C188	1-123-311-00	ELECT	1000MF	20%	10V
C189	1-123-311-00	ELECT	1000MF	20%	10V
C190	1-123-319-00	ELECT	47MF	20%	16V
C191	1-161-051-00	CERAMIC	0.01MF	10%	50V
C192	1-161-051-00	CERAMIC	0.01MF	10%	50V
C195	1-101-004-00	CERAMIC	0.01MF		50V

FILTER

CF001	1-527-874-00	FILTER, CERAMIC
CF002	1-527-875-00	FILTER, CERAMIC
CF003	1-527-849-00	FILTER, CERAMIC

CONNECTOR

CN001♣:	1-560-461-00	PIN, CONNECTOR 5P
CN002♣:	1-560-459-00	PIN, CONNECTOR 3P
CN003♣:	1-560-460-00	PIN, CONNECTOR 4P
CN004♣:	1-560-464-00	PIN, CONNECTOR 10P
CN005♣:	1-560-462-00	PIN, CONNECTOR 6P
CN006♣:	1-560-455-00	PIN, CONNECTOR 2P

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark
CN007♣	1-560-460-00	PIN, CONNECTOR 4P	
CN008♣	1-560-461-00	PIN, CONNECTOR 5P	
CN009♣	1-560-470-00	PIN, CONNECTOR 8P	
CN010♣	1-560-470-00	PIN, CONNECTOR 8P	
CN011	1-561-468-00	SOCKET, CONNECTOR (DIN8P)	
		TRIMMER	
CV001	1-141-275-00	CAP, TRIMMER	
		DIODE	
D001	8-719-901-33	DIODE 1SS133	
D002	8-719-901-33	DIODE 1SS133	
D003	8-719-901-33	DIODE 1SS133	
D004	8-719-100-56	DIODE RD10EB1	
D005	8-719-100-56	DIODE RD10EB1	
D008	8-719-901-33	DIODE 1SS133	
D009	8-719-901-33	DIODE 1SS133	
D010	8-719-901-33	DIODE 1SS133	
D011	8-719-901-33	DIODE 1SS133	
D012	8-719-901-33	DIODE 1SS133	
D013	8-719-901-33	DIODE 1SS133	
D014	8-719-901-33	DIODE 1SS133	
D015	8-719-901-33	DIODE 1SS133	
D016	8-719-901-33	DIODE 1SS133	
D017	8-719-901-33	DIODE 1SS133	
D018	8-719-901-33	DIODE 1SS133	
D019	8-719-901-33	DIODE 1SS133	
D020	8-719-901-33	DIODE 1SS133	
D021	8-719-901-33	DIODE 1SS133	
D022	8-719-901-33	DIODE 1SS133	
D023	8-719-100-56	DIODE RD10B1	
D024	8-719-100-34	DIODE RD5.6EB1	
		DELAY LINE	
DL001	1-415-273-00	DELAY LINE (1H)	
DL002	1-415-198-00	DELAY LINE (1H)	
DL003	1-415-282-00	DELAY LINE	
		FUSE	
F001 ⚠	1-532-279-00	FUSE, TIME LAG T500MA	
		IC	
IC001	8-759-208-94	IC CX-894	
IC002	=>8-758-661-00	IC CX-866A	
IC003	8-759-208-67	IC CX-867	
IC004	8-741-102-80	IC BX-1028	
IC005	8-741-102-90	IC BX-1029	
IC006	8-741-103-00	IC BX-1030	
IC007	8-759-240-69	IC TC4069UBP	
IC008	8-758-690-00	IC CX-869	
IC009	8-759-208-94	IC CX-894	
IC010	8-752-000-80	IC CX20008	
IC011	8-759-600-08	IC CX-870A	
IC012	8-759-608-82	IC CX-882	
IC013	8-759-919-05	IC CX-7905A	
IC014	8-759-200-60	IC TA7060AP	
IC015	8-759-608-64	IC CX-864	
IC016	=>8-749-910-33	IC BX-1033A	
IC017	=>8-749-910-34	IC BX-1034A	
IC018	8-741-103-20	IC BX-1032	
IC019	8-759-908-68	IC CX-868	
IC020	8-759-979-26	IC CX-7926	
IC021	8-759-240-53	IC TC4053BP	
		COIL	
L001	1-408-397-00	MICRO INDUCTOR 1UH	
L002	1-408-397-00	MICRO INDUCTOR 1UH	
L003	1-407-500-31	MICRO INDUCTOR 4.7MMH	
L004	1-408-427-00	MICRO INDUCTOR 330UH	
L005	1-408-420-00	MICRO INDUCTOR 82UH	
L006	1-407-503-31	MICRO INDUCTOR 8.2MMH	
L007	1-408-408-00	MICRO INDUCTOR 8.2UH	
L008	1-408-429-00	MICRO INDUCTOR 470UH	
L009	1-407-503-31	MICRO INDUCTOR 8.2MMH	
L010	1-408-429-00	MICRO INDUCTOR 470UH	
L011	1-407-503-31	MICRO INDUCTOR 8.2MMH	
L012	1-408-426-00	MICRO INDUCTOR 270UH	
L013	1-408-412-00	MICRO INDUCTOR 18UH	
L014	1-408-421-00	MICRO INDUCTOR 100UH	
L015	1-408-421-00	MICRO INDUCTOR 100UH	
L016	1-408-415-00	MICRO INDUCTOR 33UH	
L018	1-408-415-00	MICRO INDUCTOR 33UH	
L020	1-408-422-00	MICRO INDUCTOR 120UH	
L021	1-408-424-00	MICRO INDUCTOR 180UH	
L022	1-408-422-00	MICRO INDUCTOR 120UH	
L023	1-408-421-00	MICRO INDUCTOR 100UH	
L024	1-407-496-31	MICRO INDUCTOR 2.2MMH	
		FILTER	
LPF001	1-235-097-00	FILTER, LOW PASS	
		VARIABLE COIL	
LV001	1-408-512-00	COIL (VARIABLE)	
		TRANSISTOR	
Q001	=>8-729-245-83	TRANSISTOR 2SC2458	
Q002	=>8-729-245-83	TRANSISTOR 2SC2458	
Q003	=>8-729-245-83	TRANSISTOR 2SC2458	
Q004	=>8-729-245-83	TRANSISTOR 2SC2458	
Q005	8-729-117-54	TRANSISTOR 2SA1175	
Q006	=>8-729-245-83	TRANSISTOR 2SC2458	
Q007	=>8-729-245-83	TRANSISTOR 2SC2458	
Q008	=>8-729-245-83	TRANSISTOR 2SC2458	
Q009	8-729-603-50	TRANSISTOR 2SC403SP	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

RV-7(ES)

Ref.No.	Part No.	Description	Remark
Q010	8-729-603-50	TRANSISTOR 2SC403SP	
Q011	8-729-603-50	TRANSISTOR 2SC403SP	
Q012	8-729-603-50	TRANSISTOR 2SC403SP	
Q013	=>8-729-245-83	TRANSISTOR 2SC2458	
Q014	=>8-729-245-83	TRANSISTOR 2SC2458	
Q015	=>8-729-245-83	TRANSISTOR 2SC2458	
Q016	8-729-603-50	TRANSISTOR 2SC403SP	
Q017	=>8-729-245-83	TRANSISTOR 2SC2458	
Q018	=>8-729-374-02	TRANSISTOR 2SB740	
Q019	=>8-729-245-83	TRANSISTOR 2SC2458	
Q020	=>8-729-245-83	TRANSISTOR 2SC2458	
Q021	=>8-729-245-83	TRANSISTOR 2SC2458	
Q022	=>8-729-245-83	TRANSISTOR 2SC2458	
Q023	=>8-729-245-83	TRANSISTOR 2SC2458	
Q024	=>8-729-245-83	TRANSISTOR 2SC2458	
Q025	=>8-729-245-83	TRANSISTOR 2SC2458	
Q026	8-729-117-54	TRANSISTOR 2SA1175	
Q027	8-729-117-54	TRANSISTOR 2SA1175	

RESISTOR

Ref.No.	Part No.	Description		
R001	1-246-830-00	CARBON	75	1/8W
R002	1-246-803-00	CARBON	47K	1/8W
R003	1-246-830-00	CARBON	75	1/8W
R004	1-246-830-00	CARBON	75	1/8W
R005	1-246-802-00	CARBON	39K	1/8W
R006	1-246-802-00	CARBON	39K	1/8W
R007	1-246-792-00	CARBON	5.6K	1/8W
R008	1-246-844-00	CARBON	1.1K	1/8W
R009	1-246-844-00	CARBON	1.1K	1/8W
R010	1-246-783-00	CARBON	1K	1/8W
R011	1-246-801-00	CARBON	33K	1/8W
R012	1-246-803-00	CARBON	47K	1/8W
R013	1-246-833-00	CARBON	130	1/8W
R014	1-246-833-00	CARBON	130	1/8W
R015	1-246-783-00	CARBON	1K	1/8W
R016	1-246-783-00	CARBON	1K	1/8W
R017	1-246-843-00	CARBON	910	1/8W
R018	1-246-783-00	CARBON	1K	1/8W
R019	1-246-791-00	CARBON	4.7K	1/8W
R020	1-246-842-00	CARBON	750	1/8W
R021	1-246-834-00	CARBON	160	1/8W
R022	1-246-791-00	CARBON	4.7K	1/8W
R023	1-246-783-00	CARBON	1K	1/8W
R024	1-246-851-00	CARBON	4.3K	1/8W
R025	1-246-842-00	CARBON	750	1/8W
R026	1-246-797-00	CARBON	15K	1/8W
R027	1-246-805-00	CARBON	68K	1/8W
R028	1-246-783-00	CARBON	1K	1/8W
R029	1-246-787-00	CARBON	2.2K	1/8W
R030	1-246-807-00	CARBON	100K	1/8W
R031	1-246-869-00	CARBON	130K	1/8W
R032	1-247-049-00	CARBON	470K	1/8W
R033	1-246-796-00	CARBON	12K	1/8W
R034	1-246-802-00	CARBON	39K	1/8W
R035	1-246-867-00	CARBON	91K	1/8W
R036	1-246-809-00	CARBON	150K	1/8W
R037	1-246-807-00	CARBON	100K	1/8W
R038	1-246-803-00	CARBON	47K	1/8W
R039	1-246-799-00	CARBON	22K	1/8W
R040	1-246-797-00	CARBON	15K	1/8W
R041	1-246-795-00	CARBON	10K	1/8W
R042	1-246-791-00	CARBON	4.7K	1/8W
R043	1-246-847-00	CARBON	2K	1/8W
R045	1-246-788-00	CARBON	2.7K	1/8W
R046	1-246-852-00	CARBON	5.1K	1/8W
R047	1-246-793-00	CARBON	6.8K	1/8W
R048	1-246-788-00	CARBON	2.7K	1/8W
R049	1-246-777-00	CARBON	330	1/8W
R050	1-246-799-00	CARBON	22K	1/8W
R051	1-246-795-00	CARBON	10K	1/8W
R052	1-246-842-00	CARBON	750	1/8W
R053	1-246-795-00	CARBON	10K	1/8W
R054	1-246-788-00	CARBON	2.7K	1/8W
R055	1-246-855-00	CARBON	9.1K	1/8W
R056	1-246-795-00	CARBON	10K	1/8W
R057	1-246-800-00	CARBON	27K	1/8W
R058	1-246-861-00	CARBON	30K	1/8W
R059	1-246-858-00	CARBON	16K	1/8W
R060	1-246-779-00	CARBON	470	1/8W
R061	1-246-779-00	CARBON	470	1/8W
R062	1-246-847-00	CARBON	2K	1/8W
R063	1-246-834-00	CARBON	160	1/8W
R064	1-246-854-00	CARBON	7.5K	1/8W
R065	1-246-787-00	CARBON	2.2K	1/8W
R066	1-246-789-00	CARBON	3.3K	1/8W
R067	1-246-795-00	CARBON	10K	1/8W
R068	1-246-803-00	CARBON	47K	1/8W
R069	1-246-804-00	CARBON	56K	1/8W
R070	1-246-804-00	CARBON	56K	1/8W
R071	1-246-810-00	CARBON	180K	1/8W
R072	1-246-800-00	CARBON	27K	1/8W
R073	1-246-863-00	CARBON	43K	1/8W
R074	1-246-783-00	CARBON	1K	1/8W
R075	1-246-785-00	CARBON	1.5K	1/8W
R076	1-246-783-00	CARBON	1K	1/8W
R077	1-246-785-00	CARBON	1.5K	1/8W
R078	1-246-799-00	CARBON	22K	1/8W
R079	1-246-791-00	CARBON	4.7K	1/8W
R080	1-246-778-00	CARBON	390	1/8W
R081	1-246-843-00	CARBON	910	1/8W
R083	1-246-783-00	CARBON	1K	1/8W
R084	1-246-778-00	CARBON	390	1/8W
R085	1-246-778-00	CARBON	390	1/8W
R086	1-246-778-00	CARBON	390	1/8W
R087	1-246-778-00	CARBON	390	1/8W
R088	1-246-778-00	CARBON	390	1/8W

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R089	1-246-787-00	CARBON	2.2K	1/8W	
R090	1-246-787-00	CARBON	2.2K	1/8W	
R091	1-246-804-00	CARBON	56K	1/8W	
R092	1-246-791-00	CARBON	4.7K	1/8W	
R093	1-246-783-00	CARBON	1K	1/8W	
R094	1-246-804-00	CARBON	56K	1/8W	
R095	1-246-803-00	CARBON	47K	1/8W	
R096	1-246-803-00	CARBON	47K	1/8W	
R097	1-246-799-00	CARBON	22K	1/8W	
R098	1-246-799-00	CARBON	22K	1/8W	
R099	1-246-799-00	CARBON	22K	1/8W	
R100	1-246-803-00	CARBON	47K	1/8W	
R101	1-246-795-00	CARBON	10K	1/8W	
R102	1-246-802-00	CARBON	39K	1/8W	
R103	1-246-791-00	CARBON	4.7K	1/8W	
R104	1-246-783-00	CARBON	1K	1/8W	
R105	1-246-783-00	CARBON	1K	1/8W	
R106	1-246-860-00	CARBON	24K	1/8W	
R107	1-246-850-00	CARBON	3.6K	1/8W	
R108	1-246-849-00	CARBON	3K	1/8W	
R109	1-246-801-00	CARBON	33K	1/8W	
R110	1-246-783-00	CARBON	1K	1/8W	
R111	1-246-848-00	CARBON	2.4K	1/8W	
R112	1-246-783-00	CARBON	1K	1/8W	
R113	1-246-857-00	CARBON	13K	1/8W	
R114	1-246-799-00	CARBON	22K	1/8W	
R115	1-246-849-00	CARBON	3K	1/8W	
R116	1-246-859-00	CARBON	20K	1/8W	
R117	1-246-807-00	CARBON	100K	1/8W	
R118	1-246-807-00	CAPBON	100K	1/8W	
R119	1-246-787-00	CARBON	2.2K	1/8W	
R120	1-246-787-00	CARBON	2.2K	1/8W	
R121	1-246-803-00	CARBON	47K	1/8W	
R123	1-246-847-00	CARBON	2K	1/8W	
R124	1-246-777-00	CARBON	330	1/8W	
R125	1-246-850-00	CARBON	3.6K	1/8W	
R126	1-246-805-00	CARBON	68K	1/8W	
R127	1-246-786-00	CARBON	1.8K	1/8W	
R128	1-246-801-00	CARBON	33K	1/8W	
R129	1-246-782-00	CARBON	820	1/8W	
R130	1-246-782-00	CARBON	820	1/8W	
R131	1-246-783-00	CARBON	1K	1/8W	
R132	1-246-783-00	CARBON	1K	1/8W	
R133	1-246-804-00	CARBON	56K	1/8W	
R134	1-246-809-00	CARBON	150K	1/8W	
R135	1-246-801-00	CARBON	33K	1/8W	
R136	1-246-802-00	CARBON	39K	1/8W	
R137	1-246-786-00	CARBON	1.8K	1/8W	
R138	1-246-802-00	CARBON	39K	1/8W	
R139	1-246-783-00	CARBON	1K	1/8W	
R140	1-247-055-00	CARBON	300K	1/8W	
R141	1-246-792-00	CARBON	5.6K	1/8W	
R142	1-246-786-00	CARBON	1.8K	1/8W	

Ref.No.	Part No.	Description			Remark
R143	1-246-840-00	CARBON	510	1/8W	
R144	1-246-786-00	CARBON	1.8K	1/8W	
R145	1-246-855-00	CARBON	9.1K	1/8W	
R146	1-246-788-00	CARBON	2.7K	1/8W	
R147	1-246-795-00	CARBON	10K	1/8W	
R148	1-246-803-00	CARBON	47K	1/8W	
R149	1-246-803-00	CARBON	47K	1/8W	
R150	1-246-810-00	CARBON	180K	1/8W	
R151	1-246-862-00	CARBON	36K	1/8W	
R153	1-246-806-00	CARBON	82K	1/8W	
R154	1-246-831-00	CARBON	91	1/8W	
R155	1-246-801-00	CARBON	33K	1/8W	
R156	1-246-803-00	CARBON	47K	1/8W	
R157	1-246-783-00	CARBON	1K	1/8W	
R158	1-246-803-00	CARBON	47K	1/8W	
R161	1-246-869-00	CARBON	130K	1/8W	
R162	1-246-811-00	CARBON	220K	1/8W	
R163	1-246-786-00	CARBON	1.8K	1/8W	
R164	1-246-843-00	CARBON	910	1/8W	
R165	1-246-795-00	CARBON	10K	1/8W	
R166	1-246-839-00	CARBON	430	1/8W	
R167	1-246-847-00	CARBON	2K	1/8W	
R168	1-246-804-00	CARBON	56K	1/8W	
R169	1-246-804-00	CARBON	56K	1/8W	
R170	1-246-782-00	CARBON	820	1/8W	
R171	1-246-784-00	CARBON	1.2K	1/8W	
R172	1-246-795-00	CARBON	10K	1/8W	
R173	1-246-794-00	CARBON	8.2K	1/8W	
R174	1-246-793-00	CARBON	6.8K	1/8W	
R175	1-246-791-00	CARBON	4.7K	1/8W	
R176	1-246-857-00	CARBON	13K	1/8W	
R177	1-246-852-00	CARBON	5.1K	1/8W	
R178	1-246-847-00	CARBON	2K	1/8W	
R179	1-246-795-00	CARBON	10K	1/8W	
R180	1-246-795-00	CARBON	10K	1/8W	
R181	1-246-830-00	CARBON	75	1/8W	
R182	1-246-801-00	CARBON	33K	1/8W	
R183	1-246-795-00	CARBON	10K	1/8W	
R184	1-246-769-00	CARBON	68	1/8W	
R185	1-246-773-00	CARBON	150	1/8W	
R186	1-246-773-00	CARBON	150	1/8W	
R187	1-246-837-00	CARBON	300	1/8W	
R188	1-246-769-00	CARBON	68	1/8W	
R189	1-246-769-00	CARBON	68	1/8W	
R190	1-246-803-00	CARBON	47K	1/8W	
R191	1-246-797-00	CARBON	15K	1/8W	
R192	1-246-847-00	CARBON	2K	1/8W	
R193	1-246-849-00	CARBON	3K	1/8W	
R194	1-246-803-00	CARBON	47K	1/8W	
R195	1-246-794-00	CARBON	8.2K	1/8W	
R196	1-246-791-00	CARBON	4.7K	1/8W	
R197	1-246-837-00	CARBON	300	1/8W	
R198	1-246-847-00	CARBON	2K	1/8W	

When indicating parts by reference number, please include the board name.

RV-7(ES) AM-1(ES)

Ref.No.	Part No.	Description			Remark
R199	1-246-805-00	CARBON	68K	1/8W	
R207	1-246-847-00	CARBON	2K	1/8W	
R208	1-246-860-00	CARBON	24K	1/8W	
R209	1-246-860-00	CARBON	24K	1/8W	
R210	1-246-769-00	CARBON	68	1/8W	
		VARIABLE RESISTOR			
RV001	1-226-703-00	RES, ADJ, METAL GLAZE	10K		
RV002	1-226-774-00	RES, ADJ, METAL GLAZE	47K		
RV003	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K		
RV004	1-226-774-00	RES, ADJ, METAL GLAZE	47K		
RV005	1-226-770-00	RES, ADJ, METAL GLAZE	470		
RV006	1-226-772-00	RES, ADJ, METAL GLAZE	4.7K		
RV007	1-226-775-00	RES, ADJ, METAL GLAZE	100K		
RV008	1-226-775-00	RES, ADJ, METAL GLAZE	100K		
RV009	1-226-774-00	RES, ADJ, METAL GLAZE	47K		
RV010	1-226-773-00	RES, ADJ, METAL GLAZE	22K		
RV011	1-226-708-00	RES, ADJ, SOLID	2.2K		
RV012	1-226-706-00	RES, ADJ, SOLID	470		
RV013	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K		
RV014	1-226-773-00	RES, ADJ, METAL GLAZE	22K		
RV015	1-226-703-00	RES, ADJ, METAL GLAZE	10K		
RV016	1-226-708-00	RES, ADJ, SOLID	2.2K		
RV017	1-226-707-00	RES, ADJ, SOLID	1K		
RV018	1-226-703-00	RES, ADJ, METAL GLAZE	10K		
RV019	1-226-773-00	RES, ADJ, METAL GLAZE	22K		
RV020	1-226-709-00	RES, ADJ, SOLID	4.7K		
RV021	1-226-715-00	RES, ADJ, SOLID	470K		
RV022	1-226-774-00	RES, ADJ, METAL GLAZE	47K		
RV023	1-226-774-00	RES, ADJ, METAL GLAZE	47K		
RV024	1-226-773-00	RES, ADJ, METAL GLAZE	22K		
RV025	1-226-773-00	RES, ADJ, METAL GLAZE	22K		
RV026	1-228-543-00	RES, VAR, CARBON	100K		
		SWITCH			
SW001	1-552-821-00	SWITCH, SLIDE			
		TRANSFORMER			
T001	1-426-093-00	COIL, REC C BPT			
		CRYSTAL			
X001	1-527-345-00	CRYSTAL, OSC			

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♦:A-6713-152-A	AM-1(ES) BOARD, COMPLETE	
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♦:3-675-552-00	CASE (A) (MAIN), SHIELD, AM	
♦:3-675-553-00	LID, UPPER, SHIELD CASE(A), AM	
♦:3-675-554-00	CASE (B) (MAIN), SHIELD, AM	
♦:3-675-555-00	LID, UPPER, SHIELD CASE(B), AM	

Ref.No.	Part No.	Description				Remark
		CAPACITOR				
C402	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C403	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C501	1-123-356-00	ELECT	10MF	20%	16V	
C502	1-123-307-00	ELECT	100MF	20%	10V	
C504	1-123-307-00	ELECT	100MF	20%	10V	
C505	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V	
C506	1-123-356-00	ELECT	10MF	20%	16V	
C515	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C516	1-130-627-00	MYLAR	0.039MF	5%	50V	
C517	1-130-480-00	MYLAR	0.0056MF	5%	50V	
C518	1-130-495-00	MYLAR	0.1MF	5%	50V	
C519	1-130-483-00	MYLAR	0.01MF	5%	50V	
C520	1-123-340-00	ELECT	4.7MF	20%	35V	
C521	1-123-295-00	ELECT	100MF	20%	6.3V	
C522	1-123-356-00	ELECT	10MF	20%	16V	
C523	1-123-340-00	ELECT	4.7MF	20%	35V	
C524	1-123-381-00	ELECT	2.2MF	20%	50V	
C525	1-102-978-00	CERAMIC	220PF	5%	50V	
C526	1-123-356-00	ELECT	10MF	20%	16V	
C527	1-123-356-00	ELECT	10MF	20%	16V	
C528	1-102-978-00	CERAMIC	220PF	5%	50V	
C529	1-123-381-00	ELECT	2.2MF	20%	50V	
C530	1-123-340-00	ELECT	4.7MF	20%	35V	
C531	1-123-356-00	ELECT	10MF	20%	16V	
C532	1-123-295-00	ELECT	100MF	20%	6.3V	
C533	1-123-340-00	ELECT	4.7MF	20%	35V	
C534	1-130-483-00	MYLAR	0.01MF	5%	50V	
C535	1-130-495-00	MYLAR	0.1MF	5%	50V	
C536	1-161-039-00	CERAMIC	0.001MF	10%	25V	
C537	1-130-627-00	MYLAR	0.039MF	5%	50V	
C538	1-130-480-00	MYLAR	0.0056MF	5%	50V	
C554	1-123-306-00	ELECT	47MF	20%	10V	
C555	1-123-307-00	ELECT	100MF	20%	10V	
C556	1-123-307-00	ELECT	100MF	20%	10V	
C558	1-123-379-00	ELECT	0.47MF	20%	50V	
C559	1-123-379-00	ELECT	0.47MF	20%	50V	
C560	1-123-294-00	ELECT	47MF	20%	6.3V	
C561	1-123-307-00	ELECT	100MF	20%	10V	
C562	1-123-307-00	ELECT	100MF	20%	10V	
C563	1-123-306-00	ELECT	47MF	20%	10V	
C564	1-102-980-00	CERAMIC	270PF	5%	50V	
C565	1-102-980-00	CERAMIC	270PF	5%	50V	
C568	1-130-477-00	MYLAR	0.0033MF	5%	50V	
C569	1-130-479-00	MYLAR	0.0047MF	5%	50V	
C570	1-129-709-00	FILM	0.0039MF	10%	630V	
C571	1-123-356-00	ELECT	10MF	20%	16V	
C572	1-123-332-00	ELECT	47MF	20%	16V	
C574	1-102-114-00	CERAMIC	470PF	10%	50V	
C575	1-102-116-00	CERAMIC	680PF	10%	50V	
C577	1-123-294-00	ELECT	47MF	20%	6.3V	
C578	1-102-115-00	CERAMIC	560PF	10%	50V	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
C579	1-130-488-00	MYLAR	0.027MF	5%	50V
C580	1-102-973-00	CERAMIC	100PF	5%	50V
C581	1-130-473-00	MYLAR	0.0015MF	5%	50V
C582	1-130-482-00	MYLAR	0.0082MF	5%	50V
C583	1-102-947-00	CERAMIC	10PF	5%	50V
C584	1-102-114-00	CERAMIC	470PF	10%	50V
C585	1-102-116-00	CERAMIC	680PF	10%	50V
C590	1-102-973-00	CERAMIC	100PF	5%	50V
C591	1-130-473-00	MYLAR	0.0015MF	5%	50V
C592	1-130-482-00	MYLAR	0.0082MF	5%	50V
C593	1-102-947-00	CERAMIC	10PF	5%	50V
C594	1-123-356-00	ELECT	10MF	20%	16V
C595	1-123-356-00	ELECT	10MF	20%	16V
C596	1-123-380-00	ELECT	1MF	20%	50V
C597	1-123-356-00	ELECT	10MF	20%	16V
C598	1-123-356-00	ELECT	10MF	20%	16V
C599	1-123-380-00	ELECT	1MF	20%	50V
C600	1-123-340-00	ELECT	4.7MF	20%	35V
C601	1-123-294-00	ELECT	47MF	20%	6.3V
C602	1-123-356-00	ELECT	10MF	20%	16V
C603	1-123-356-00	ELECT	10MF	20%	16V
C604	1-123-380-00	ELECT	1MF	20%	50V
C605	1-123-380-00	ELECT	1MF	20%	50V
C606	1-123-333-00	ELECT	100MF	20%	16V
C607	1-123-332-00	ELECT	47MF	20%	16V
C608	1-123-306-00	ELECT	47MF	20%	10V
C609	1-123-308-00	ELECT	220MF	20%	10V
C610	1-123-332-00	ELECT	47MF	20%	16V
C611	1-123-332-00	ELECT	47MF	20%	16V
C612	1-102-116-00	CERAMIC	680PF	10%	50V
C613	1-123-356-00	ELECT	10MF	20%	16V
C614	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V
C615	1-123-356-00	ELECT	10MF	20%	16V
C616	1-123-380-00	ELECT	1MF	20%	50V
C617	1-123-380-00	ELECT	1MF	20%	50V
C618	1-123-356-00	ELECT	10MF	20%	16V
C619	1-123-356-00	ELECT	10MF	20%	16V
C621	1-123-356-00	ELECT	10MF	20%	16V
C623	1-161-021-00	CERAMIC	0.047MF	10%	25V
C626	1-123-309-00	ELECT	330MF	20%	10V
C631	1-123-380-00	ELECT	1MF	20%	50V
C632	1-161-023-00	CERAMIC	0.068MF	10%	25V
C634	1-123-356-00	ELECT	10MF	20%	16V
C635	1-123-356-00	ELECT	10MF	20%	16V
C637	1-130-487-00	MYLAR	0.02MF	5%	50V
C638	1-123-380-00	ELECT	1MF	20%	50V
C639	1-161-023-00	CERAMIC	0.068MF	10%	25V
C644	1-130-487-00	MYLAR	0.02MF	5%	50V
C645	1-123-356-00	ELECT	10MF	20%	16V
C646	1-123-356-00	ELECT	10MF	20%	16V
C652	1-161-016-00	CERAMIC	0.018MF	10%	25V
C653	1-161-015-00	CERAMIC	0.015MF	10%	25V

Ref.No.	Part No.	Description			Remark
C655	1-161-015-00	CERAMIC	0.015MF	10%	25V
C656	1-102-978-00	CERAMIC	220PF	5%	50V
C657	1-102-978-00	CERAMIC	220PF	5%	50V
C801	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C802	1-123-356-00	ELECT	10MF	20%	16V
C803	1-123-307-00	ELECT	100MF	20%	10V
C807	1-123-356-00	ELECT	10MF	20%	16V
C808	1-123-356-00	ELECT	10MF	20%	16V
C809	1-123-356-00	ELECT	10MF	20%	16V
C810	1-123-356-00	ELECT	10MF	20%	16V
C814	1-123-356-00	ELECT	10MF	20%	16V
C815	1-123-356-00	ELECT	10MF	20%	16V
C827	1-123-380-00	ELECT	1MF	20%	50V
C828	1-123-380-00	ELECT	1MF	20%	50V
C831	1-123-356-00	ELECT	10MF	20%	16V
C832	1-123-332-00	ELECT	47MF	20%	16V
C844	1-130-479-00	MYLAR	0.0047MF	5%	50V
C845	1-130-473-00	MYLAR	0.0015MF	5%	50V
C852	1-161-021-00	CERAMIC	0.047MF	10%	25V
C853	1-123-330-00	ELECT	22MF	20%	16V
C854	1-123-308-00	ELECT	220MF	20%	10V
C855	1-123-330-00	ELECT	22MF	20%	16V
C862	1-123-356-00	ELECT	10MF	20%	16V
C863	1-123-356-00	ELECT	10MF	20%	16V

CONNECTOR

CN001♣	1-560-591-00	PIN, CONNECTOR 7P	
CN002♣	1-560-469-00	PIN, CONNECTOR 6P	
CN003♣	1-560-466-00	PIN, CONNECTOR 3P	
CN005♣	1-560-470-00	PIN, CONNECTOR 8P	
CN006♣	1-560-466-00	PIN, CONNECTOR 3P	
CN007♣	1-560-466-00	PIN, CONNECTOR 3P	
CN008♣	1-560-467-00	PIN, CONNECTOR 4P	
CN009♣	1-560-470-00	PIN, CONNECTOR 8P	
CN010♣	1-560-469-00	PIN, CONNECTOR 6P	
CN011♣	1-560-471-00	PIN, CONNECTOR 10P	
CN012♣	1-560-466-00	PIN, CONNECTOR 3P	

TRIMMER

CT501	1-141-215-00	CAP, TRIMMER
CT502	1-141-215-00	CAP, TRIMMER

DIODE

D504	=>8-719-901-33	DIODE 1SS133
D505	=>8-719-901-33	DIODE 1SS133
D507	=>8-719-901-33	DIODE 1SS133
D508	=>8-719-901-33	DIODE 1SS133
D509	=>8-719-901-33	DIODE 1SS133
D510	=>8-719-901-33	DIODE 1SS133
D511	=>8-719-901-33	DIODE 1SS133

When indicating parts by reference number, please include the board name.

AM-1(ES)

Ref.No.	Part No.	Description	Remark
D512	=>8-719-901-33	DIODE 1SS133	
D513	=>8-719-901-33	DIODE 1SS133	
D514	=>8-719-901-33	DIODE 1SS133	
D515	=>8-719-901-33	DIODE 1SS133	
D516	=>8-719-901-33	DIODE 1SS133	
D517	=>8-719-901-33	DIODE 1SS133	
D518	=>8-719-901-33	DIODE 1SS133	
D519	=>8-719-901-33	DIODE 1SS133	
D525	8-719-113-07	DIODE RD13E-B	
D526	8-719-113-07	DIODE RD13E-B	
D527	8-719-113-07	DIODE RD13E-B	
D528	8-719-113-07	DIODE RD13E-B	
D531	=>8-719-901-33	DIODE 1SS133	
D532	=>8-719-901-33	DIODE 1SS133	
D533	=>8-719-901-33	DIODE 1SS133	
D534	=>8-719-901-33	DIODE 1SS133	
D551	=>8-719-901-33	DIODE 1SS133	
D552	=>8-719-901-33	DIODE 1SS133	
D553	=>8-719-901-33	DIODE 1SS133	
D554	=>8-719-901-33	DIODE 1SS133	
D560	8-719-113-07	DIODE RD13E-B	
D561	8-719-113-07	DIODE RD13E-B	
D562	8-719-113-07	DIODE RD13E-B	
D563	8-719-113-07	DIODE RD13E-B	
D951	=>8-719-901-33	DIODE 1SS133	
D952	=>8-719-901-33	DIODE 1SS133	

IC

IC501	8-759-240-52	IC TC4052BP	
IC506	8-759-240-53	IC TC4053BP	
IC507	=>8-759-905-71	IC NE571N	
IC508	8-759-240-53	IC TC4053BP	
IC509	8-759-145-58	IC UPC4558C	
IC510	8-759-145-58	IC UPC4558C	
IC511	8-759-145-58	IC UPC4558C	
IC512	8-759-145-58	IC UPC4558C	
IC513	8-759-145-58	IC UPC4558C	
IC520	8-759-145-58	IC UPC4558C	
IC521	8-759-240-53	IC TC4053BP	
IC522	8-759-618-48	IC M51848L	
IC524	8-759-240-52	IC TC4052BP	
IC525	8-752-006-10	IC CX20061	

COIL

L501	1-459-351-00	COIL (WITH CORE)	
L502	1-459-351-00	COIL (WITH CORE)	
L505	1-407-710-00	MICRO INDUCTOR 270UH	
L506	1-407-709-00	MICRO INDUCTOR 220UH	
L508	1-407-492-00	MICRO INDUCTOR 1MMH	
L509	1-407-717-00	MICRO INDUCTOR 1MMH	
L510	1-407-494-00	MICRO INDUCTOR 1.5MMH	
L513	1-407-718-00	MICRO INDUCTOR 1.2MMH	
L514	1-407-717-00	MICRO INDUCTOR 1MMH	
L520	1-407-176-XX	MICRO INDUCTOR 390UH	

VARIABLE COIL

LV501	1-408-523-00	COIL, VARIABLE	
LV502	1-408-523-00	COIL, VARIABLE	
LV503	1-408-524-00	INDUCTOR, ADJ	

TRANSISTOR

Q501	8-729-178-54	TRANSISTOR 2SC2785	
Q503	8-729-178-54	TRANSISTOR 2SC2785	
Q504	8-729-178-54	TRANSISTOR 2SC2785	
Q505	=>8-729-606-32	TRANSISTOR 2SC2603	
Q506	=>8-729-117-54	TRANSISTOR 2SA1175	
Q507	=>8-729-606-32	TRANSISTOR 2SC2603	
Q508	=>8-729-117-54	TRANSISTOR 2SA1175	
Q509	8-729-178-54	TRANSISTOR 2SC2785	
Q511	8-729-178-54	TRANSISTOR 2SC2785	
Q512	8-729-178-54	TRANSISTOR 2SC2785	
Q513	8-729-967-32	TRANSISTOR 2SC2673	
Q515	8-729-178-54	TRANSISTOR 2SC2785	
Q517	8-729-988-12	TRANSISTOR 2SA881	
Q518	8-729-178-54	TRANSISTOR 2SC2785	
Q522	8-729-908-62	TRANSISTOR 2SD786	
Q523	8-729-612-77	TRANSISTOR 2SA1027R	
Q524	8-729-178-54	TRANSISTOR 2SC2785	
Q525	8-729-178-54	TRANSISTOR 2SC2785	
Q529	8-729-908-62	TRANSISTOR 2SD786	
Q530	=>8-729-612-77	TRANSISTOR 2SA1027R	
Q531	8-729-178-54	TRANSISTOR 2SC2785	
Q532	8-729-384-48	TRANSISTOR 2SA844	
Q533	8-729-384-48	TRANSISTOR 2SA844	
Q534	8-729-384-48	TRANSISTOR 2SA844	
Q535	8-729-384-48	TRANSISTOR 2SA844	
Q536	8-729-178-54	TRANSISTOR 2SC2785	
Q537	8-729-178-54	TRANSISTOR 2SC2785	
Q538	8-729-178-54	TRANSISTOR 2SC2785	
Q539	8-729-178-54	TRANSISTOR 2SC2785	
Q540	8-729-967-32	TRANSISTOR 2SC2673	
Q541	8-729-178-54	TRANSISTOR 2SC2785	
Q542	8-729-178-54	TRANSISTOR 2SC2785	
Q544	8-729-178-54	TRANSISTOR 2SC2785	
Q545	8-729-334-58	TRANSISTOR 2SC1345	
Q546	8-729-334-58	TRANSISTOR 2SC1345	
Q551	8-729-178-54	TRANSISTOR 2SC2785	
Q552	8-729-178-54	TRANSISTOR 2SC2785	
Q553	8-729-178-54	TRANSISTOR 2SC2785	
Q554	8-729-178-54	TRANSISTOR 2SC2785	
Q555	=>8-729-606-32	TRANSISTOR 2SC2603	
Q556	=>8-729-606-32	TRANSISTOR 2SC2603	
Q557	8-729-178-54	TRANSISTOR 2SC2785	
Q583	=>8-729-117-54	TRANSISTOR 2SA1175	
Q584	8-729-178-54	TRANSISTOR 2SC2785	
Q585	8-729-178-54	TRANSISTOR 2SC2785	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark
Q586	8-729-178-54	TRANSISTOR 2SC2785	
Q589	=>8-729-204-83	TRANSISTOR 2SA1048-GR	
Q601	8-729-178-54	TRANSISTOR 2SC2785	
Q602	8-729-178-54	TRANSISTOR 2SC2785	
Q603	8-729-178-54	TRANSISTOR 2SC2785	
Q604	8-729-178-54	TRANSISTOR 2SC2785	
Q605	8-729-178-54	TRANSISTOR 2SC2785	
Q606	8-729-178-54	TRANSISTOR 2SC2785	
Q607	8-729-178-54	TRANSISTOR 2SC2785	
Q608	8-729-988-12	TRANSISTOR 2SA881	
Q609	8-729-178-54	TRANSISTOR 2SC2785	
Q610	8-729-178-54	TRANSISTOR 2SC2785	
Q611	=>8-729-204-83	TRANSISTOR 2SA1048-GR	
Q612	8-729-178-54	TRANSISTOR 2SC2785	
Q613	=>8-729-204-83	TRANSISTOR 2SA1048-GR	
Q614	8-729-178-54	TRANSISTOR 2SC2785	
Q615	8-729-178-54	TRANSISTOR 2SC2785	
Q951	=>8-729-117-54	TRANSISTOR 2SA1175	
Q952	=>8-729-117-54	TRANSISTOR 2SA1175	

RESISTOR

R401	1-246-807-00	CARBON	100K	1/8W
R402	1-246-807-00	CARBON	100K	1/8W
R403	1-246-783-00	CARBON	1K	1/8W
R404	1-246-795-00	CARBON	10K	1/8W
R405	1-246-798-00	CARBON	18K	1/8W
R406	1-247-046-00	CARBON	270K	1/8W
R407	1-246-773-00	CARBON	150	1/8W
R408	1-246-800-00	CARBON	27K	1/8W
R409	1-246-800-00	CARBON	27K	1/8W
R410	1-247-046-00	CARBON	270K	1/8W
R411	1-246-798-00	CARBON	18K	1/8W
R412	1-246-773-00	CARBON	150	1/8W
R413	1-246-783-00	CARBON	1K	1/8W
R414	1-246-807-00	CARBON	100K	1/8W
R415	1-246-795-00	CARBON	10K	1/8W
R416	1-246-807-00	CARBON	100K	1/8W
R417	1-246-805-00	CARBON	68K	1/8W
R418	1-246-807-00	CARBON	100K	1/8W
R419	1-246-805-00	CARBON	68K	1/8W
R420	1-246-807-00	CARBON	100K	1/8W
R421	1-246-803-00	CARBON	47K	1/8W
R422	1-247-046-00	CARBON	270K	1/8W
R423	1-247-046-00	CARBON	270K	1/8W
R424	1-246-805-00	CARBON	68K	1/8W
R425	1-246-797-00	CARBON	15K	1/8W
R426	1-246-803-00	CARBON	47K	1/8W
R427	1-247-046-00	CARBON	270K	1/8W
R428	1-246-805-00	CARBON	68K	1/8W
R429	1-246-797-00	CARBON	15K	1/8W
R433	1-246-803-00	CARBON	47K	1/8W
R434	1-246-799-00	CARBON	22K	1/8W
R435	1-246-794-00	CARBON	8.2K	1/8W
R436	1-246-794-00	CARBON	8.2K	1/8W

Ref.No.	Part No.	Description			Remark
R437	1-246-790-00	CARBON	3.9K	1/8W	
R438	1-246-790-00	CARBON	3.9K	1/8W	
R439	1-246-794-00	CARBON	8.2K	1/8W	
R440	1-246-794-00	CARBON	8.2K	1/8W	
R441	1-246-799-00	CARBON	22K	1/8W	
R442	1-246-794-00	CARBON	8.2K	1/8W	
R443	1-246-799-00	CARBON	22K	1/8W	
R444	1-246-794-00	CARBON	8.2K	1/8W	
R445	1-246-801-00	CARBON	33K	1/8W	
R446	1-246-799-00	CARBON	22K	1/8W	
R447	1-246-799-00	CARBON	22K	1/8W	
R448	1-246-799-00	CARBON	22K	1/8W	
R449	1-246-799-00	CARBON	22K	1/8W	
R450	1-246-801-00	CARBON	33K	1/8W	
R451	1-246-801-00	CARBON	33K	1/8W	
R452	1-246-807-00	CARBON	100K	1/8W	
R453	1-246-805-00	CARBON	68K	1/8W	
R454	1-246-805-00	CARBON	68K	1/8W	
R455	1-246-805-00	CARBON	68K	1/8W	
R456	1-246-794-00	CARBON	8.2K	1/8W	
R457	1-246-811-00	CARBON	220K	1/8W	
R458	1-246-807-00	CARBON	100K	1/8W	
R459	1-246-805-00	CARBON	68K	1/8W	
R461	1-246-801-00	CARBON	33K	1/8W	
R462	1-246-805-00	CARBON	68K	1/8W	
R463	1-246-807-00	CARBON	100K	1/8W	
R464	1-246-787-00	CARBON	2.2K	1/8W	
R465	1-246-789-00	CARBON	3.3K	1/8W	
R466	1-246-794-00	CARBON	8.2K	1/8W	
R467	1-246-811-00	CARBON	220K	1/8W	
R468	1-246-783-00	CARBON	1K	1/8W	
R469	1-246-805-00	CARBON	68K	1/8W	
R470	1-246-805-00	CARBON	68K	1/8W	
R471	1-246-805-00	CARBON	68K	1/8W	
R472	1-246-807-00	CARBON	100K	1/8W	
R473	1-246-807-00	CARBON	100K	1/8W	
R474	1-246-805-00	CARBON	68K	1/8W	
R475	1-246-805-00	CARBON	68K	1/8W	
R476	1-246-807-00	CARBON	100K	1/8W	
R477	1-246-805-00	CARBON	68K	1/8W	
R478	1-246-807-00	CARBON	100K	1/8W	
R479	1-246-794-00	CARBON	8.2K	1/8W	
R480	1-246-783-00	CARBON	1K	1/8W	
R481	1-246-811-00	CARBON	220K	1/8W	
R485	1-246-803-00	CARBON	47K	1/8W	
R486	1-247-046-00	CARBON	270K	1/8W	
R501	1-246-803-00	CARBON	47K	1/8W	
R502	1-246-803-00	CARBON	47K	1/8W	
R516	1-246-805-00	CARBON	68K	1/8W	
R517	1-246-811-00	CARBON	220K	1/8W	
R519	1-246-801-00	CARBON	33K	1/8W	

When indicating parts by reference number, please include the board name.

AM-1(ES)

Ref.No.	Part No.	Description				Remark
R520	1-246-804-00	CARBON	56K		1/8W	
R521	1-246-808-00	CARBON	120K		1/8W	
R522	1-215-449-31	METAL	15K	1%	1/6W	
R523	1-215-413-00	METAL	470	1%	1/6W	
R524	1-215-449-31	METAL	15K	1%	1/6W	
R525	1-215-456-00	METAL	30K	1%	1/6W	
R526	1-215-463-00	METAL	56K	1%	1/6W	
R527	1-246-861-00	CARBON	30K		1/8W	
R528	1-246-797-00	CARBON	15K		1/8W	
R529	1-246-797-00	CARBON	15K		1/8W	
R530	1-246-791-00	CARBON	4.7K		1/8W	
R531	1-246-801-00	CARBON	33K		1/8W	
R532	1-246-787-00	CARBON	2.2K		1/8W	
R533	1-246-799-00	CARBON	22K		1/8W	
R534	1-246-807-00	CARBON	100K		1/8W	
R536	1-246-863-00	CARBON	43K		1/8W	
R537	1-246-811-00	CARBON	220K		1/8W	
R538	1-246-804-00	CARBON	56K		1/8W	
R539	1-246-803-00	CARBON	47K		1/8W	
R540	1-246-789-00	CARBON	3.3K		1/8W	
R545	1-246-789-00	CARBON	3.3K		1/8W	
R546	1-246-811-00	CARBON	220K		1/8W	
R547	1-246-863-00	CARBON	43K		1/8W	
R548	1-246-803-00	CARBON	47K		1/8W	
R549	1-246-807-00	CARBON	100K		1/8W	
R550	1-246-805-00	CARBON	68K		1/8W	
R551	1-246-811-00	CARBON	220K		1/8W	
R554	1-246-801-00	CARBON	33K		1/8W	
R555	1-246-804-00	CARBON	56K		1/8W	
R556	1-246-808-00	CARBON	120K		1/8W	
R557	1-215-449-31	METAL	15K	1%	1/6W	
R558	1-215-413-00	METAL	470	1%	1/6W	
R559	1-215-449-31	METAL	15K	1%	1/6W	
R560	1-215-463-00	METAL	56K	1%	1/6W	
R561	1-215-456-00	METAL	30K	1%	1/6W	
R562	1-246-861-00	CARBON	30K		1/8W	
R563	1-246-797-00	CARBON	15K		1/8W	
R564	1-246-797-00	CARBON	15K		1/8W	
R565	1-246-807-00	CARBON	100K		1/8W	
R566	1-246-799-00	CARBON	22K		1/8W	
R567	1-246-791-00	CARBON	4.7K		1/8W	
R568	1-246-801-00	CARBON	33K		1/8W	
R569	1-246-787-00	CARBON	2.2K		1/8W	
R573	1-246-759-00	CARBON	10		1/8W	
R574	1-246-759-00	CARBON	10		1/8W	
R575	1-246-980-00	CARBON	3.3	5%	1/8W	F
R577	1-246-859-00	CARBON	20K		1/8W	
R580	1-246-799-00	CARBON	22K		1/8W	
R582	1-246-794-00	CARBON	8.2K		1/8W	
R588	1-246-784-00	CARBON	1.2K		1/8W	
R589	1-246-784-00	CARBON	1.2K		1/8W	
R590	1-246-787-00	CARBON	2.2K		1/8W	
R591	1-246-787-00	CARBON	2.2K		1/8W	

Ref.No.	Part No.	Description				Remark
R593	1-246-804-00	CARBON	56K		1/8W	
R594	1-246-807-00	CARBON	100K		1/8W	
R595	1-246-795-00	CARBON	10K		1/8W	
R596	1-246-519-00	CARBON	82K	5%	1/4W	
R603	1-246-791-00	CARBON	4.7K		1/8W	
R604	1-246-791-00	CARBON	4.7K		1/8W	
R605	1-246-521-00	CARBON	100K	5%	1/4W	
R606	1-246-539-00	CARBON	560K	5%	1/4W	
R607	1-246-517-00	CARBON	68K	5%	1/4W	
R608	1-246-768-00	CARBON	56		1/8W	
R609	1-246-858-00	CARBON	16K		1/8W	
R610	1-247-056-00	CARBON	360K		1/8W	
R611	1-246-797-00	CARBON	15K		1/8W	
R612	1-246-513-00	CARBON	47K	5%	1/4W	
R613	1-246-796-00	CARBON	12K		1/8W	
R614	1-246-795-00	CARBON	10K		1/8W	
R615	1-246-505-00	CARBON	22K	5%	1/4W	
R616	1-246-792-00	CARBON	5.6K		1/8W	
R617	1-246-807-00	CARBON	100K		1/8W	
R618	1-246-795-00	CARBON	10K		1/8W	
R619	1-246-519-00	CARBON	82K	5%	1/4W	
R628	1-246-521-00	CARBON	100K	5%	1/4W	
R629	1-246-539-00	CARBON	560K	5%	1/4W	
R630	1-246-517-00	CARBON	68K	5%	1/4W	
R631	1-246-768-00	CARBON	56		1/8W	
R632	1-246-858-00	CARBON	16K		1/8W	
R633	1-247-056-00	CARBON	360K		1/8W	
R634	1-246-797-00	CARBON	15K		1/8W	
R635	1-246-513-00	CARBON	47K	5%	1/4W	
R636	1-246-796-00	CARBON	12K		1/8W	
R637	1-246-795-00	CARBON	10K		1/8W	
R638	1-246-505-00	CARBON	22K	5%	1/4W	
R639	1-246-792-00	CARBON	5.6K		1/8W	
R640	1-246-799-00	CARBON	22K		1/8W	
R641	1-246-801-00	CARBON	33K		1/8W	
R642	1-246-794-00	CARBON	8.2K		1/8W	
R643	1-247-059-00	CARBON	620K		1/8W	
R644	1-246-799-00	CARBON	22K		1/8W	
R645	1-246-794-00	CARBON	8.2K		1/8W	
R646	1-247-059-00	CARBON	620K		1/8W	
R647	1-247-053-00	CARBON	1M		1/8W	
R648	1-247-053-00	CARBON	1M		1/8W	
R649	1-247-047-00	CARBON	330K		1/8W	
R650	1-246-791-00	CARBON	4.7K		1/8W	
R651	1-246-799-00	CARBON	22K		1/8W	
R652	1-246-789-00	CARBON	3.3K		1/8W	
R653	1-247-046-00	CARBON	270K		1/8W	
R654	1-246-811-00	CARBON	220K		1/8W	
R655	1-246-789-00	CARBON	3.3K		1/8W	
R656	1-247-046-00	CARBON	270K		1/8W	
R657	1-246-811-00	CARBON	220K		1/8W	
R658	1-246-807-00	CARBON	100K		1/8W	
R659	1-246-805-00	CARBON	68K		1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R660	1-246-807-00	CARBON	100K	1/8W	
R661	1-246-805-00	CARBON	68K	1/8W	
R662	1-246-787-00	CARBON	2.2K	1/8W	
R663	1-247-048-00	CARBON	390K	1/8W	
R664	1-246-795-00	CARBON	10K	1/8W	
R665	1-246-795-00	CARBON	10K	1/8W	
R666	1-246-795-00	CARBON	10K	1/8W	
R668	1-246-795-00	CARBON	10K	1/8W	
R669	1-246-803-00	CARBON	47K	1/8W	
R670	1-246-784-00	CARBON	1.2K	1/8W	
R671	⚠1-212-869-00	FUSIBLE	33	5% 1/4W F	
R672	1-246-771-00	CARBON	100	1/8W	
R673	1-246-788-00	CARBON	2.7K	1/8W	
R686	1-246-803-00	CARBON	47K	1/8W	
R687	1-246-787-00	CARBON	2.2K	1/8W	
R688	1-246-811-00	CARBON	220K	1/8W	
R689	1-246-811-00	CARBON	220K	1/8W	
R690	1-246-803-00	CARBON	47K	1/8W	
R691	1-246-787-00	CARBON	2.2K	1/8W	
R692	1-247-059-00	CARBON	620K	1/8W	
R693	1-247-059-00	CARBON	620K	1/8W	
R694	1-246-789-00	CARBON	3.3K	1/8W	
R695	1-246-789-00	CARBON	3.3K	1/8W	
R696	1-246-792-00	CARBON	5.6K	1/8W	
R697	1-246-791-00	CARBON	4.7K	1/8W	
R698	1-246-803-00	CARBON	47K	1/8W	
R699	1-246-792-00	CARBON	5.6K	1/8W	
R700	1-246-791-00	CARBON	4.7K	1/8W	
R701	1-246-803-00	CARBON	47K	1/8W	
R704	1-246-855-00	CARBON	9.1K	1/8W	
R705	1-246-777-00	CARBON	330	1/8W	
R706	1-246-807-00	CARBON	100K	1/8W	
R709	1-246-791-00	CARBON	4.7K	1/8W	
R711	1-246-801-00	CARBON	33K	1/8W	
R714	1-246-803-00	CARBON	47K	1/8W	
R715	1-246-771-00	CARBON	100	1/8W	
R716	1-246-771-00	CARBON	100	1/8W	
R717	1-246-803-00	CARBON	47K	1/8W	
R721	1-246-800-00	CARBON	27K	1/8W	
R722	1-246-860-00	CARBON	24K	1/8W	
R723	1-246-861-00	CARBON	30K	1/8W	
R724	1-246-776-00	CARBON	270	1/8W	
R726	1-246-807-00	CARBON	100K	1/8W	
R727	1-246-797-00	CARBON	15K	1/8W	
R728	1-246-788-00	CARBON	2.7K	1/8W	
R729	1-246-771-00	CARBON	100	1/8W	
R730	1-246-797-00	CARBON	15K	1/8W	
R732	1-246-807-00	CARBON	100K	1/8W	
R733	1-246-797-00	CARBON	15K	1/8W	
R734	1-246-800-00	CARBON	27K	1/8W	
R735	1-246-860-00	CARBON	24K	1/8W	
R736	1-246-861-00	CARBON	30K	1/8W	
R737	1-246-776-00	CARBON	270	1/8W	

Ref.No.	Part No.	Description			Remark
R739	1-246-807-00	CARBON	100K	1/8W	
R740	1-246-797-00	CARBON	15K	1/8W	
R741	1-246-788-00	CARBON	2.7K	1/8W	
R742	1-246-771-00	CARBON	100	1/8W	
R743	1-246-797-00	CARBON	15K	1/8W	
R745	1-246-807-00	CARBON	100K	1/8W	
R746	1-246-797-00	CARBON	15K	1/8W	
R747	1-246-792-00	CARBON	5.6K	1/8W	
R748	1-246-792-00	CARBON	5.6K	1/8W	
R749	1-246-807-00	CARBON	100K	1/8W	
R750	1-246-852-00	CARBON	5.1K	1/8W	
R751	1-246-799-00	CARBON	22K	1/8W	
R752	1-246-801-00	CARBON	33K	1/8W	
R753	1-246-796-00	CARBON	12K	1/8W	
R755	1-246-801-00	CARBON	33K	1/8W	
R756	1-246-807-00	CARBON	100K	1/8W	
R757	1-246-852-00	CARBON	5.1K	1/8W	
R758	1-246-801-00	CARBON	33K	1/8W	
R759	1-246-799-00	CARBON	22K	1/8W	
R760	1-246-796-00	CARBON	12K	1/8W	
R801	⚠1-213-128-00	METAL	56	5% 1W F	
R802	1-246-756-00	CARBON	5.6	1/8W	
R817	1-246-799-00	CARBON	22K	1/8W	
R818	1-246-799-00	CARBON	22K	1/8W	
R819	1-246-771-00	CARBON	100	1/8W	
R820	1-246-805-00	CARBON	68K	1/8W	
R823	1-246-805-00	CARBON	68K	1/8W	
R826	1-246-771-00	CARBON	100	1/8W	
R827	1-246-783-00	CARBON	1K	1/8W	
R829	1-246-794-00	CARBON	8.2K	1/8W	
R830	1-246-805-00	CARBON	68K	1/8W	
R839	1-246-801-00	CARBON	33K	1/8W	
R840	1-246-801-00	CARBON	33K	1/8W	
R841	1-246-795-00	CARBON	10K	1/8W	
R842	1-246-799-00	CARBON	22K	1/8W	
R843	1-246-799-00	CARBON	22K	1/8W	
R844	1-246-795-00	CARBON	10K	1/8W	
R845	1-246-795-00	CARBON	10K	1/8W	
R846	1-246-783-00	CARBON	1K	1/8W	
R848	1-246-787-00	CARBON	2.2K	1/8W	
R849	1-246-800-00	CARBON	27K	1/8W	
R854	1-246-799-00	CARBON	22K	1/8W	
R855	1-246-799-00	CARBON	22K	1/8W	
R856	1-246-780-00	CARBON	560	1/8W	
R861	1-246-795-00	CARBON	10K	1/8W	
R862	1-246-791-00	CARBON	4.7K	1/8W	
R863	1-246-799-00	CARBON	22K	1/8W	
R864	1-246-799-00	CARBON	22K	1/8W	
R865	1-246-795-00	CARBON	10K	1/8W	
R866	1-246-800-00	CARBON	27K	1/8W	
R867	1-246-800-00	CARBON	27K	1/8W	
R871	1-246-807-00	CARBON	100K	1/8W	
R872	1-246-799-00	CARBON	22K	1/8W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

AM-1(ES) SS-11

Ref.No.	Part No.	Description			Remark
R873	1-246-799-00	CARBON	22K	1/8W	
R874	1-246-787-00	CARBON	2.2K	1/8W	
R875	1-246-783-00	CARBON	1K	1/8W	
R901	1-246-801-00	CARBON	33K	1/8W	
R912	1-246-805-00	CARBON	68K	1/8W	
R913	1-246-807-00	CARBON	100K	1/8W	
R951	1-246-807-00	CARBON	100K	1/8W	
R952	1-247-051-00	CARBON	680K	1/8W	
R953	1-247-051-00	CARBON	680K	1/8W	
R954	1-246-807-00	CARBON	100K	1/8W	
R961	1-246-792-00	CARBON	5.6K	1/8W	
R962	1-246-799-00	CARBON	22K	1/8W	
R963	1-246-792-00	CARBON	5.6K	1/8W	
R964	1-246-799-00	CARBON	22K	1/8W	
R971	1-246-793-00	CARBON	6.8K	1/8W	
		VARIABLE RESISTOR			
RV501	1-224-255-XX	RES, ADJ, SOLID 100K			
RV502	1-224-254-XX	RES, ADJ, SOLID 47K			
RV503	1-224-249-XX	RES, ADJ, SOLID 1K			
RV504	1-224-249-XX	RES, ADJ, SOLID 1K			
RV505	1-224-254-XX	RES, ADJ, SOLID 47K			
RV506	1-224-251-XX	RES, ADJ, SOLID 4.7K			
RV507	1-224-251-XX	RES, ADJ, SOLID 4.7K			
RV508	1-224-256-XX	RES, ADJ, SOLID 220K			
RV509	1-224-256-XX	RES, ADJ, SOLID 220K			
RV510	1-224-255-XX	RES, ADJ, SOLID 100K			
RV511	1-224-255-XX	RES, ADJ, SOLID 100K			
RV512	1-224-255-XX	RES, ADJ, SOLID 100K			
		RELAY			
RY501	1-515-418-00	RELAY			
RY502	1-515-418-00	RELAY			
RY503	1-515-416-00	RELAY			
RY504	1-515-416-00	RELAY			
		TRANSFORMER			
T501	1-433-237-00	TRANSFORMER, OSCILLATOR			
T503	1-409-354-00	COIL, TRAP			
T505	1-235-059-00	COIL, (L.P.F)			
T506	1-235-059-00	COIL, (L.P.F)			
**********					
♣:	A-6715-153-A	SS-11 BOARD, COMPLETE			
		**********			
	1-533-162-00	HOLDER, FUSE			
♣:	3-655-214-00	CLIP, CABLE			
♣:	3-671-839-00	CASE (MAIN), SHIELD, SS-10			
		CAPACITOR			
C001	1-123-820-00	ELECT	33MF	20% 16V	
C002	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C003	1-123-617-00	ELECT	10MF	20% 16V	
C004	1-123-617-00	ELECT	10MF	20% 16V	
C005	1-161-039-00	CERAMIC	0.001MF	10% 25V	
C006	1-123-333-00	ELECT	100MF	20% 16V	

Ref.No.	Part No.	Description			Remark
C007	1-123-820-00	ELECT	33MF	20% 16V	
C008	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C009	1-130-482-00	MYLAR	0.0082MF	5% 50V	
C010	1-130-482-00	MYLAR	0.0082MF	5% 50V	
C011	1-123-612-00	ELECT	2.2MF	20% 50V	
C012	1-123-612-00	ELECT	2.2MF	20% 50V	
C013	1-123-611-00	ELECT	1MF	20% 50V	
C014	1-123-611-00	ELECT	1MF	20% 50V	
C015	1-123-611-00	ELECT	1MF	20% 50V	
C016	1-123-611-00	ELECT	1MF	20% 50V	
C017	1-123-617-00	ELECT	10MF	20% 16V	
C018	1-123-820-00	ELECT	33MF	20% 16V	
C019	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C020	1-123-820-00	ELECT	33MF	20% 16V	
C021	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C022	1-123-611-00	ELECT	1MF	20% 50V	
C023	1-123-611-00	ELECT	1MF	20% 50V	
C024	1-161-009-00	CERAMIC	0.0047MF	10% 25V	
C026	1-161-039-00	CERAMIC	0.001MF	10% 25V	
C028	1-123-611-00	ELECT	1MF	20% 50V	
C029	1-123-613-00	ELECT	3.3MF	20% 50V	
C030	1-123-820-00	ELECT	33MF	20% 16V	
C031	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C032	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C033	1-123-820-00	ELECT	33MF	20% 16V	
C034	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C035	1-161-021-00	CERAMIC	0.047MF	10% 25V	
C036	1-161-021-00	CERAMIC	0.047MF	10% 25V	
C037	1-161-005-00	CERAMIC	0.0022MF	10% 25V	
C038	1-123-616-00	ELECT	4.7MF	20% 25V	
C039	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C040	1-161-019-00	CERAMIC	0.033MF	10% 25V	
C041	1-123-611-00	ELECT	1MF	20% 50V	
C044	1-161-005-00	CERAMIC	0.0022MF	10% 25V	
C045	1-161-005-00	CERAMIC	0.0022MF	10% 25V	
C301	1-161-021-00	CERAMIC	0.047MF	10% 25V	
C302	1-130-491-00	MYLAR	0.047MF	5% 50V	
C303	1-130-491-00	MYLAR	0.047MF	5% 50V	
C304	1-123-613-00	ELECT	3.3MF	20% 50V	
C305	1-123-613-00	ELECT	3.3MF	20% 50V	
C306	1-123-613-00	ELECT	3.3MF	20% 50V	
C307	1-130-483-00	MYLAR	0.01MF	5% 50V	
C308	1-161-013-00	CERAMIC	0.01MF	10% 25V	
C309	1-130-483-00	MYLAR	0.01MF	5% 50V	
C310	1-123-298-00	ELECT	470MF	20% 6.3V	
C311	1-161-021-00	CERAMIC	0.047MF	10% 25V	
C312	1-161-017-00	CERAMIC	0.022MF	10% 25V	
C317	1-123-611-00	ELECT	1MF	20% 50V	
C318	1-123-618-00	ELECT	22MF	20% 6.3V	
C319	1-123-333-00	ELECT	100MF	20% 16V	
C321	1-123-820-00	ELECT	33MF	20% 16V	
C322	1-123-820-00	ELECT	33MF	20% 16V	
C323	1-161-021-00	CERAMIC	0.047MF	10% 25V	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
C324	1-123-616-00	ELECT	4.7MF	20%	25V
C325	1-130-483-00	MYLAR	0.01MF	5%	50V
C326	1-123-822-00	ELECT	47MF	20%	10V
C327	1-123-612-00	ELECT	2.2MF	20%	50V
C328	1-131-345-00	ELECT(SOLID)	0.47MF	10%	25V
C329	1-161-019-00	CERAMIC	0.033MF	10%	25V
C330	1-123-617-00	ELECT	10MF	20%	16V
C331	1-161-017-00	CERAMIC	0.022MF	10%	25V
C332	1-161-016-00	CERAMIC	0.018MF	10%	25V
C333	1-161-002-00	CERAMIC	0.0012MF	10%	25V
C334	1-161-013-00	CERAMIC	0.01MF	10%	25V
C335	1-130-494-00	MYLAR	0.082MF	5%	50V
C336	1-123-613-00	ELECT	3.3MF	20%	50V
C337	1-102-978-00	CERAMIC	220PF	5%	50V
C338	1-123-297-00	ELECT	330MF	20%	6.3V
C339	1-131-375-00	TANTALUM	4.7MF	20%	10V
C340	1-131-375-00	TANTALUM	4.7MF	20%	10V
C341	1-130-489-00	MYLAR	0.033MF	5%	50V
C342	1-123-622-00	ELECT	22MF	20%	16V
C343	1-123-647-00	ELECT	47MF	20%	6.3V
C344	1-123-661-00	ELECT	100MF	20%	6.3V
C345	1-161-017-00	CERAMIC	0.022MF	10%	25V
C346	1-161-013-00	CERAMIC	0.01MF	10%	25V
C347	1-161-016-00	CERAMIC	0.018MF	10%	25V
C348	1-131-368-00	TANTALUM	3.3MF	20%	16V
C349	1-131-347-00	TANTALUM	1MF	20%	35V
C350	1-123-647-00	ELECT	47MF	20%	6.3V
C351	1-123-612-00	ELECT	2.2MF	20%	50V
C352	1-123-821-00	ELECT	47MF	20%	16V
C353	1-161-013-00	CERAMIC	0.01MF	10%	25V
C354	1-102-114-00	CERAMIC	470PF	10%	50V
C355	1-161-013-00	CERAMIC	0.01MF	10%	25V
C356	1-123-611-00	ELECT	1MF	20%	50V
C357	1-123-616-00	ELECT	4.7MF	20%	25V
C361	1-123-616-00	ELECT	4.7MF	20%	25V
C362	1-123-612-00	ELECT	2.2MF	20%	50V
C370	1-161-021-00	CERAMIC	0.047MF	10%	25V
C371	1-161-021-00	CERAMIC	0.047MF	10%	25V
C373	1-123-616-00	ELECT	4.7MF	20%	25V
C374	1-161-021-00	CERAMIC	0.047MF	10%	25V
C401	1-130-499-00	MYLAR	0.22MF	5%	50V
C402	1-123-616-00	ELECT	4.7MF	20%	25V
C403	1-130-477-00	MYLAR	0.0033MF	5%	50V
C404	1-130-483-00	MYLAR	0.01MF	5%	50V
C405	1-123-298-00	ELECT	470MF	20%	6.3V
C601	1-161-021-00	CERAMIC	0.047MF	10%	25V
C602	1-161-021-00	CERAMIC	0.047MF	10%	25V
C603	1-161-021-00	CERAMIC	0.047MF	10%	25V
C604	1-101-880-00	CERAMIC	47PF	5%	50V
C605	1-101-880-00	CERAMIC	47PF	5%	50V
C606	1-161-021-00	CERAMIC	0.047MF	10%	25V
C607	1-123-611-00	ELECT	1MF	20%	50V
C608	1-123-820-00	ELECT	33MF	20%	16V

Ref.No.	Part No.	Description			Remark
C609	1-123-566-00	ELECT	2200MF	20%	16V
C610	1-161-021-00	CERAMIC	0.047MF	10%	25V
C611	1-161-021-00	CERAMIC	0.047MF	10%	25V
C612	1-161-021-00	CERAMIC	0.047MF	10%	25V
C613	1-123-613-00	ELECT	3.3MF	20%	50V
C614	1-161-021-00	CERAMIC	0.047MF	10%	25V
C615	1-161-021-00	CERAMIC	0.047MF	10%	25V
C616	1-161-021-00	CERAMIC	0.047MF	10%	25V
C617	1-123-617-00	ELECT	10MF	20%	16V
C618	1-123-822-00	ELECT	47MF	20%	10V
C619	1-123-819-00	ELECT	33MF	20%	25V
C620	1-123-819-00	ELECT	33MF	20%	25V
C621	1-161-023-00	CERAMIC	0.068MF	10%	25V
C622	1-123-610-00	ELECT	0.47MF	20%	50V
C623	1-161-021-00	CERAMIC	0.047MF	10%	25V
C624	1-102-951-00	CERAMIC	15PF	5%	50V
C625	1-161-017-00	CERAMIC	0.022MF	10%	25V

CONNECTOR

CN001♣	1-560-466-00	PIN, CONNECTOR 3P
CN002♣	1-560-466-00	PIN, CONNECTOR 3P
CN003♣	1-560-469-00	PIN, CONNECTOR 6P
CN301♣	1-560-467-00	PIN, CONNECTOR 4P
CN302♣	1-560-466-00	PIN, CONNECTOR 3P
CN303♣	1-560-467-00	PIN, CONNECTOR 4P
CN304♣	1-560-456-00	PIN, CONNECTOR 2P
CN305♣	1-560-467-00	PIN, CONNECTOR 4P
CN306♣	1-560-466-00	PIN, CONNECTOR 3P
CN307♣	1-560-467-00	PIN, CONNECTOR 4P
CN308♣	1-560-472-00	PIN, CONNECTOR 12P
CN310♣	1-560-466-00	PIN, CONNECTOR 3P
CN601♣	1-560-468-00	PIN, CONNECTOR 5P
CN602♣	1-560-470-00	PIN, CONNECTOR 8P
CN604♣	1-560-466-00	PIN, CONNECTOR 3P
CN610♣	1-560-470-00	PIN, CONNECTOR 8P
CN612♣	1-560-467-00	PIN, CONNECTOR 4P
CN613♣	1-560-470-00	PIN, CONNECTOR 8P
CN614♣	1-560-468-00	PIN, CONNECTOR 5P
CN616♣	1-560-591-00	PIN, CONNECTOR 7P
CN617♣	1-560-466-00	PIN, CONNECTOR 3P
CN618♣	1-560-466-00	PIN, CONNECTOR 3P
CN619♣	1-560-466-00	PIN, CONNECTOR 3P
CN620♣	1-560-468-00	PIN, CONNECTOR 5P
CN622♣	1-560-591-00	PIN, CONNECTOR 7P
CN623♣	1-560-471-00	PIN, CONNECTOR 10P
CN624♣	1-560-467-00	PIN, CONNECTOR 4P
CN625♣	1-560-470-00	PIN, CONNECTOR 8P
CN626♣	1-560-470-00	PIN, CONNECTOR 8P
CN627♣	1-560-469-00	PIN, CONNECTOR 6P
CN628	1-561-703-00	CONNECTOR, DIN 8P
CN701♣	1-560-471-00	PIN, CONNECTOR 10P

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description	Remark
		DIODE	
D001	8-719-911-06	DIODE 1SS106	
D002	8-719-911-06	DIODE 1SS106	
D003	8-719-911-19	DIODE 1SS119	
D008	8-719-911-19	DIODE 1SS119	
D009	8-719-982-04	DIODE ERB81-004	
D010	8-719-911-19	DIODE 1SS119	
D012	8-719-911-19	DIODE 1SS119	
D013	8-719-982-04	DIODE ERB81-004	
D014	8-719-911-19	DIODE 1SS119	
D015	8-719-911-19	DIODE 1SS119	
D301	8-719-911-06	DIODE 1SS106	
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-982-04	DIODE ERB81-004	
D304	8-719-113-07	DIODE RD13E-B	
D308	8-719-911-06	DIODE 1SS106	
D309	8-719-911-19	DIODE 1SS119	
D310	8-719-911-19	DIODE 1SS119	
D311	8-719-911-19	DIODE 1SS119	
D312	8-719-911-19	DIODE 1SS119	
D313	8-719-911-19	DIODE 1SS119	
D314	8-719-911-19	DIODE 1SS119	
D315	8-719-911-19	DIODE 1SS119	
D316	8-719-911-19	DIODE 1SS119	
D317	8-719-911-19	DIODE 1SS119	
D318	8-719-911-19	DIODE 1SS119	
D319	8-719-911-19	DIODE 1SS119	
D401	8-719-911-19	DIODE 1SS119	
D402	8-719-911-19	DIODE 1SS119	
D403	8-719-911-19	DIODE 1SS119	
D602	8-719-911-06	DIODE 1SS106	
D604	8-719-200-02	DIODE 10E-2	
D605	8-719-200-02	DIODE 10E-2	
D606	8-719-200-02	DIODE 10E-2	
D607	8-719-200-02	DIODE 10E-2	
D608	8-719-200-02	DIODE 10E-2	
D611	8-719-200-02	DIODE 10E-2	
D612	8-719-200-02	DIODE 10E-2	
D613	8-719-200-02	DIODE 10E-2	
D614	8-719-200-02	DIODE 10E-2	
D617	8-719-200-02	DIODE 10E-2	
D618	8-719-200-02	DIODE 10E-2	
D619	8-719-200-02	DIODE 10E-2	
D620	8-719-200-02	DIODE 10E-2	
D621	8-719-911-19	DIODE 1SS119	
D622	8-719-100-58	DIODE RD10EB3	
		FUSE	
F001⚠	1-532-610-00	FUSE, TIME LAG T100MA	
F601⚠	1-532-203-00	FUSE, TIME LAG T2A	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark
F602⚠	1-532-279-00	FUSE, TIME LAG T500MA	
F603⚠	1-532-237-00	FUSE, TIME LAG T3.15A	
		IC	
IC001	8-759-103-93	IC UPC393C	
IC002	8-759-132-40	IC UPC324C	
IC003	8-759-132-40	IC UPC324C	
IC004	8-759-103-93	IC UPC393C	
IC005	8-743-980-00	IC BX-3980	
IC006	8-743-976-00	IC BX-3976	
IC301	8-751-941-00	IC CX-194B-D	
IC302	8-741-104-30	IC BX-1043	
IC303	8-743-983-00	IC BX-3983	
IC304	8-759-132-40	IC UPC324C	
IC305	8-759-904-94	IC TL494CN	
IC306	8-743-978-00	IC BX-3978	
IC307	8-759-240-30	IC TC4030BP	
IC308	8-759-240-53	IC TC4053BP	
IC309	8-741-103-90	IC BX-1039	
IC310	8-743-981-00	IC BX-3981	
IC311	8-741-103-80	IC BX-1038	
IC312	8-759-250-26	IC TC50268P	
IC313	8-759-240-51	IC TC4051BP	
IC314	8-741-013-00	IC BX-1013	
IC601	8-759-906-55	IC MB88401-179M	
IC602	8-759-906-56	IC MB88401-180M	
IC603	8-759-906-57	IC MB88401-181M	
IC604	8-759-103-93	IC UPC393C	
IC605	8-741-104-70	IC BX-1047	
IC606	8-759-220-04	IC TC40H004P	
IC607	8-759-987-58	IC MB8758	
IC608	8-759-240-13	IC TC4013BP	
IC609	8-759-987-58	IC MB8758	
IC610	8-741-101-60	IC BX-1016	
IC611	8-759-240-49	IC TC4049BP	
IC612	8-759-240-69	IC TC4069UBP	
		COIL	
L001	1-408-519-00	COIL, CHOKE	
L002	1-408-519-00	COIL, CHOKE	
L003	1-408-519-00	COIL, CHOKE	
L301	1-408-518-00	COIL, CHOKE	
L302	1-459-232-00	COIL, CORE	
L602	1-407-693-00	MICRO INDUCTOR 10UH	
L611	1-408-074-00	MICRO INDUCTOR 56UH	
L612	1-408-074-00	MICRO INDUCTOR 56UH	
L613	1-408-074-00	MICRO INDUCTOR 56UH	
		TRANSISTOR	
Q001	8-729-117-54	TRANSISTOR 2SA1175	
Q002	8-729-178-54	TRANSISTOR 2SC2785	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-178-54	TRANSISTOR 2SC2785	

Ref.No.	Part No.	Description	Remark
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-178-54	TRANSISTOR 2SC2785	
Q008	8-729-117-54	TRANSISTOR 2SA1175	
Q009	8-729-178-54	TRANSISTOR 2SC2785	
Q010	8-729-178-54	TRANSISTOR 2SC2785	
Q011	8-729-178-54	TRANSISTOR 2SC2785	
Q012	8-729-178-54	TRANSISTOR 2SC2785	
Q013	8-729-178-54	TRANSISTOR 2SC2785	
Q014	8-729-178-54	TRANSISTOR 2SC2785	
Q015	8-729-178-54	TRANSISTOR 2SC2785	
Q016	8-729-117-54	TRANSISTOR 2SA1175	
Q017	8-729-113-33	TRANSISTOR 2SB733-4	
Q018	8-729-113-33	TRANSISTOR 2SB733-4	
Q019	8-729-178-54	TRANSISTOR 2SC2785	
Q020	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-178-54	TRANSISTOR 2SC2785	
Q023	8-729-178-54	TRANSISTOR 2SC2785	
Q024	8-729-117-54	TRANSISTOR 2SA1175	
Q025	8-729-113-33	TRANSISTOR 2SB733-4	
Q026	8-729-113-33	TRANSISTOR 2SB733-4	
Q027	8-729-178-54	TRANSISTOR 2SC2785	
Q028	8-729-178-54	TRANSISTOR 2SC2785	
Q029	8-729-178-54	TRANSISTOR 2SC2785	
Q030	8-729-117-54	TRANSISTOR 2SA1175	
Q031	8-729-117-54	TRANSISTOR 2SA1175	
Q032	8-729-117-54	TRANSISTOR 2SA1175	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-177-32	TRANSISTOR 2SD773-4	
Q303 ⚠	8-729-117-54	TRANSISTOR 2SA1175	
Q304 ⚠	8-729-113-33	TRANSISTOR 2SB733-4	
Q305	8-729-178-54	TRANSISTOR 2SC2785	
Q307	8-729-178-54	TRANSISTOR 2SC2785	
Q309	8-729-117-54	TRANSISTOR 2SA1175	
Q310	8-729-117-54	TRANSISTOR 2SA1175	
Q311	8-729-178-54	TRANSISTOR 2SC2785	
Q314	8-729-178-54	TRANSISTOR 2SC2785	
Q315	8-729-178-54	TRANSISTOR 2SC2785	
Q317	8-729-178-54	TRANSISTOR 2SC2785	
Q318	8-729-117-54	TRANSISTOR 2SA1175	
Q320	8-729-117-54	TRANSISTOR 2SA1175	
Q321	8-729-117-54	TRANSISTOR 2SA1175	
Q322	8-729-117-54	TRANSISTOR 2SA1175	
Q324	8-729-178-54	TRANSISTOR 2SC2785	
Q325	8-729-178-54	TRANSISTOR 2SC2785	
Q328	8-729-178-54	TRANSISTOR 2SC2785	
Q329	8-729-178-54	TRANSISTOR 2SC2785	
Q330	8-729-117-54	TRANSISTOR 2SA1175	
Q331	8-729-117-54	TRANSISTOR 2SA1175	
Q332	8-729-178-54	TRANSISTOR 2SC2785	
Q333	8-729-117-54	TRANSISTOR 2SA1175	
Q401	8-729-178-54	TRANSISTOR 2SC2785	
Q601	8-729-177-23	TRANSISTOR 2SB772	

Ref.No.	Part No.	Description	Remark
Q602	8-729-178-54	TRANSISTOR 2SC2785	
Q603	8-729-178-54	TRANSISTOR 2SC2785	
Q604	8-729-178-54	TRANSISTOR 2SC2785	
Q605	8-729-178-54	TRANSISTOR 2SC2785	
Q606	8-729-178-54	TRANSISTOR 2SC2785	
Q607	8-729-178-54	TRANSISTOR 2SC2785	
Q608	8-729-178-54	TRANSISTOR 2SC2785	
Q609	8-729-178-54	TRANSISTOR 2SC2785	
Q610	8-729-178-54	TRANSISTOR 2SC2785	
Q611	8-729-117-54	TRANSISTOR 2SA1175	
Q612	8-729-116-42	TRANSISTOR 2SD1164	
Q613	8-729-116-42	TRANSISTOR 2SD1164	
Q614	8-729-116-42	TRANSISTOR 2SD1164	
Q615	8-729-116-42	TRANSISTOR 2SD1164	
Q616	8-729-178-54	TRANSISTOR 2SC2785	
Q617	8-729-113-33	TRANSISTOR 2SB733-4	
Q618	8-729-177-32	TRANSISTOR 2SD773-4	
Q619	8-729-113-33	TRANSISTOR 2SB733-4	
Q620	8-729-177-32	TRANSISTOR 2SD773-4	
Q621	8-729-178-54	TRANSISTOR 2SC2785	
Q622	8-729-178-54	TRANSISTOR 2SC2785	
Q623	8-729-113-33	TRANSISTOR 2SB733-4	
Q624	8-729-177-32	TRANSISTOR 2SD773-4	
Q625	8-729-113-33	TRANSISTOR 2SB733-4	
Q626	8-729-177-32	TRANSISTOR 2SD773-4	
Q627	8-729-178-54	TRANSISTOR 2SC2785	
Q628	8-729-178-54	TRANSISTOR 2SC2785	
Q629	8-729-178-54	TRANSISTOR 2SC2785	
Q630	8-729-178-54	TRANSISTOR 2SC2785	
Q631	8-729-178-54	TRANSISTOR 2SC2785	
Q632	8-729-178-54	TRANSISTOR 2SC2785	
Q634	8-729-117-54	TRANSISTOR 2SA1175	

RESISTOR

R001	1-246-789-00	CARBON	3.3K	1/8W
R002	1-246-789-00	CARBON	3.3K	1/8W
R011	1-246-803-00	CARBON	47K	1/8W
R014	1-247-055-00	CARBON	300K	1/8W
R015	1-246-809-00	CARBON	150K	1/8W
R016	1-246-807-00	CARBON	100K	1/8W
R017	1-246-803-00	CARBON	47K	1/8W
R018	1-246-799-00	CARBON	22K	1/8W
R020	1-246-799-00	CARBON	22K	1/8W
R021	1-246-803-00	CARBON	47K	1/8W
R022	1-246-794-00	CARBON	8.2K	1/8W
R023	1-246-785-00	CARBON	1.5K	1/8W
R024	1-246-790-00	CARBON	3.9K	1/8W
R025	1-246-849-00	CARBON	3K	1/8W
R026	1-246-798-00	CARBON	18K	1/8W
R027	1-246-783-00	CARBON	1K	1/8W
R028	1-246-853-00	CARBON	6.2K	1/8W
R029	1-246-792-00	CARBON	5.6K	1/8W
R030	1-246-803-00	CARBON	47K	1/8W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description			Remark
R031	1-246-791-00	CARBON	4.7K	1/8W	
R032	1-246-803-00	CARBON	47K	1/8W	
R035	1-246-803-00	CARBON	47K	1/8W	
R037	1-246-783-00	CARBON	1K	1/8W	
R038	1-246-799-00	CARBON	22K	1/8W	
R041	1-246-799-00	CARBON	22K	1/8W	
R042	1-246-799-00	CARBON	22K	1/8W	
R043	1-246-795-00	CARBON	10K	1/8W	
R044	1-246-803-00	CARBON	47K	1/8W	
R045	1-246-449-00	CARBON	100 5%	1/4W	
R046	1-246-457-00	CARBON	220 5%	1/4W	
R055	1-244-861-00	CARBON	330 5%	1/2W	
R056	1-246-783-00	CARBON	1K	1/8W	
R057 ⚠	1-237-612-00	[illegible]	[illegible]	[illegible]	
R058	1-246-801-00	CARBON	33K	1/8W	
R059	1-246-801-00	CARBON	33K	1/8W	
R060	1-246-860-00	CARBON	24K	1/8W	
R061	1-246-800-00	CARBON	27K	1/8W	
R064	1-247-049-00	CARBON	470K	1/8W	
R068	1-246-795-00	CARBON	10K	1/8W	
R071	1-247-057-00	CARBON	430K	1/8W	
R073	1-246-795-00	CARBON	10K	1/8W	
R074	1-246-799-00	CARBON	22K	1/8W	
R075	1-246-855-00	CARBON	9.1K	1/8W	
R080	1-246-783-00	CARBON	1K	1/8W	
R081	1-246-807-00	CARBON	100K	1/8W	
R082	1-247-049-00	CARBON	470K	1/8W	
R083	1-246-791-00	CARBON	4.7K	1/8W	
R084	1-246-791-00	CARBON	4.7K	1/8W	
R085	1-246-799-00	CARBON	22K	1/8W	
R089	1-246-795-00	CARBON	10K	1/8W	
R090	1-247-049-00	CARBON	470K	1/8W	
R091	1-246-807-00	CARBON	100K	1/8W	
R093	1-246-803-00	CARBON	47K	1/8W	
R094	1-246-795-00	CARBON	10K	1/8W	
R095	1-246-449-00	CARBON	100 5%	1/4W	
R096	1-246-457-00	CARBON	220 5%	1/4W	
R103	1-244-861-00	CARBON	330 5%	1/2W	
R106	1-246-783-00	CARBON	1K	1/8W	
R108	1-246-803-00	CARBON	47K	1/8W	
R110	1-246-811-00	CARBON	220K	1/8W	
R111	1-246-803-00	CARBON	47K	1/8W	
R113	1-246-803-00	CARBON	47K	1/8W	
R114	1-246-803-00	CARBON	47K	1/8W	
R115	1-246-801-00	CARBON	33K	1/8W	
R116	1-246-847-00	CARBON	2K	1/8W	
R117	1-246-799-00	CARBON	22K	1/8W	
R118	1-246-799-00	CARBON	22K	1/8W	
R119	1-246-803-00	CARBON	47K	1/8W	
R120	1-246-803-00	CARBON	47K	1/8W	
R121	1-246-803-00	CARBON	47K	1/8W	
R122	1-246-803-00	CARBON	47K	1/8W	
R301	1-246-799-00	CARBON	22K	1/8W	

Ref.No.	Part No.	Description			Remark
R302	1-246-801-00	CARBON	33K	1/8W	
R303	1-246-797-00	CARBON	15K	1/8W	
R304	1-246-786-00	CARBON	1.8K	1/8W	
R305	1-246-848-00	CARBON	2.4K	1/8W	
R306	1-246-782-00	CARBON	820	1/8W	
R310	1-246-795-00	CARBON	10K	1/8W	
R311	1-246-795-00	CARBON	10K	1/8W	
R312	1-246-795-00	CARBON	10K	1/8W	
R313	1-246-783-00	CARBON	1K	1/8W	
R314	1-246-803-00	CARBON	47K	1/8W	
R315	1-246-791-00	CARBON	4.7K	1/8W	
R316	1-246-805-00	CARBON	68K	1/8W	
R317	1-246-803-00	CARBON	47K	1/8W	
R318	1-246-852-00	CARBON	5.1K	1/8W	
R321	1-246-783-00	CARBON	1K	1/8W	
R322 ⚠	1-212-356-00	[illegible]	[illegible]	[illegible]	
R323	1-246-799-00	CARBON	22K	1/8W	
R327	1-246-797-00	CARBON	15K	1/8W	
R329 ⚠	1-212-850-00	[illegible]	[illegible]	[illegible]	
R330	1-246-795-00	CARBON	10K	1/8W	
R331	1-246-809-00	CARBON	150K	1/8W	
R334	1-246-801-00	CARBON	33K	1/8W	
R337	1-246-801-00	CARBON	33K	1/8W	
R338	1-246-809-00	CARBON	150K	1/8W	
R339	1-246-810-00	CARBON	180K	1/8W	
R340	1-246-788-00	CARBON	2.7K	1/8W	
R342	1-246-801-00	CARBON	33K	1/8W	
R344	1-246-801-00	CARBON	33K	1/8W	
R345	1-246-801-00	CARBON	33K	1/8W	
R346	1-246-807-00	CARBON	100K	1/8W	
R347	1-246-806-00	CARBON	82K	1/8W	
R348	1-246-801-00	CARBON	33K	1/8W	
R349	1-214-140-00	METAL	2.2K 1%	1/4W	
R349	1-214-737-41	METAL	2.2K 1%	1/4W	
R350	1-214-140-00	METAL	2.2K 1%	1/4W	
R350	1-214-737-41	METAL	2.2K 1%	1/4W	
R351	1-214-140-00	METAL	2.2K 1%	1/4W	
R351	1-214-737-41	METAL	2.2K 1%	1/4W	
R352	1-214-140-00	METAL	2.2K 1%	1/4W	
R352	1-214-737-41	METAL	2.2K 1%	1/4W	
R354	1-246-795-00	CARBON	10K	1/8W	
R355	1-246-795-00	CARBON	10K	1/8W	
R358	1-246-803-00	CARBON	47K	1/8W	
R364	1-246-805-00	CARBON	68K	1/8W	
R366	1-246-858-00	CARBON	16K	1/8W	
R369	1-246-862-00	CARBON	36K	1/8W	
R370	1-246-801-00	CARBON	33K	1/8W	
R371	1-246-795-00	CARBON	10K	1/8W	
R373	1-246-783-00	CARBON	1K	1/8W	
R374	1-246-804-00	CARBON	56K	1/8W	
R375	1-246-795-00	CARBON	10K	1/8W	
R377	1-246-795-00	CARBON	10K	1/8W	
R378	1-246-799-00	CARBON	22K	1/8W	

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When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R381	1-246-783-00	CARBON	1K		1/8W	
R382	1-246-795-00	CARBON	10K		1/8W	
R387	1-246-795-00	CARBON	10K		1/8W	
R390	1-246-851-00	CARBON	4.3K		1/8W	
R394	1-246-801-00	CARBON	33K		1/8W	
R395	1-246-804-00	CARBON	56K		1/8W	
R396	1-246-810-00	CARBON	180K		1/8W	
R397	1-246-801-00	CARBON	33K		1/8W	
R398	1-246-801-00	CARBON	33K		1/8W	
R399	1-246-837-00	CARBON	300		1/8W	
R400	1-246-795-00	CARBON	10K		1/8W	
R401	1-246-457-00	CARBON	220	5%	1/4W	
R404	1-246-801-00	CARBON	33K		1/8W	
R407	1-246-803-00	CARBON	47K		1/8W	
R408	1-247-049-00	CARBON	470K		1/8W	
R409	1-246-807-00	CARBON	100K		1/8W	
R410	1-247-051-00	CARBON	680K		1/8W	
R411	1-246-803-00	CARBON	47K		1/8W	
R412	1-246-795-00	CARBON	10K		1/8W	
R413	1-246-792-00	CARBON	5.6K		1/8W	
R414	1-246-792-00	CARBON	5.6K		1/8W	
R416	1-246-799-00	CARBON	22K		1/8W	
R417	1-246-783-00	CARBON	1K		1/8W	
R451	1-247-047-00	CARBON	330K		1/8W	
R452	1-246-797-00	CARBON	15K		1/8W	
R453	1-247-054-00	CARBON	240K		1/8W	
R460	1-246-795-00	CARBON	10K		1/8W	
R468	1-246-791-00	CARBON	4.7K		1/8W	
R473	1-246-803-00	CARBON	47K		1/8W	
R474	1-246-792-00	CARBON	5.6K		1/8W	
R476	1-246-803-00	CARBON	47K		1/8W	
R477	1-246-803-00	CARBON	47K		1/8W	
R478	1-246-803-00	CARBON	47K		1/8W	
R479	1-246-807-00	CARBON	100K		1/8W	
R480	1-246-803-00	CARBON	47K		1/8W	
R481	1-246-803-00	CARBON	47K		1/8W	
R482	1-246-803-00	CARBON	47K		1/8W	
R483	1-246-799-00	CARBON	22K		1/8W	
R484	1-246-791-00	CARBON	4.7K		1/8W	
R485	1-246-803-00	CARBON	47K		1/8W	
R486	1-246-803-00	CARBON	47K		1/8W	
R487	1-246-795-00	CARBON	10K		1/8W	
R488	1-246-800-00	CARBON	27K		1/8W	
R489	1-246-845-00	CARBON	1.3K		1/8W	
R490	1-246-845-00	CARBON	1.3K		1/8W	
R491	1-246-845-00	CARBON	1.3K		1/8W	
R492	1-246-797-00	CARBON	15K		1/8W	
[redacted]						
R496	1-246-779-00	CARBON	470		1/8W	
R498	1-246-803-00	CARBON	47K		1/8W	
R499	1-246-791-00	CARBON	4.7K		1/8W	
R501	1-246-850-00	CARBON	3.6K		1/8W	
R502	1-246-791-00	CARBON	4.7K		1/8W	

Ref.No.	Part No.	Description				Remark
R503	1-246-759-00	CARBON	10		1/8W	
R511	1-246-783-00	CARBON	1K		1/8W	
R512	1-246-807-00	CARBON	100K		1/8W	
R513	1-246-807-00	CARBON	100K		1/8W	
R514	1-246-803-00	CARBON	47K		1/8W	
R515	1-214-164-00	METAL	22K	1%	1/4W	
R515	1-214-761-41	METAL	22K	1%	1/4W	
R516	1-246-807-00	CARBON	100K		1/8W	
R517	1-246-803-00	CARBON	47K		1/8W	
R518	1-246-803-00	CARBON	47K		1/8W	
R519	1-246-795-00	CARBON	10K		1/8W	
R520	1-246-807-00	CARBON	100K		1/8W	
R521	1-246-803-00	CARBON	47K		1/8W	
R522	1-246-795-00	CARBON	10K		1/8W	
R523	1-246-795-00	CARBON	10K		1/8W	
R524	1-246-803-00	CARBON	47K		1/8W	
R525	1-246-795-00	CARBON	10K		1/8W	
R526	1-246-795-00	CARBON	10K		1/8W	
R527	1-246-803-00	CARBON	47K		1/8W	
R529	1-246-805-00	CARBON	68K		1/8W	
[redacted]						
R603	1-246-799-00	CARBON	22K		1/8W	
R605	1-246-807-00	CARBON	100K		1/8W	
R607	1-246-807-00	CARBON	100K		1/8W	
R610	1-246-791-00	CARBON	4.7K		1/8W	
R611	1-246-803-00	CARBON	47K		1/8W	
R612	1-246-791-00	CARBON	4.7K		1/8W	
R613	1-246-791-00	CARBON	4.7K		1/8W	
R614	1-246-791-00	CARBON	4.7K		1/8W	
R615	1-246-803-00	CARBON	47K		1/8W	
R616	1-246-803-00	CARBON	47K		1/8W	
R617	1-246-803-00	CARBON	47K		1/8W	
R618	1-246-803-00	CARBON	47K		1/8W	
R619	1-246-803-00	CARBON	47K		1/8W	
R620	1-247-049-00	CARBON	470K		1/8W	
R621	1-246-803-00	CARBON	47K		1/8W	
R622	1-246-803-00	CARBON	47K		1/8W	
R623	1-246-803-00	CARBON	47K		1/8W	
R624	1-246-803-00	CARBON	47K		1/8W	
R625	1-246-797-00	CARBON	15K		1/8W	
R626	1-246-795-00	CARBON	10K		1/8W	
R627	1-246-789-00	CARBON	3.3K		1/8W	
R628	1-246-783-00	CARBON	1K		1/8W	
R629	1-246-783-00	CARBON	1K		1/8W	
R630	1-246-783-00	CARBON	1K		1/8W	
R631	1-246-783-00	CARBON	1K		1/8W	
R632	1-246-791-00	CARBON	4.7K		1/8W	
R633	1-246-787-00	CARBON	2.2K		1/8W	
R634	1-246-787-00	CARBON	2.2K		1/8W	
R635	1-246-793-00	CARBON	6.8K		1/8W	
R636	1-246-791-00	CARBON	4.7K		1/8W	
R637	1-246-783-00	CARBON	1K		1/8W	
R638	1-246-783-00	CARBON	1K		1/8W	

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When indicating parts by reference number, please include the board name.

SS-11 JR-2

Ref.No.	Part No.	Description			Remark
R640	1-246-795-00	CARBON	10K	1/8W	
R641	1-246-859-00	CARBON	20K	1/8W	
R643	1-246-783-00	CARBON	1K	1/8W	
R644	1-246-803-00	CARBON	47K	1/8W	
R645	1-246-801-00	CARBON	33K	1/8W	
R646	⚠1-247-587-00	CARBON	0.47	5% 1/4W	
R649	1-246-807-00	CARBON	100K	1/8W	
R654	1-246-807-00	CARBON	100K	1/8W	
R659	1-246-807-00	CARBON	100K	1/8W	
R664	1-246-807-00	CARBON	100K	1/8W	
R667	1-246-795-00	CARBON	10K	1/8W	
R668	1-246-799-00	CARBON	22K	1/8W	
R670	1-246-807-00	CARBON	100K	1/8W	
R671	1-247-058-00	CARBON	510K	1/8W	
R672	1-246-858-00	CARBON	16K	1/8W	
R673	1-246-798-00	CARBON	18K	1/8W	
R674	⚠1-208-640-00	METAL	100	5% 2W	F
R675	⚠1-208-640-00	METAL	100	5% 2W	F
R676	1-246-783-00	CARBON	1K	1/8W	
R677	1-246-795-00	CARBON	10K	1/8W	
R678	1-246-783-00	CARBON	1K	1/8W	
R679	1-246-807-00	CARBON	100K	1/8W	
R680	1-246-794-00	CARBON	8.2K	1/8W	
R681	1-246-795-00	CARBON	10K	1/8W	
R682	1-246-803-00	CARBON	47K	1/8W	
R683	1-246-803-00	CARBON	47K	1/8W	
R684	1-246-803-00	CARBON	47K	1/8W	
R685	1-246-803-00	CARBON	47K	1/8W	
R686	1-246-803-00	CARBON	47K	1/8W	
R687	1-246-751-00	CARBON	2.2	1/8W	
R688	1-246-803-00	CARBON	47K	1/8W	
R690	1-246-803-00	CARBON	47K	1/8W	

VARIABLE RESISTOR

RV001	1-226-774-00	RES, ADJ, METAL GLAZE	47K
RV002	1-226-773-00	RES, ADJ, METAL GLAZE	22K
RV301	1-226-753-00	RES, ADJ, SOLID	47K
RV302	1-224-264-XX	RES, ADJ, METAL GLAZE	47K
RV303	1-226-771-00	RES, ADJ, METAL GLAZE	1K
RV304	1-226-753-00	RES, ADJ, SOLID	47K
RV305	1-226-774-00	RES, ADJ, METAL GLAZE	47K
RV307	1-226-703-00	RES, ADJ, METAL GLAZE	10K
RV309	1-226-703-00	RES, ADJ, METAL GLAZE	10K
RV310	1-226-703-00	RES, ADJ, METAL GLAZE	10K
RV314	1-226-775-00	RES, ADJ, METAL GLAZE	100K
RV315	1-226-701-00	RES, ADJ, METAL GLAZE	220
RV316	1-226-701-00	RES, ADJ, METAL GLAZE	220
RV317	1-226-713-00	RES, ADJ, SOLID	100K
RV318	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K
RV319	1-226-704-00	RES, ADJ, METAL GLAZE	470K

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Ref.No.	Part No.	Description			Remark
		THERMISTOR			
TH001	1-800-200-00	THERMISTOR S-3K			
TH301	1-800-200-00	THERMISTOR S-3K			
		CRYSTAL			
X601	1-527-726-00	VIBRATOR, CRYSTAL			

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♦:A-6715-174-A JR-2 BOARD, COMPLETE
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CAPACITOR

C001	1-123-306-00	ELECT	47MF	20%	10V
C002	1-123-328-00	ELECT	4.7MF	20%	25V
C003	1-123-356-00	ELECT	10MF	20%	16V
C004	1-130-475-00	MYLAR	0.0022MF	5%	50V
C005	1-161-013-00	CERAMIC	0.01MF	10%	25V
C006	1-123-356-00	ELECT	10MF	20%	16V
C007	1-130-499-00	MYLAR	0.22MF	5%	50V
C008	1-123-356-00	ELECT	10MF	20%	16V
C009	1-123-356-00	ELECT	10MF	20%	16V
C010	1-161-039-00	CERAMIC	0.001MF	10%	25V
C011	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V
C012	1-102-126-00	CERAMIC	0.0056MF	10%	50V
C013	1-123-328-00	ELECT	4.7MF	20%	25V
C014	1-161-013-00	CERAMIC	0.01MF	10%	25V
C015	1-123-306-00	ELECT	47MF	20%	10V
C016	1-123-305-00	ELECT	33MF	20%	10V
C017	1-123-356-00	ELECT	10MF	20%	16V
C018	1-123-356-00	ELECT	10MF	20%	16V
C019	1-123-356-00	ELECT	10MF	20%	16V
C020	1-123-356-00	ELECT	10MF	20%	16V
C021	1-102-118-00	CERAMIC	0.0012MF	10%	50V
C022	1-123-356-00	ELECT	10MF	20%	16V
C023	1-123-356-00	ELECT	10MF	20%	16V
C024	1-131-404-00	ELECT(SOLID)	0.22MF	10%	25V
C025	1-130-026-00	FILM	0.0047MF	5%	50V
C026	1-130-022-00	FILM	0.0022MF	5%	50V
C027	1-123-330-00	ELECT	22MF	20%	16V
C028	1-123-306-00	ELECT	47MF	20%	10V
C029	1-161-013-00	CERAMIC	0.01MF	10%	25V
C030	1-131-342-00	ELECT(SOLID)	0.15MF	10%	25V
C031	1-161-013-00	CERAMIC	0.01MF	10%	25V
C032	1-123-295-00	ELECT	100MF	20%	6.3V
C033	1-108-562-00	MYLAR	0.002MF	5%	50V
C034	1-108-562-00	MYLAR	0.002MF	5%	50V
C037	1-123-306-00	ELECT	47MF	20%	10V
C038	1-130-494-51	MYLAR	0.082MF	5%	50V
C040	1-123-306-00	ELECT	47MF	20%	10V
C041	1-123-382-00	ELECT	3.3MF	20%	50V
C042	1-161-017-00	CERAMIC	0.022MF	10%	25V
C043	1-130-475-00	MYLAR	0.0022MF	5%	50V

Ref.No.	Part No.	Description			Remark
C044	1-123-356-00	ELECT	10MF	20%	16V
C047	1-123-356-00	ELECT	10MF	20%	16V
C048	1-130-491-00	MYLAR	0.047MF	5%	50V
C049	1-131-407-00	ELECT(SOLID)	0.68MF	10%	25V
C050	1-131-408-00	ELECT(SOLID)	1MF	10%	25V
C051	1-123-295-00	ELECT	100MF	20%	6.3V
C052	1-161-017-00	CERAMIC	0.022MF	10%	25V
C053	1-131-341-00	ELECT(SOLID)	0.1MF	10%	25V
C054	1-131-344-00	ELECT(SOLID)	0.33MF	10%	25V
C055	1-131-344-00	ELECT(SOLID)	0.33MF	10%	25V
C203	1-102-978-00	CERAMIC	220PF	5%	50V
C204	1-102-978-00	CERAMIC	220PF	5%	50V
C205	1-123-380-00	ELECT	1MF	20%	50V
C206	1-161-013-00	CERAMIC	0.01MF	10%	25V
C207	1-161-039-00	CERAMIC	0.001MF	10%	25V
C208	1-123-332-00	ELECT	47MF	20%	16V
C209	1-161-039-00	CERAMIC	0.001MF	10%	25V
C501	1-161-021-00	CERAMIC	0.047MF	10%	25V
C502	1-123-330-00	ELECT	22MF	20%	16V
C503	1-102-978-00	CERAMIC	220PF	5%	50V
C504	1-102-978-00	CERAMIC	220PF	5%	50V
C701	1-161-021-00	CERAMIC	0.047MF	10%	25V
C702	1-123-380-00	ELECT	1MF	20%	50V
C703	1-123-380-00	ELECT	1MF	20%	50V
C704	1-123-380-00	ELECT	1MF	20%	50V
C705	1-130-493-00	MYLAR	0.068MF	5%	50V
C706	1-130-476-00	MYLAR	0.0027MF	5%	50V
C707	1-123-381-00	ELECT	2.2MF	20%	50V
C708	1-123-330-00	ELECT	22MF	20%	16V
C709	1-123-330-00	ELECT	22MF	20%	16V
C710	1-123-380-00	ELECT	1MF	20%	50V
C711	1-130-493-00	MYLAR	0.068MF	5%	50V
C712	1-130-476-00	MYLAR	0.0027MF	5%	50V
C713	1-123-381-00	ELECT	2.2MF	20%	50V
C714	1-123-330-00	ELECT	22MF	20%	16V
C715	1-123-330-00	ELECT	22MF	20%	16V
C716	1-123-295-00	ELECT	100MF	20%	6.3V
C717	1-101-004-00	CERAMIC	0.01MF		50V
C751	1-123-330-00	ELECT	22MF	20%	16V
C752	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C753	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C754	1-123-330-00	ELECT	22MF	20%	16V
C755	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C756	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C757	1-123-330-00	ELECT	22MF	20%	16V
C758	1-123-356-00	ELECT	10MF	20%	16V
C759	1-123-330-00	ELECT	22MF	20%	16V
C760	1-123-356-00	ELECT	10MF	20%	16V
C761	1-123-356-00	ELECT	10MF	20%	16V
C762	1-123-330-00	ELECT	22MF	20%	16V
C763	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C764	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C765	1-123-330-00	ELECT	22MF	20%	16V
C766	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C767	1-127-470-00	ELECT(SOLID)	0.47MF	5%	16V
C768	1-123-330-00	ELECT	22MF	20%	16V
C769	1-123-330-00	ELECT	22MF	20%	16V
C770	1-123-356-00	ELECT	10MF	20%	16V
C771	1-123-356-00	ELECT	10MF	20%	16V
C772	1-123-356-00	ELECT	10MF	20%	16V
C773	1-123-333-00	ELECT	100MF	20%	16V
C774	1-101-004-00	CERAMIC	0.01MF		50V

CONNECTOR

CN001♣	1-560-470-00	PIN, CONNECTOR	8P
CN002♣	1-560-472-00	PIN, CONNECTOR	12P
CN003♣	1-560-469-00	PIN, CONNECTOR	6P
CN004♣	1-560-466-00	PIN, CONNECTOR	3P
CN201♣	1-560-468-00	PIN, CONNECTOR	5P
CN203♣	1-560-468-00	PIN, CONNECTOR	5P
CN204♣	1-560-470-00	PIN, CONNECTOR	8P
CN501♣	1-560-591-00	PIN, CONNECTOR	7P
CN502♣	1-560-471-00	PIN, CONNECTOR	10P
CN701♣	1-560-466-00	PIN, CONNECTOR	3P
CN702♣	1-560-470-00	PIN, CONNECTOR	8P
CN703♣	1-560-466-00	PIN, CONNECTOR	3P

DIODE

D001	8-719-911-19	DIODE	1SS119
D002	8-719-911-19	DIODE	1SS119
D003	8-719-911-19	DIODE	1SS119
D004	8-719-911-19	DIODE	1SS119
D005	8-719-911-19	DIODE	1SS119
D006	8-719-911-19	DIODE	1SS119
D007	8-719-911-19	DIODE	1SS119
D008	8-719-911-19	DIODE	1SS119
D009	8-719-911-19	DIODE	1SS119
D010	8-719-911-19	DIODE	1SS119
D011	8-719-911-19	DIODE	1SS119
D012	8-719-911-19	DIODE	1SS119
D013	8-719-911-19	DIODE	1SS119
D014	8-719-911-19	DIODE	1SS119
D015	8-719-911-19	DIODE	1SS119
D019	8-719-911-19	DIODE	1SS119
D020	8-719-911-19	DIODE	1SS119
D021	8-719-911-19	DIODE	1SS119
D022	8-719-911-19	DIODE	1SS119
D023	8-719-911-19	DIODE	1SS119
D201	8-719-102-90	DIODE	RD10EN2
D202	8-719-182-07	DIODE	RD8.2E-B
D203	8-719-110-07	DIODE	RD10E-B
D204	8-719-911-19	DIODE	1SS119
D501	8-719-130-07	DIODE	RD3.0E-B
D502	8-719-200-02	DIODE	10E-2
D701	8-719-911-19	DIODE	1SS119
D702	8-719-911-19	DIODE	1SS119

When indicating parts by reference number, please include the board name.

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Ref.No.	Part No.	Description	Remark
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-911-19	DIODE 1SS119	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-911-19	DIODE 1SS119	
		IC	
IC001	8-759-132-40	IC UPC324C	
IC002	8-759-132-40	IC UPC324C	
IC003	8-759-132-40	IC UPC324C	
IC004	8-759-240-30	IC TC4030BP	
IC005	8-759-979-27	IC CX-7927	
IC006	8-759-240-66	IC TC4066BP	
IC007	8-759-240-13	IC TC4013BP	
IC008	8-759-240-81	IC TC4081BP	
IC009	8-759-045-38	IC MC14538BCP	
IC010	8-759-240-11	IC TC4011BP	
IC011	8-759-240-11	IC TC4011BP	
IC012	8-759-240-81	IC TC4081BP	
IC013	8-759-240-11	IC TC4011BP	
IC201	8-759-300-27	IC HD38757A-05	
IC501	8-759-100-80	IC UPD652C-040	
IC701	8-759-340-70	IC HD14070BP	
IC702	8-759-345-38	IC HD14538BP	
IC703	8-759-140-13	IC UPD4013BC	
IC704	8-759-145-58	IC UPC4558C	
IC705	8-759-145-58	IC UPC4558C	
IC706	8-759-145-58	IC UPC4558C	
IC707	8-759-103-93	IC UPC393C	
		TRANSISTOR	
Q001	8-729-117-54	TRANSISTOR 2SA1175	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-178-54	TRANSISTOR 2SC2785	
Q006	8-729-178-54	TRANSISTOR 2SC2785	
Q007	8-729-117-54	TRANSISTOR 2SA1175	
Q008	8-729-178-54	TRANSISTOR 2SC2785	
Q009	8-729-178-54	TRANSISTOR 2SC2785	
Q010	8-729-117-54	TRANSISTOR 2SA1175	
Q016	8-729-178-54	TRANSISTOR 2SC2785	
Q017	8-729-178-54	TRANSISTOR 2SC2785	
Q018	8-729-178-54	TRANSISTOR 2SC2785	
Q021	8-729-178-54	TRANSISTOR 2SC2785	
Q022	8-729-117-54	TRANSISTOR 2SA1175	
Q024	8-729-178-54	TRANSISTOR 2SC2785	
Q025	8-729-178-54	TRANSISTOR 2SC2785	
Q030	8-729-178-54	TRANSISTOR 2SC2785	
Q031	8-729-117-54	TRANSISTOR 2SA1175	
Q032	8-729-178-54	TRANSISTOR 2SC2785	
Q035	8-729-117-54	TRANSISTOR 2SA1175	
Q036	8-729-117-54	TRANSISTOR 2SA1175	
Q201	8-729-117-54	TRANSISTOR 2SA1175	
Q202	8-729-178-54	TRANSISTOR 2SC2785	
Q205	8-729-178-54	TRANSISTOR 2SC2785	
Q206	8-729-178-54	TRANSISTOR 2SC2785	
Q501	8-729-178-54	TRANSISTOR 2SC2785	
Q502	8-729-178-54	TRANSISTOR 2SC2785	
Q503	8-729-178-54	TRANSISTOR 2SC2785	
Q504	8-729-178-54	TRANSISTOR 2SC2785	
Q505	8-729-178-54	TRANSISTOR 2SC2785	
Q506	8-729-178-54	TRANSISTOR 2SC2785	
Q507	8-729-178-54	TRANSISTOR 2SC2785	
Q701	8-729-178-54	TRANSISTOR 2SC2785	
Q702	8-729-178-54	TRANSISTOR 2SC2785	
Q703	8-729-178-54	TRANSISTOR 2SC2785	
Q704	8-729-178-54	TRANSISTOR 2SC2785	
Q705	8-729-178-54	TRANSISTOR 2SC2785	
Q706	8-729-178-54	TRANSISTOR 2SC2785	
		RESISTOR	
R001	1-246-803-00	CARBON 47K	1/8W
R002	1-246-803-00	CARBON 47K	1/8W
R003	1-215-443-00	METAL 8.2K 1%	1/6W
R004	1-215-445-00	METAL 10K 1%	1/6W
R005	1-246-791-00	CARBON 4.7K	1/8W
R006	1-247-053-00	CARBON 1M	1/8W
R007	1-246-791-00	CARBON 4.7K	1/8W
R008	1-247-053-00	CARBON 1M	1/8W
R009	1-246-791-00	CARBON 4.7K	1/8W
R010	1-247-053-00	CARBON 1M	1/8W
R011	1-246-791-00	CARBON 4.7K	1/8W
R012	1-247-053-00	CARBON 1M	1/8W
R013	1-246-792-00	CARBON 5.6K	1/8W
R014	1-246-799-00	CARBON 22K	1/8W
R015	1-246-803-00	CARBON 47K	1/8W
R017	1-246-852-00	CARBON 5.1K	1/8W
R020	1-246-846-00	CARBON 1.6K	1/8W
R021	1-246-851-00	CARBON 4.3K	1/8W
R022	1-246-807-00	CARBON 100K	1/8W
R023	1-246-864-00	CARBON 51K	1/8W
R024	1-246-807-00	CARBON 100K	1/8W
R025	1-246-807-00	CARBON 100K	1/8W
R026	1-246-795-00	CARBON 10K	1/8W
R027	1-246-807-00	CARBON 100K	1/8W
R028	1-246-807-00	CARBON 100K	1/8W
R029	1-246-807-00	CARBON 100K	1/8W
R030	1-246-807-00	CARBON 100K	1/8W
R032	1-246-781-00	CARBON 680	1/8W
R034	1-246-795-00	CARBON 10K	1/8W
R035	1-246-795-00	CARBON 10K	1/8W
R036	1-246-795-00	CARBON 10K	1/8W
R039	1-215-445-00	METAL 10K 1%	1/6W
R040	1-215-460-31	METAL 43K 1%	1/6W
R041	1-246-803-00	CARBON 47K	1/8W
R042	1-215-418-31	METAL 750 1%	1/6W
R043	1-247-053-00	CARBON 1M	1/8W
R044	1-247-053-00	CARBON 1M	1/8W

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R045	1-246-765-00	CARBON	33	1/8W	
R047	1-246-807-00	CARBON	100K	1/8W	
R048	1-246-844-00	CARBON	1.1K	1/8W	
R049	1-246-846-00	CARBON	1.6K	1/8W	
R050	1-246-846-00	CARBON	1.6K	1/8W	
R051	1-246-791-00	CARBON	4.7K	1/8W	
R052	1-246-791-00	CARBON	4.7K	1/8W	
R053	1-246-801-00	CARBON	33K	1/8W	
R054	1-247-053-00	CARBON	1M	1/8W	
R055	1-247-053-00	CARBON	1M	1/8W	
R058	1-246-792-00	CARBON	5.6K	1/8W	
R060	1-246-803-00	CARBON	47K	1/8W	
R061	1-246-800-00	CARBON	27K	1/8W	
R062	1-246-803-00	CARBON	47K	1/8W	
R063	1-246-783-00	CARBON	1K	1/8W	
R064	1-246-783-00	CARBON	1K	1/8W	
R065	1-246-783-00	CARBON	1K	1/8W	
R066	1-246-804-00	CARBON	56K	1/8W	
R067	1-246-804-00	CARBON	56K	1/8W	
R068	1-246-807-00	CARBON	100K	1/8W	
R069	1-246-803-00	CARBON	47K	1/8W	
R070	1-246-850-00	CARBON	3.6K	1/8W	
R071	1-246-805-00	CARBON	68K	1/8W	
R072	1-246-804-00	CARBON	56K	1/8W	
R073	1-246-804-00	CARBON	56K	1/8W	
R074	1-246-803-00	CARBON	47K	1/8W	
R075	1-246-795-00	CARBON	10K	1/8W	
R076	1-246-795-00	CARBON	10K	1/8W	
R079	1-246-787-00	CARBON	2.2K	1/8W	
R080	1-246-803-00	CARBON	47K	1/8W	
R081	1-246-803-00	CARBON	47K	1/8W	
R082	1-246-803-00	CARBON	47K	1/8W	
R083	1-246-803-00	CARBON	47K	1/8W	
R087	1-215-473-31	METAL	150K 1%	1/6W	
R088	1-246-775-00	CARBON	220	1/8W	
R089	1-246-805-00	CARBON	68K	1/8W	
R090	1-246-803-00	CARBON	47K	1/8W	
R091	1-246-803-00	CARBON	47K	1/8W	
R092	1-247-053-00	CARBON	1M	1/8W	
R093	1-246-777-00	CARBON	330	1/8W	
R094	1-246-803-00	CARBON	47K	1/8W	
R095	1-246-803-00	CARBON	47K	1/8W	
R098	1-246-803-00	CARBON	47K	1/8W	
R099	1-246-775-00	CARBON	220	1/8W	
R101	1-246-795-00	CARBON	10K	1/8W	
R102	1-246-783-00	CARBON	1K	1/8W	
R103	1-246-795-00	CARBON	10K	1/8W	
R105	1-246-783-00	CARBON	1K	1/8W	
R106	1-246-864-00	CARBON	51K	1/8W	
R107	1-246-858-00	CARBON	16K	1/8W	
R108	1-246-794-00	CARBON	8.2K	1/8W	
R109	1-246-783-00	CARBON	1K	1/8W	
R110	1-246-807-00	CARBON	100K	1/8W	

Ref.No.	Part No.	Description			Remark
R111	1-246-799-00	CARBON	22K	1/8W	
R117	1-246-867-00	CARBON	91K	1/8W	
R118	1-246-801-00	CARBON	33K	1/8W	
R119	1-246-791-00	CARBON	4.7K	1/8W	
R120	1-246-811-00	CARBON	220K	1/8W	
R121	1-246-803-00	CARBON	47K	1/8W	
R122	1-246-803-00	CARBON	47K	1/8W	
R123	1-246-802-00	CARBON	39K	1/8W	
R124	1-246-795-00	CARBON	10K	1/8W	
R125	1-246-857-00	CARBON	13K	1/8W	
R126	1-246-801-00	CARBON	33K	1/8W	
R127	1-246-803-00	CARBON	47K	1/8W	
R128	1-246-783-00	CARBON	1K	1/8W	
R129	1-246-861-00	CARBON	30K	1/8W	
R130	1-246-857-00	CARBON	13K	1/8W	
R131	1-215-445-00	METAL	10K 1%	1/6W	
R132	1-246-803-00	CARBON	47K	1/8W	
R133	1-246-791-00	CARBON	4.7K	1/8W	
R134	1-246-795-00	CARBON	10K	1/8W	
R135	1-246-803-00	CARBON	47K	1/8W	
R136	1-246-803-00	CARBON	47K	1/8W	
R137	1-246-778-00	CARBON	390	1/8W	
R138	1-246-803-00	CARBON	47K	1/8W	
R139	1-246-791-00	CARBON	4.7K	1/8W	
R140	1-246-803-00	CARBON	47K	1/8W	
R141	1-246-803-00	CARBON	47K	1/8W	
R142	1-246-807-00	CARBON	100K	1/8W	
R143	1-246-803-00	CARBON	47K	1/8W	
R144	1-246-803-00	CARBON	47K	1/8W	
R145	1-246-795-00	CARBON	10K	1/8W	
R148	1-246-858-00	CARBON	16K	1/8W	
R153	1-246-807-00	CARBON	100K	1/8W	
R154	1-246-783-00	CARBON	1K	1/8W	
R155	1-246-795-00	CARBON	10K	1/8W	
R156	1-246-801-00	CARBON	33K	1/8W	
R158	1-246-783-00	CARBON	1K	1/8W	
R160	1-246-802-00	CARBON	39K	1/8W	
R161	1-246-790-00	CARBON	3.9K	1/8W	
R162	1-246-791-00	CARBON	4.7K	1/8W	
R164	1-246-791-00	CARBON	4.7K	1/8W	
R165	1-246-807-00	CARBON	100K	1/8W	
R166	1-246-807-00	CARBON	100K	1/8W	
R167	1-246-848-00	CARBON	2.4K	1/8W	
R168	1-246-783-00	CARBON	1K	1/8W	
R169	1-246-807-00	CARBON	100K	1/8W	
R170	1-246-807-00	CARBON	100K	1/8W	
R171	1-246-807-00	CARBON	100K	1/8W	
R172	1-246-807-00	CARBON	100K	1/8W	
R173	1-246-795-00	CARBON	10K	1/8W	
R174	1-247-053-00	CARBON	1M	1/8W	
R175	1-246-803-00	CARBON	47K	1/8W	
R176	1-246-791-00	CARBON	4.7K	1/8W	
R177	1-246-791-00	CARBON	4.7K	1/8W	

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Ref.No.	Part No.	Description			Remark
R178	1-246-801-00	CARBON	33K	1/8W	
R179	1-246-800-00	CARBON	27K	1/8W	
R180	1-247-049-00	CARBON	470K	1/8W	
R181	1-246-805-00	CARBON	68K	1/8W	
R182	1-246-804-00	CARBON	56K	1/8W	
R202	1-246-799-00	CARBON	22K	1/8W	
R203	1-246-789-00	CARBON	3.3K	1/8W	
R204	1-246-795-00	CARBON	10K	1/8W	
R205	1-246-799-00	CARBON	22K	1/8W	
R214	1-246-795-00	CARBON	10K	1/8W	
R215	1-246-799-00	CARBON	22K	1/8W	
R216	1-246-795-00	CARBON	10K	1/8W	
R217	1-246-795-00	CARBON	10K	1/8W	
R218	1-246-795-00	CARBON	10K	1/8W	
R219	1-247-053-00	CARBON	1M	1/8W	
R220	1-246-803-00	CARBON	47K	1/8W	
R221	1-246-799-00	CARBON	22K	1/8W	
R222	1-246-803-00	CARBON	47K	1/8W	
R223	1-246-803-00	CARBON	47K	1/8W	
R224	1-246-795-00	CARBON	10K	1/8W	
R225	1-246-803-00	CARBON	47K	1/8W	
R226	1-246-799-00	CARBON	22K	1/8W	
R227	1-246-803-00	CARBON	47K	1/8W	
R228	1-246-783-00	CARBON	1K	1/8W	
R229	1-246-799-00	CARBON	22K	1/8W	
R230	1-246-803-00	CARBON	47K	1/8W	
R231	1-246-803-00	CARBON	47K	1/8W	
R232	1-246-803-00	CARBON	47K	1/8W	
R234	1-246-799-00	CARBON	22K	1/8W	
R235	1-246-799-00	CARBON	22K	1/8W	
R236	1-246-799-00	CARBON	22K	1/8W	
R237	1-246-803-00	CARBON	47K	1/8W	
R238	1-246-795-00	CARBON	10K	1/8W	
R239	1-246-803-00	CARBON	47K	1/8W	
R240	1-246-795-00	CARBON	10K	1/8W	
R241 ⚠	1-246-443-00	CARBON	56	5% 1/4W	
R242	1-246-799-00	CARBON	22K	1/8W	
R243	1-246-799-00	CARBON	22K	1/8W	
R244	1-246-795-00	CARBON	10K	1/8W	
R245	1-246-795-00	CARBON	10K	1/8W	
R246	1-246-793-00	CARBON	6.8K	1/8W	
R501	1-246-832-00	CARBON	110	1/8W	
R502	1-246-832-00	CARBON	110	1/8W	
R503	1-246-832-00	CARBON	110	1/8W	
R504	1-246-832-00	CARBON	110	1/8W	
R505	1-246-832-00	CARBON	110	1/8W	
R506	1-246-832-00	CARBON	110	1/8W	
R507	1-246-793-00	CARBON	6.8K	1/8W	
R508	1-246-795-00	CARBON	10K	1/8W	
R509	1-246-799-00	CARBON	22K	1/8W	
R510	1-247-053-00	CARBON	1M	1/8W	
R511	1-246-799-00	CARBON	22K	1/8W	

Ref.No.	Part No.	Description			Remark
R512	1-246-799-00	CARBON	22K	1/8W	
R513	1-246-799-00	CARBON	22K	1/8W	
R514	1-246-799-00	CARBON	22K	1/8W	
R515	1-246-799-00	CARBON	22K	1/8W	
R516	1-246-799-00	CARBON	22K	1/8W	
R517	1-246-799-00	CARBON	22K	1/8W	
R518	1-246-799-00	CARBON	22K	1/8W	
R519	1-246-799-00	CARBON	22K	1/8W	
R520	1-246-799-00	CARBON	22K	1/8W	
R521	1-246-799-00	CARBON	22K	1/8W	
R522 ⚠	1-212-849-00	FUSIBLE	4.7	5% 1/4W	F
R523	1-246-783-00	CARBON	1K	1/8W	
R701	1-246-807-00	CARBON	100K	1/8W	
R702	1-246-807-00	CARBON	100K	1/8W	
R703	1-246-864-00	CARBON	51K	1/8W	
R704	1-246-861-00	CARBON	30K	1/8W	
R706	1-246-807-00	CARBON	100K	1/8W	
R707	1-246-807-00	CARBON	100K	1/8W	
R708	1-246-809-00	CARBON	150K	1/8W	
R709	1-246-809-00	CARBON	150K	1/8W	
R710	1-246-870-00	CARBON	160K	1/8W	
R711	1-246-787-00	CARBON	2.2K	1/8W	
R712	1-246-791-00	CARBON	4.7K	1/8W	
R713	1-246-803-00	CARBON	47K	1/8W	
R714	1-246-803-00	CARBON	47K	1/8W	
R715	1-246-807-00	CARBON	100K	1/8W	
R717	1-246-807-00	CARBON	100K	1/8W	
R718	1-246-807-00	CARBON	100K	1/8W	
R719	1-246-809-00	CARBON	150K	1/8W	
R720	1-246-809-00	CARBON	150K	1/8W	
R721	1-246-870-00	CARBON	160K	1/8W	
R722	1-246-787-00	CARBON	2.2K	1/8W	
R723	1-246-791-00	CARBON	4.7K	1/8W	
R724	1-246-803-00	CARBON	47K	1/8W	
R725	1-246-803-00	CARBON	47K	1/8W	
R726	1-246-783-00	CARBON	1K	1/8W	
R751	1-215-449-31	METAL	15K	1% 1/6W	
R752	1-215-421-00	METAL	1K	1% 1/6W	
R753	1-215-487-31	METAL	560K	1% 1/6W	
R754	1-215-433-31	METAL	3.3K	1% 1/6W	
R755	1-215-428-31	METAL	2K	1% 1/6W	
R756	1-215-487-31	METAL	560K	1% 1/6W	
R757	1-246-801-00	CARBON	33K	1/8W	
R758	1-246-807-00	CARBON	100K	1/8W	
R759	1-246-807-00	CARBON	100K	1/8W	
R760	1-246-787-00	CARBON	2.2K	1/8W	
R761	1-246-799-00	CARBON	22K	1/8W	
R762	1-246-787-00	CARBON	2.2K	1/8W	
R763	1-246-811-00	CARBON	220K	1/8W	
R764	1-246-807-00	CARBON	100K	1/8W	
R766	1-246-801-00	CARBON	33K	1/8W	
R767	1-215-447-00	METAL	12K	1% 1/6W	
R768	1-215-485-31	METAL	470K	1% 1/6W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description				Remark
R769	1-215-413-00	METAL	470	1%	1/6W	
R770	1-215-441-00	METAL	6.8K	1%	1/6W	
R771	1-215-421-00	METAL	1K	1%	1/6W	
R772	1-215-485-31	METAL	470K	1%	1/6W	
R773	1-246-801-00	CARBON	33K		1/8W	
R774	1-246-787-00	CARBON	2.2K		1/8W	
R775	1-246-799-00	CARBON	22K		1/8W	
R776	1-246-787-00	CARBON	2.2K		1/8W	
R778	1-246-811-00	CARBON	220K		1/8W	
R779	1-246-807-00	CARBON	100K		1/8W	
R781	1-246-801-00	CARBON	33K		1/8W	
R782	1-246-809-00	CARBON	150K		1/8W	
		VARIABLE RESISTOR				
RV001	1-226-773-00	RES, ADJ, METAL GLAZE	22K			
RV002	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K			
RV003	1-226-772-00	RES, ADJ, METAL GLAZE	4.7K			
RV004	1-226-773-00	RES, ADJ, METAL GLAZE	22K			
RV006	1-226-776-00	RES, ADJ, METAL GLAZE	220K			
RV009	1-226-776-00	RES, ADJ, METAL GLAZE	220K			
RV010	1-226-774-00	RES, ADJ, METAL GLAZE	47K			
RV011	1-226-773-00	RES, ADJ, METAL GLAZE	22K			
RV013	1-226-776-00	RES, ADJ, METAL GLAZE	220K			
RV016	1-226-702-00	RES, ADJ, METAL GLAZE	2.2K			
RV017	1-226-775-00	RES, ADJ, METAL GLAZE	100K			
RV701	1-226-771-00	RES, ADJ, METAL GLAZE	1K			
RV702	1-226-775-00	RES, ADJ, METAL GLAZE	100K			
RV703	1-226-771-00	RES, ADJ, METAL GLAZE	1K			
RV704	1-226-775-00	RES, ADJ, METAL GLAZE	100K			
RV705	1-226-774-00	RES, ADJ, METAL GLAZE	47K			
RV706	1-226-774-00	RES, ADJ, METAL GLAZE	47K			
		CRYSTAL				
X201	1-527-532-00	OSCILLATOR, CERAMIC				
X501	1-527-532-00	OSCILLATOR, CERAMIC				

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♣:1-607-771-12	FU-5 BOARD	
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♣:3-674-313-00	COVER, LED	
♣:3-674-372-00	HOLDER (A), LED	
♣:3-674-390-00	HOLDER (B), LED	
♣:3-675-566-00	HOLDER, LED, 6 GANG	

CAPACITOR

C001	1-123-617-00	ELECT	10MF	20%	16V
C002	1-161-013-00	CERAMIC	0.01MF	10%	25V

DIODE

D001	8-719-812-30	DIODE TL0123
D002	8-719-812-32	DIODE TLY123
D003	8-719-812-32	DIODE TLY123
D004	8-719-812-31	DIODE TLR123
D005	8-719-812-31	DIODE TLR123
D006	8-719-812-33	DIODE TLG123A
D007	8-719-812-33	DIODE TLG123A
D008	8-719-812-33	DIODE TLG123A
D009	8-719-812-33	DIODE TLG123A
D010	8-719-812-33	DIODE TLG123A
D011	8-719-812-33	DIODE TLG123A
D012	8-719-812-33	DIODE TLG123A
D013	8-719-812-31	DIODE TLR123
D014	8-719-812-33	DIODE TLG123A
D015	8-719-812-33	DIODE TLG123A
D016	8-719-812-32	DIODE TLY123
D017	8-719-903-38	DIODE PG5531KY-3
D018	8-719-903-38	DIODE PG5531KY-3
D019	8-719-903-38	DIODE PG5531KY-3
D020	8-719-903-38	DIODE PG5531KY-3
D021	8-719-903-38	DIODE PG5531KY-3
D022	8-719-903-38	DIODE PG5531KY-3
D023	8-719-812-33	DIODE TLG123A
D024	=>8-719-901-33	DIODE 1SS133
D025	=>8-719-901-33	DIODE 1SS133
D026	=>8-719-901-33	DIODE 1SS133
D027	=>8-719-901-33	DIODE 1SS133
D028	8-719-812-31	DIODE TLR123

IC

IC001	8-759-987-47	IC MB8747

TRANSISTOR

Q001	8-729-902-11	TRANSISTOR 2SC2021
Q002	8-729-902-11	TRANSISTOR 2SC2021
Q003	8-729-902-11	TRANSISTOR 2SC2021
Q004	8-729-902-11	TRANSISTOR 2SC2021
Q005	8-729-902-11	TRANSISTOR 2SC2021
Q006	8-729-902-11	TRANSISTOR 2SC2021
Q007	8-729-902-11	TRANSISTOR 2SC2021
Q008	8-729-902-11	TRANSISTOR 2SC2021
Q009	8-729-902-11	TRANSISTOR 2SC2021
Q010	8-729-902-11	TRANSISTOR 2SC2021
Q011	8-729-902-11	TRANSISTOR 2SC2021

RESISTOR

R001	1-246-795-00	CARBON	10K	1/8W
R002	1-246-795-00	CARBON	10K	1/8W
R003	1-246-795-00	CARBON	10K	1/8W
R004	1-246-776-00	CARBON	270	1/8W
R005	1-246-776-00	CARBON	270	1/8W
R006	1-246-776-00	CARBON	270	1/8W
R007	1-246-776-00	CARBON	270	1/8W
R008	1-246-773-00	CARBON	150	1/8W

When indicating parts by reference number, please include the board name.

FU-5 TU-35

Ref.No.	Part No.	Description			Remark
R009	1-246-773-00	CARBON	150	1/8W	
R010	1-246-773-00	CARBON	150	1/8W	
R011	1-246-773-00	CARBON	150	1/8W	
R012	1-246-776-00	CARBON	270	1/8W	

SWITCH

S001	1-553-997-00	SWITCH, KEY BOARD	
S002	1-553-997-00	SWITCH, KEY BOARD	
S003	1-553-997-00	SWITCH, KEY BOARD	
S004	1-553-997-00	SWITCH, KEY BOARD	
S005	1-553-997-00	SWITCH, KEY BOARD	
S006	1-553-997-00	SWITCH, KEY BOARD	
S007	1-553-997-00	SWITCH, KEY BOARD	
S008	1-553-997-00	SWITCH, KEY BOARD	
S009	1-553-997-00	SWITCH, KEY BOARD	
S010	1-553-997-00	SWITCH, KEY BOARD	
S011	1-553-997-00	SWITCH, KEY BOARD	
S012	1-553-997-00	SWITCH, KEY BOARD	
S013	1-553-997-00	SWITCH, KEY BOARD	
S014	1-553-997-00	SWITCH, KEY BOARD	
S015	1-553-997-00	SWITCH, KEY BOARD	
S016	1-553-997-00	SWITCH, KEY BOARD	
S017	1-553-997-00	SWITCH, KEY BOARD	
S018	1-553-997-00	SWITCH, KEY BOARD	
S019	1-553-997-00	SWITCH, KEY BOARD	
S020	1-553-997-00	SWITCH, KEY BOARD	

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♦:A-6721-154-A	TU-35 BOARD, COMPLETE	
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♦:3-662-227-00	HOLDER (R-3), LED	
♦:3-662-228-00	HOLDER (R-1), LED	
♦:3-675-557-00	CASE (A) (MAIN), SHIELD, TU	
♦:3-677-905-00	LID, UPPER, SHIELD CASE, TU	
♦:3-677-906-00	LID, BOTTOM, SHIELD CASE, TU	

CAPACITOR

C001	1-123-356-00	ELECT	10MF	20%	16V
C002	1-161-013-00	CERAMIC	0.01MF	10%	25V
C003	1-123-356-00	ELECT	10MF	20%	16V
C004	1-130-493-00	MYLAR	0.068MF	5%	50V
C005	1-130-493-00	MYLAR	0.068MF	5%	50V
C006	1-102-963-00	CERAMIC	33PF	5%	50V
C007	1-102-529-00	CERAMIC	100PF	5%	50V
C008	1-102-527-00	CERAMIC	82PF	5%	50V
C009	1-102-945-00	CERAMIC	8PF	1PF	50V
C010	1-102-523-00	CERAMIC	56PF	5%	50V
C011	1-102-529-00	CERAMIC	100PF	5%	50V
C012	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C013	1-102-074-00	CERAMIC	0.001MF	10%	50V
C014	1-102-074-00	CERAMIC	0.001MF	10%	50V
C015	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C016	1-101-004-00	CERAMIC	0.01MF		50V

Ref.No.	Part No.	Description			Remark
C017	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C018	1-123-381-00	ELECT	2.2MF	20%	50V
C019	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C020	1-123-380-00	ELECT	1MF	20%	50V
C021	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C022	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C023	1-101-004-00	CERAMIC	0.01MF		50V
C024	1-123-380-00	ELECT	1MF	20%	50V
C025	1-101-004-00	CERAMIC	0.01MF		50V
C026	1-161-017-00	CERAMIC	0.022MF	10%	25V
C027	1-123-380-00	ELECT	1MF	20%	50V
C028	1-101-884-00	CERAMIC	56PF	5%	50V
C029	1-102-111-00	CERAMIC	270PF	10%	50V
C030	1-123-296-00	ELECT	220MF	20%	6.3V
C031	1-123-298-00	ELECT	470MF	20%	6.3V
C032	1-123-380-00	ELECT	1MF	20%	50V
C033	1-161-019-00	CERAMIC	0.033MF	10%	25V
C034	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C035	1-123-286-00	ELECT	0.33MF	20%	50V
C036	1-161-013-00	CERAMIC	0.01MF	10%	25V
C037	1-102-525-00	CERAMIC	68PF	10%	25V
C038	1-130-018-00	FILM	0.001MF	5%	50V
C039	1-161-017-00	CERAMIC	0.022MF	10%	25V
C040	1-161-017-00	CERAMIC	0.022MF	10%	25V
C041	1-161-017-00	CERAMIC	0.022MF	10%	25V
C042	1-123-333-00	ELECT	100MF	20%	16V
C043	1-161-009-00	CERAMIC	0.0047MF	10%	25V
C044	1-123-356-00	ELECT	10MF	20%	16V
C045	1-161-008-00	CERAMIC	0.0039MF	10%	25V
C046	1-161-008-00	CERAMIC	0.0039MF	10%	25V
C047	1-161-008-00	CERAMIC	0.0039MF	10%	25V
C048	1-123-356-00	ELECT	10MF	20%	16V
C049	1-123-356-00	ELECT	10MF	20%	16V
C050	1-123-330-00	ELECT	22MF	20%	16V
C051	1-123-330-00	ELECT	22MF	20%	16V
C052	1-123-356-00	ELECT	10MF	20%	16V
C053	1-130-491-00	MYLAR	0.047MF	5%	50V
C054	1-101-004-00	CERAMIC	0.01MF		50V
C055	1-123-332-00	ELECT	47MF	20%	16V
C056	1-123-332-00	ELECT	47MF	20%	16V
C057	1-130-024-00	FILM	0.0033MF	5%	50V
C058	1-130-018-00	FILM	0.001MF	5%	50V
C059	1-161-021-00	CERAMIC	0.047MF	10%	25V
C060	1-161-017-00	CERAMIC	0.022MF	10%	25V
C061	1-123-356-00	ELECT	10MF	20%	16V
C062	1-123-356-00	ELECT	10MF	20%	16V
C063	1-102-525-00	CERAMIC	68PF		
C064	1-102-108-00	CERAMIC	150PF		
C101	1-123-380-00	ELECT	1MF	20%	50V
C102	1-123-356-00	ELECT	10MF	20%	16V
C103	1-102-973-00	CERAMIC	100PF	5%	50V
C104	1-123-356-00	ELECT	10MF	20%	50V
C105	1-130-495-00	MYLAR	0.1MF	5%	50V
C106	1-102-114-00	CERAMIC	470PF	10%	50V
C107	1-123-379-00	ELECT	0.47MF	20%	50V

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
C108	1-130-495-00	MYLAR	0.1MF	5%	50V
C109	1-101-004-00	CERAMIC	0.01MF		50V
C110	1-101-004-00	CERAMIC	0.01MF		50V
C111	1-102-963-00	CERAMIC	33PF	5%	50V
C112	1-102-963-00	CERAMIC	33PF	5%	50V
C114	1-123-379-00	ELECT	1MF	20%	50V
C113	1-123-379-00	ELECT	0.47MF	20%	50V
C201	1-101-004-00	CERAMIC	0.01MF		50V
C202	1-130-048-00	FILM	220PF	5%	50V
C203	1-123-356-00	ELECT	10MF	20%	16V
C204	1-123-356-00	ELECT	10MF	20%	16V
C205	1-130-482-00	MYLAR	0.0082MF	5%	50V
C206	1-123-356-00	ELECT	10MF	20%	16V
C207	1-123-356-00	ELECT	10MF	20%	16V
C208	1-130-495-00	MYLAR	0.1MF	5%	50V
C209	1-130-492-00	MYLAR	0.056MF	5%	50V
C210	1-130-495-00	MYLAR	0.1MF	5%	50V
C211	1-130-492-00	MYLAR	0.056MF	5%	50V
C212	1-123-356-00	ELECT	10MF	20%	16V
C213	1-123-356-00	ELECT	10MF	20%	16V
C214	1-101-004-00	CERAMIC	0.01MF		50V
C215	1-123-356-00	ELECT	10MF	20%	16V
C301	1-123-381-00	ELECT	2.2MF	20%	50V
C302	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C303	1-130-495-00	MYLAR	0.1MF	5%	50V
C304	1-123-318-00	ELECT	33MF	20%	16V
C305	1-123-318-00	ELECT	33MF	20%	16V
C306	1-123-356-00	ELECT	10MF	20%	50V

FILTER

CF001	1-527-840-00	FILTER, CERAMIC	
CF002	1-527-839-00	FILTER, CERAMIC	
CF101	1-527-932-00	OSCILLATOR, CERAMIC	

CONNECTOR

CN001♣	1-560-468-00	PIN, CONNECTOR 5P	
CN002♣	1-560-470-00	PIN, CONNECTOR 8P	
CN101♣	1-560-468-00	PIN, CONNECTOR 5P	
CN102♣	1-560-469-00	PIN, CONNECTOR 6P	
CN103♣	1-560-471-00	PIN, CONNECTOR 10P	
CN104♣	1-560-591-00	PIN, CONNECTOR 7P	
CN105♣	1-560-466-00	PIN, CONNECTOR 3P	
CN201♣	1-560-456-00	PIN, CONNECTOR 2P	
CN202	1-560-466-00	PIN, CONNECTOR 3P	
CN203	1-560-470-00	PIN, CONNECTOR 8P	
CN204♣	1-560-456-00	PIN, CONNECTOR 2P	
CN301♣	1-560-468-00	PIN, CONNECTOR 5P	

TRIMMER

CT001	1-404-134-00	TRAP, CERAMIC (5.5MHZ)	

DIODE

D101	8-719-911-19	DIODE 1SS119	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-911-19	DIODE 1SS119	
D106	8-719-812-31	DIODE TLR123	
D107	8-719-812-31	DIODE TLR123	
D108	8-719-812-31	DIODE TLR123	
D109	8-719-812-32	DIODE TLY123	
D110	8-719-812-33	DIODE TLG123A	
D201	8-719-000-06	DIODE MC921	
D203	8-719-100-35	DIODE RD5.6E-B2	
D301	8-719-100-90	DIODE RD24EB2	
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-100-31	DIODE RD5.1EB3	

IC

IC001	6-066-719-10	IC TDA2541	
IC002	6-066-720-40	IC TDA2546	
IC003	6-066-720-80	IC TDA3800S	
IC004	8-752-006-00	IC CX20060	
IC101	8-759-600-47	IC M50118AP	
IC102	8-759-600-16	IC M5G1400P	
IC103	8-759-157-40	IC UPC574J	
IC104	8-759-600-15	IC M54570L	
IC201	8-759-040-46	IC MC14046BCP	
IC202	8-757-946-00	IC CX-7946	
IC203	8-759-240-66	IC TC4066BP	
IC204	8-759-140-01	IC UPD4001BC	
IC205	8-759-240-75	IC TC4075BP	
IC206	8-759-140-81	IC UPD4081BC	

COIL

L001	1-407-681-00	MICRO INDUCTOR 1UH	
L002	1-408-397-00	MICRO INDUCTOR 1UH	
L003	1-408-397-00	MICRO INDUCTOR 1UH	
L004	1-408-397-00	MICRO INDUCTOR 1UH	
L005	1-408-410-00	MICRO INDUCTOR 12UH	
L006	1-408-403-00	MICRO INDUCTOR 3.3UH	
L007	1-407-681-00	MICRO INDICATOR 1UH	
L008	1-408-403-00	MICRO INDUCTOR 3.3UH	
L009	1-408-397-00	MICRO INDUCTOR 1UH	
L101	1-407-510-00	MICRO INDUCTOR 33MMH	
L102	1-408-409-00	MICRO INDUCTOR 10UH	
L103	1-408-409-00	MICRO INDUCTOR 10UH	
L201	1-407-492-00	MICRO INDICATOR 1MMH	
L301	1-408-420-00	MICRO INDUCTOR 82UH	

TRANSISTOR

Q001	8-729-178-54	TRANSISTOR 2SC2785	
Q002	8-765-300-00	TRANSISTOR 2SC2009	
Q003	8-729-178-54	TRANSISTOR 2SC2785	
Q004	8-729-117-54	TRANSISTOR 2SA1115	
Q005	8-729-117-54	TRANSISTOR 2SA1115	
Q006	8-729-117-54	TRANSISTOR 2SA1115	
Q101	8-729-603-50	TRANSISTOR 2SC403SP	

When indicating parts by reference number, please include the board name.

TU-35

Ref.No.	Part No.	Description	Remark
Q103	8-729-178-54	TRANSISTOR 2SC2785	
Q104	8-729-178-54	TRANSISTOR 2SC2785	
Q105	8-729-117-54	TRANSISTOR 2SA1175	
Q106	8-729-178-54	TRANSISTOR 2SC2785	
Q107	8-729-178-54	TRANSISTOR 2SC2785	
Q108	8-729-178-54	TRANSISTOR 2SC2785	
Q109	8-729-117-54	TRANSISTOR 2SA1175	
Q110	8-729-117-54	TRANSISTOR 2SA1175	
Q111	8-729-117-54	TRANSISTOR 2SA1175	
Q112	8-729-178-54	TRANSISTOR 2SC2785	
Q113	8-729-117-54	TRANSISTOR 2SA1175	
Q201	8-729-178-54	TRANSISTOR 2SC2785	
Q202	8-729-178-54	TRANSISTOR 2SC2785	
Q203	8-729-178-54	TRANSISTOR 2SC2785	
Q204	8-729-178-54	TRANSISTOR 2SC2785	
Q205	8-729-178-54	TRANSISTOR 2SC2785	
Q206	8-729-178-54	TRANSISTOR 2SC2785	
Q207	8-729-178-54	TRANSISTOR 2SC2785	
Q208	8-729-178-54	TRANSISTOR 2SC2785	
Q209	8-729-178-54	TRANSISTOR 2SC2785	
Q210	8-729-178-54	TRANSISTOR 2SC2785	
Q211	8-729-178-54	TRANSISTOR 2SC2785	
Q212	8-729-178-54	TRANSISTOR 2SC2785	
Q301	8-729-178-54	TRANSISTOR 2SC2785	
Q302	8-729-177-32	TRANSISTOR 2SD7734-4	
Q303	8-729-178-54	TRANSISTOR 2SC2785	
Q304	8-729-178-54	TRANSISTOR 2SC2785	
Q305	8-729-988-12	TRANSISTOR 2SA881	

RESISTOR

R001	1-246-787-00	CARBON	2.2K	1/8W
R002	1-247-047-00	CARBON	330K	1/8W
R003	1-246-799-00	CARBON	22K	1/8W
R004	1-246-791-00	CARBON	4.7K	1/8W
R005	1-246-790-00	CARBON	3.9K	1/8W
R006	1-246-775-00	CARBON	220	1/8W
R007	1-246-779-00	CARBON	470	1/8W
R008	1-246-775-00	CARBON	220	1/8W
R009	1-246-807-00	CARBON	100K	1/8W
R010	1-246-773-00	CARBON	150	1/8W
R011	1-246-789-00	CARBON	3.3K	1/8W
R012	1-246-795-00	CARBON	10K	1/8W
R013	1-246-783-00	CARBON	1K	1/8W
R014	1-246-803-00	CARBON	47K	1/8W
R015	1-246-803-00	CARBON	47K	1/8W
R016	1-246-785-00	CARBON	1.5K	1/8W
R017	1-246-790-00	CARBON	3.9K	1/8W
R018	1-246-774-00	CARBON	180	1/8W
R019	1-246-771-00	CARBON	100	1/8W
R020	1-246-778-00	CARBON	390	1/8W
R021	1-246-779-00	CARBON	470	1/8W
R022	1-246-779-00	CARBON	470	1/8W
R023	1-246-779-00	CARBON	470	1/8W
R024	1-246-783-00	CARBON	1K	1/8W
R025	1-246-775-00	CARBON	220	1/8W
R026	1-246-780-00	CARBON	560	1/8W
R027	1-246-769-00	CARBON	68	1/8W
R028	1-246-775-00	CARBON	220	1/8W
R029	1-246-783-00	CARBON	1K	1/8W
R030	1-246-803-00	CARBON	47K	1/8W
R031	1-246-811-00	CARBON	220K	1/8W
R032	1-246-783-00	CARBON	1K	1/8W
R033	1-246-782-00	CARBON	820	1/8W
R034	1-246-782-00	CARBON	820	1/8W
R035	1-246-807-00	CARBON	100K	1/8W
R036	1-246-795-00	CARBON	10K	1/8W
R037	1-246-795-00	CARBON	10K	1/8W
R044	1-246-798-00	CARBON	18K	1/8W
R045	1-246-783-00	CARBON	1K	1/8W
R038	1-246-799-00	CARBON	22K	1/8W
R039	1-246-799-00	CARBON	22K	1/8W
R040	1-246-804-00	CARBON	56K	1/8W
R041	1-246-782-00	CARBON	820	1/8W
R042	1-246-782-00	CARBON	820	1/8W
R043	1-246-788-00	CARBON	2.7K	1/8W
R101	1-246-801-00	CARBON	33K	1/8W
R102	1-246-795-00	CARBON	10K	1/8W
R103	1-246-799-00	CARBON	22K	1/8W
R104	1-246-799-00	CARBON	22K	1/8W
R105	1-213-142-00	METAL	820	1/4W
R106	1-246-803-00	CARBON	47K	1/8W
R108	1-246-787-00	CARBON	2.2K	1/8W
R109	1-246-787-00	CARBON	2.2K	1/8W
R110	1-246-785-00	CARBON	1.5K	1/8W
R111	1-246-784-00	CARBON	1.2K	1/8W
R112	1-246-799-00	CARBON	22K	1/8W
R113	1-246-799-00	CARBON	22K	1/8W
R114	1-246-807-00	CARBON	100K	1/8W
R115	1-246-785-00	CARBON	1.5K	1/8W
R116	1-246-791-00	CARBON	4.7K	1/8W
R117	1-246-801-00	CARBON	33K	1/8W
R118	1-246-801-00	CARBON	33K	1/8W
R119	1-246-799-00	CARBON	22K	1/8W
R120	1-246-777-00	CARBON	330	1/8W
R121	1-246-801-00	CARBON	33K	1/8W
R122	1-246-811-00	CARBON	220K	1/8W
R123	1-246-799-00	CARBON	22K	1/8W
R124	1-246-807-00	CARBON	100K	1/8W
R125	1-246-803-00	CARBON	47K	1/8W
R126	1-246-808-00	CARBON	120K	1/8W
R127	1-246-809-00	CARBON	150K	1/8W
R128	1-247-053-00	CARBON	1M	1/8W
R129	1-247-049-00	CARBON	470K	1/8W
R130	1-246-807-00	CARBON	100K	1/8W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R131	1-246-799-00	CARBON	22K	1/8W	
R132	1-246-801-00	CARBON	33K	1/8W	
R133	1-246-801-00	CARBON	33K	1/8W	
R134	1-246-795-00	CARBON	10K	1/8W	
R135	1-246-795-00	CARBON	10K	1/8W	
R136	1-246-799-00	CARBON	22K	1/8W	
R137	1-246-787-00	CARBON	2.2K	1/8W	
R138	1-246-803-00	CARBON	47K	1/8W	
R139	1-246-787-00	CARBON	2.2K	1/8W	
R140	1-246-803-00	CARBON	47K	1/8W	
R141	1-246-795-00	CARBON	10K	1/8W	
R142	1-246-791-00	CARBON	4.7K	1/8W	
R143	1-246-791-00	CARBON	4.7K	1/8W	
R201	1-246-776-00	CARBON	270	1/8W	
R202	1-246-802-00	CARBON	39K	1/8W	
R203	1-246-864-00	CARBON	51K	1/8W	
R204	1-246-865-00	CARBON	62K	1/8W	
R205	1-246-807-00	CARBON	100K	1/8W	
R206	1-247-051-00	CARBON	680K	1/8W	
R207	1-247-047-00	CARBON	330K	1/8W	
R208	1-246-791-00	CARBON	4.7K	1/8W	
R209	1-246-795-00	CARBON	10K	1/8W	
R210	1-246-775-00	CARBON	220	1/8W	
R211	1-246-803-00	CARBON	47K	1/8W	
R212	1-246-803-00	CARBON	47K	1/8W	
R213	1-246-799-00	CARBON	22K	1/8W	
R214	1-246-807-00	CARBON	100K	1/8W	
R215	1-246-787-00	CARBON	2.2K	1/8W	
R216	1-246-800-00	CARBON	27K	1/8W	
R217	1-246-800-00	CARBON	27K	1/8W	
R218	1-246-795-00	CARBON	10K	1/8W	
R219	1-246-865-00	CARBON	62K	1/8W	
R220	1-246-865-00	CARBON	62K	1/8W	
R221	1-246-795-00	CARBON	10K	1/8W	
R222	1-246-799-00	CARBON	22K	1/8W	
R223	1-246-803-00	CARBON	47K	1/8W	
R224	1-246-799-00	CARBON	22K	1/8W	
R225	1-246-803-00	CARBON	47K	1/8W	
R226	1-246-799-00	CARBON	22K	1/8W	
R227	1-246-799-00	CARBON	22K	1/8W	
R228	1-246-795-00	CARBON	10K	1/8W	
R229	1-246-799-00	CARBON	22K	1/8W	
R230	1-246-795-00	CARBON	10K	1/8W	
R231	1-246-807-00	CARBON	100K	1/8W	
R232	1-246-795-00	CARBON	10K	1/8W	
R233	1-246-807-00	CARBON	100K	1/8W	
R234	1-246-795-00	CARBON	10K	1/8W	
R235	1-246-799-00	CARBON	22K	1/8W	
R236	1-246-801-00	CARBON	33K	1/8W	
R237	1-246-799-00	CARBON	22K	1/8W	
R238	1-246-801-00	CARBON	33K	1/8W	
R239	1-246-799-00	CARBON	22K	1/8W	
R240	1-246-799-00	CARBON	22K	1/8W	
R241	1-246-843-00	CARBON	910K	1/8W	
R242	1-246-841-00	CARBON	620K	1/8W	
R243	1-246-783-00	CARBON	1K	1/8W	
R301	1-246-835-00	CARBON	200	1/8W	
R302	1-246-853-00	CARBON	6.2K	1/8W	
R303	1-246-779-00	CARBON	470	1/8W	
R304	1-246-773-00	CARBON	150	1/8W	
R305	1-246-763-00	CARBON	22	1/8W	
R306	1-246-799-00	CARBON	22K	1/8W	
R307	1-246-807-00	CARBON	100K	1/8W	
R308	1-246-791-00	CARBON	4.7K	1/8W	
R309	1-246-783-00	CARBON	1K	1/8W	
R310	1-246-779-00	CARBON	470	1/8W	
R311	1-246-459-00	CARBON	270 5%	1/4W	
R312	1-246-835-00	CARBON	200	1/8W	
R313	1-246-791-00	CARBON	4.7 5%	1/8W	F

VARIABLE RESISTOR

RV001	1-226-713-00	RES, ADJ, SOLID 100K
RV002	1-226-772-00	RES, ADJ, SOLID 4.7K
RV201	1-226-709-00	RES, ADJ, SOLID 4.7K
RV202	1-226-708-00	RES, ADJ, SOLID 2.2K

SWITCH

S101	1-552-174-00	SWITCH, PUSH
S102	1-552-174-00	SWITCH, PUSH
S103	1-552-174-00	SWITCH, PUSH
S104	1-552-174-00	SWITCH, PUSH
S105	1-552-174-00	SWITCH, PUSH
S106	1-552-174-00	SWITCH, PUSH
S107	1-552-174-00	SWITCH, PUSH
S108	1-516-226-00	SLIDE SWITCH

FILTER

SF001	6-078-017-40	FILTER (G3201), SAW

TRANSFORMER

T001	1-404-068-00	COIL, VIF
T002	1-404-068-00	COIL, VIF
T003	1-404-264-00	I.F.T
T004	1-404-264-00	I.F.T
T005	1-404-378-00	I.F.T
T006	1-404-135-00	COIL, SIF DISCRI
T007	1-404-135-00	COIL, SIF DISCRI
T008	1-404-343-00	COIL, IF
T301	1-446-571-00	TRANSFORMER, CONVERTOR

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

SW-11 LM-9 RL-4 CI-2 CI-3 LM-8 RL-6 TM-30

Ref.No.	Part No.	Description				Remark
	⚠:1-607-770-12	SW-11 BOARD				
		**********				
		DIODE				
D401	8-719-911-19	DIODE 1SS119				
D402	8-719-911-19	DIODE 1SS119				
		VARIABLE RESISTOR				
RV401	1-228-244-00	RES, VAR, SOLID 100K				
RV402	1-228-359-00	RES, VAR, SOLID 5K				
		SWITCH				
S401	1-553-997-00	SWITCH, KEY BOARD				
S402	1-553-997-00	SWITCH, KEY BOARD				
S403	1-553-754-00	SWITCH, SLIDE				
S404	1-553-716-00	SWITCH, SLIDE				
S405	1-553-754-00	SWITCH, SLIDE				
**********						
	⚠:1-605-109-00	LM-9 BOARD				
		**********				
		CAPACITOR				
C001	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C002	1-161-057-00	CERAMIC	0.033MF	10%	50V	
		DIODE				
D001	8-719-911-06	DIODE 1SS106				
D002	8-719-911-06	DIODE 1SS106				
D003	8-719-911-06	DIODE 1SS106				
		COIL				
L001	1-407-696-00	MICRO INDUCTOR 18UH				
L002	1-407-696-00	MICRO INDUCTOR 18UH				
		SWITCH				
S001	1-552-664-00	SWITCH, MICRO				
**********						
	⚠:1-605-110-00	RL-4 BOARD				
		**********				
**********						
	⚠:1-605-111-13	CI-2 BOARD				
		**********				
	1-553-719-00	SWITCH, MICRO				
	⚠:3-670-039-00	HOLDER (R), CSW				

Ref.No.	Part No.	Description				Remark
	⚠:1-605-112-14	CI-3 BOARD				
		**********				
	1-553-719-00	SWITCH, MICRO				
	⚠:3-670-038-00	HOLDER (L), CSW				
**********						
	⚠:1-605-071-21	LM-8 BOARD				
		**********				
		CAPACITOR				
C101	1-161-057-00	CERAMIC	0.033MF	10%	50V	
C102	1-161-057-00	CERAMIC	0.033MF	10%	50V	
		COIL				
L101	1-408-120-00	MICRO INDUCTOR 18UH				
L102	1-408-120-00	MICRO INDUCTOR 18UH				
		RESISTOR				
R101	⚠:1-206-640-00	METAL	100	5%	2W	F
**********						
	⚠:1-607-772-00	RL-6 BOARD				
		**********				
		CONNECTOR				
CN501	⚠:1-560-471-00	PIN, CONNECTOR 10P				
CN502	⚠:1-560-591-00	PIN, CONNECTOR 7P				
CN503	⚠:1-560-459-00	PIN, CONNECTOR 3P				
CN504	⚠:1-560-459-00	PIN, CONNECTOR 3P				
CN505	⚠:1-560-455-41	PIN, CONNECTOR 2P				
CN506	⚠:1-560-455-00	PIN, CONNECTOR 2P				
CN507	⚠:1-560-455-00	PIN, CONNECTOR 2P				
CN508	⚠:1-560-455-00	PIN, CONNECTOR 2P				
CN509	⚠:1-560-466-00	PIN, CONNECTOR 3P				
CN510	⚠:1-560-459-00	PIN, CONNECTOR 3P				
CN511	⚠:1-560-455-00	PIN, CONNECTOR 2P				
CN512	⚠:1-560-460-00	PIN, CONNECTOR 4P				
		DIODE				
D501	8-719-911-19	DIODE 1SS119				
D502	8-719-911-19	DIODE 1SS119				
D503	8-719-911-19	DIODE 1SS119				
		RESISTOR				
R501	1-246-783-00	CARBON	1K		1/8W	
**********						
	⚠:1-607-767-00	TM-30 BOARD				
		**********				
	⚠:3-675-517-00	HOLDER, INDICATION TUBE				

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
		CAPACITOR			
C101	1-123-617-00	ELECT	10MF	20%	16V
C102	1-123-620-00	ELECT	10MF	20%	35V
		DIODE			
D101	8-719-151-07	DIODE RD5.1E-B			
D102	8-719-182-07	DIODE RD8.2E-B			
		INDICATOR TUBE			
FL101	1-519-269-00	INDICATOR TUBE, FLUORESCENT			
		IC			
IC101	8-759-909-15	IC MSL915RS			
IC102	8-759-909-15	IC MSL915RS			
IC103	8-759-909-15	IC MSL915RS			
		RESISTOR			
R101	1-246-801-00	CARBON	33K	1/8W	
R102	1-246-807-00	CARBON	100K	1/8W	
R103	1-246-807-00	CARBON	100K	1/8W	
R104	1-246-807-00	CARBON	100K	1/8W	
R105	1-246-807-00	CARBON	100K	1/8W	
R106	1-246-807-00	CARBON	100K	1/8W	
R107	1-246-807-00	CARBON	100K	1/8W	
R108	1-246-807-00	CARBON	100K	1/8W	
R109	1-246-807-00	CARBON	100K	1/8W	
R110	1-246-807-00	CARBON	100K	1/8W	
R111	1-246-807-00	CARBON	100K	1/8W	
R112	1-246-807-00	CARBON	100K	1/8W	
R113	1-246-807-00	CARBON	100K	1/8W	
R114	1-246-807-00	CARBON	100K	1/8W	
R115	1-246-807-00	CARBON	100K	1/8W	

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♣:1-607-768-00 TM-31 BOARD
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♣:3-674-372-00 HOLDER (A), LED

		CAPACITOR			
C202	1-102-522-00	CERAMIC	51PF	5%	50V
C203	1-123-617-00	ELECT	10MF	20%	16V
C204	1-123-298-00	ELECT	470MF	20%	6.3V
C205	1-161-036-00	CERAMIC	0.047MF	20%	25V
		CONNECTOR			
CN201♣	1-560-462-00	PIN, CONNECTOR 6P			
CN202♣	1-560-469-00	PIN, CONNECTOR 6P			
CN203♣	1-560-468-00	PIN, CONNECTOR 5P			
CN204♣	1-560-591-00	PIN, CONNECTOR 7P			
CN205♣	1-560-456-00	PIN, CONNECTOR 2P			
CN206♣	1-560-466-00	PIN, CONNECTOR 3P			
CN207♣	1-560-469-00	PIN, CONNECTOR 6P			
CN208♣	1-560-468-00	PIN, CONNECTOR 5P			
CN209♣	1-560-459-00	PIN, CONNECTOR 3P			
		DIODE			
D201	8-719-911-19	DIODE 1SS119			
D214	8-719-911-19	DIODE 1SS119			
D215	8-719-911-19	DIODE 1SS119			
D216	8-719-911-19	DIODE 1SS119			
D217	8-719-911-19	DIODE 1SS119			
D218	8-719-812-41	DIODE TLR124			
		IC			
IC201	8-759-903-25	IC MB88401-123M			
IC202	8-759-240-71	IC TC4071BP			
IC203	8-759-240-71	IC TC4071BP			
IC204	8-759-240-71	IC TC4071BP			
IC205	8-759-600-18	IC M54847P			
		COIL			
L201	1-407-705-00	MICRO INDUCTOR 100UH			
		TRANSISTOR			
Q201	8-729-178-54	TRANSISTOR 2SC2785			
Q202	8-729-178-54	TRANSISTOR 2SC2785			
Q203	8-729-117-54	TRANSISTOR 2SA1175			
Q204	8-729-178-54	TRANSISTOR 2SC2785			
Q205	8-729-117-54	TRANSISTOR 2SA1175			
Q206	8-729-178-54	TRANSISTOR 2SC2785			
Q207	8-729-178-54	TRANSISTOR 2SC2785			
Q208	8-729-178-54	TRANSISTOR 2SC2785			
Q209	8-729-178-54	TRANSISTOR 2SC2785			
Q210	8-729-117-54	TRANSISTOR 2SA1175			
Q211	8-729-178-54	TRANSISTOR 2SC2785			
Q212	8-729-178-54	TRANSISTOR 2SC2785			
Q213	8-729-117-54	TRANSISTOR 2SA1175			
		RESISTOR			
R204	1-246-803-00	CARBON	47K	1/8W	
R206	1-246-803-00	CARBON	47K	1/8W	
R207	1-246-799-00	CARBON	22K	1/8W	
R208	1-246-799-00	CARBON	22K	1/8W	
R209	1-246-799-00	CARBON	22K	1/8W	
R212	1-246-799-00	CARBON	22K	1/8W	
R213	1-246-765-00	CARBON	33	1/8W	
R221	1-246-783-00	CARBON	1K	1/8W	
R227	1-246-799-00	CARBON	22K	1/8W	
R228	1-246-799-00	CARBON	22K	1/8W	
R229	1-246-799-00	CARBON	22K	1/8W	
R230	1-246-799-00	CARBON	22K	1/8W	
R231	1-246-799-00	CARBON	22K	1/8W	
R232	1-246-799-00	CARBON	22K	1/8W	
R233	1-246-799-00	CARBON	22K	1/8W	

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R239	1-246-807-00	CARBON	100K	1/8W	
R241	1-246-801-00	CARBON	33K	1/8W	
		TRIMMER			
TC201	1-141-022-11	CAP, TRIMMER, CERAMIC			
		CRYSTAL			
X201	1-527-868-00	VIBRATOR, CRYSTAL			
**********					
	♣:1-607-769-00	TM-32 BOARD			
		**********			
		DIODE			
D301	8-719-911-19	DIODE 1SS119			
D302	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D304	8-719-911-19	DIODE 1SS119			
D305	8-719-911-19	DIODE 1SS119			
D306	8-719-911-19	DIODE 1SS119			
D307	8-719-911-19	DIODE 1SS119			
		SWITCH			
S301	1-553-997-00	SWITCH, KEY BOARD			
S302	1-553-997-00	SWITCH, KEY BOARD			
S303	1-553-997-00	SWITCH, KEY BOARD			
S304	1-553-997-00	SWITCH, KEY BOARD			
S305	1-553-997-00	SWITCH, KEY BOARD			
S306	1-553-997-00	SWITCH, KEY BOARD			
S307	1-553-997-00	SWITCH, KEY BOARD			
S308	1-553-997-00	SWITCH, KEY BOARD			
S309	1-553-997-00	SWITCH, KEY BOARD			
S310	1-553-716-00	SWITCH, SLIDE			
**********					
	♣:1-608-998-00	SL-2 BOARD			
		**********			
		SWITCH			
S901	1-553-848-21	SWITCH, SLIDE			
**********					
	♣:1-607-774-00	HM-1 BOARD			
		**********			
	1-507-285-21	JACK			
	1-507-902-XX	JACK NUT B			
	3-670-164-00	SPACER, JACK			
	♣:3-674-399-00	INSULATOR, HM			
	♣:1-608-736-00	CH-33 BOARD			
		**********			
	♣:3-674-381-00	HOLDER, LED, BS			
		DIODE			
D501	8-719-812-31	DIODE TLR123			
D502	8-719-812-32	DIODE TLY123			
		SWITCH			
S501	1-553-997-00	SWITCH, KEY BOARD			
S502	1-553-997-00	SWITCH, KEY BOARD			
S503	1-553-997-00	SWITCH, KEY BOARD			
S504	1-553-997-00	SWITCH, KEY BOARD			
S505	1-553-997-00	SWITCH, KEY BOARD			
S506	1-553-997-00	SWITCH, KEY BOARD			
S507	1-553-997-00	SWITCH, KEY BOARD			
S508	1-553-997-00	SWITCH, KEY BOARD			
S509	1-553-997-00	SWITCH, KEY BOARD			
S510	1-553-997-00	SWITCH, KEY BOARD			
S511	1-553-997-00	SWITCH, KEY BOARD			
S512	1-553-997-00	SWITCH, KEY BOARD			
**********					
	♣:1-607-775-00	MT-1 BOARD			
		**********			
	♣:1-555-716-61	CABLE, PIN			
		TUNER			
[illegible]					
**********					
		MISCELLANEOUS			
		**********			
	1-235-054-00	COIL, SENSOR, S			
	1-235-055-00	COIL SENSOR, T			
[illegible]					
	1-528-097-00	BATTERY, STORAGE, NICKEL CADMIUM			
	1-552-664-00	SWITCH, MICRO			
	1-553-539-00	SWITCH, MICRO			
	1-553-717-00	SWITCH, MICRO			
	1-553-718-00	SWITCH, MICRO			
	8-825-508-10	HEAD, FE			
	8-838-021-21	MOTOR, DC (BHF-1800C)			
	8-838-027-11	MOTOR, DC (BHF-1901B)			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description	Remark

ACCESSORIES AND PACKING MATERIALS
****

Part No.	Description	Remark
1-551-513-00	CABLE, COAXAL ASSY	
3-660-986-00	SHEET, PROTECTION	
3-671-873-00	CASE, ACCESSORY	
3-675-575-00	CUSHION (UPPER FRONT)	
3-675-576-00	CUSHION (UPPER REAR)	
3-675-577-00	CUSHION (LOWER FRONT)	
3-675-578-00	CUSHION (LOWER REAR)	
3-675-579-00	BAG, PROTECTION	
3-675-581-00	LID, CASE, ACCESSORY	
3-677-904-00	INDIVIDUAL CARTON	
3-701-007-00	BAND, BINDING	
3-773-025-61	MANUAL, INSTRUCTION	

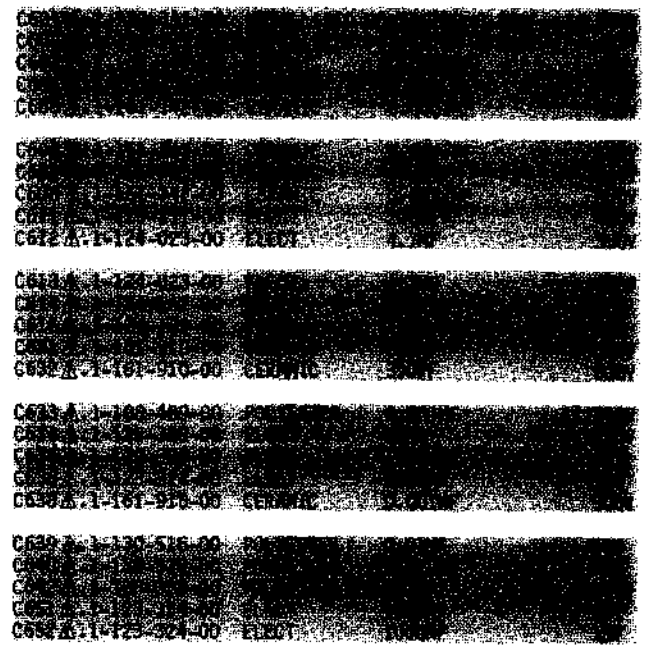
Ref.No.	Part No.	Description	Remark

POWER BLOCK (SR-11E)
****

INCLUDING CD-09(DC-DC CONV)

⚠ 1-413-105-11 POWER BLOCK (SR11E)

CAPACITOR



The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description		Remark
C653 ⚠	1-125-310-00	ELECT	470MF	16V
C654 ⚠	1-123-324-00	ELECT	1000MF	16V
C655 ⚠	1-123-319-00	ELECT	47MF	16V
C656 ⚠	1-123-319-00	ELECT	47MF	16V
C657 ⚠	1-125-310-00	ELECT	470MF	16V
C658 ⚠	1-123-320-00	ELECT	100MF	16V
C659 ⚠	1-125-310-00	ELECT	470MF	16V
C660 ⚠	1-123-357-00	ELECT	[illegible]	50V
[illegible]	[illegible]	ELECT	[illegible]	50V
[illegible]	[illegible]	ELECT	100MF	16V
[illegible]	[illegible]	POLYPROPYLENE [illegible]		50V
[illegible]	[illegible]	POLYPROPYLENE [illegible]		50V
[illegible]	[illegible]	POLYPROPYLENE 0.0047MF		50V
[illegible]	[illegible]	ELECT	[illegible]	16V
[illegible]	1-123-320-00	ELECT	100MF	16V

DIODE

Ref.No.	Part No.	Description
[illegible] ⚠	[illegible]	DIODE S3WB60Z
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible] ⚠	8-719-100-14	DIODE [illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible] ⚠	[illegible]	DIODE 1S1555
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible] ⚠	[illegible]	DIODE 1S1555
[illegible] ⚠	[illegible]	DIODE [illegible]-B2
[illegible] ⚠	8-719-100-60	DIODE RD13E-B2
[illegible] ⚠	8-719-100-87	DIODE RD22E-B1
D685 ⚠	8-719-200-02	DIODE 10E2

FUSE

Ref.No.	Part No.	Description
F601 ⚠	1-523-237-00	FUSE, TIME-LAG 3.15A 200V

IC

Ref.No.	Part No.	Description
IC681 ⚠	8-759-171-08	IC UPC7808H
IC [illegible] ⚠	8-759-937-55	IC MB3759

COIL

Ref.No.	Part No.	Description
L651 ⚠	1-421-545-00	
[illegible]	[illegible]	
[illegible]	[illegible]	10UH
[illegible]	[illegible]	10UH
[illegible]	[illegible]	100UH
L681 ⚠	[illegible]	10UH
L682 ⚠	[illegible]	100UH
L653 ⚠	1-408-421-00	100UH

****

PRINTED CIRCUIT BOARD
****

⚠:1-593-678-00 C BOARD
****

⚠:1-593-679-00 D BOARD
****

⚠:1-593-680-00 F BOARD
****

TRANSISTOR

Ref.No.	Part No.	Description
Q611 ⚠	8-729-133-55	TRANSISTOR 2SC2335-L2
Q612 ⚠	8-729-133-56	TRANSISTOR 2SC2335-L2
Q613 ⚠	8-729-102-03	TRANSISTOR 2SD1020
Q614 ⚠	8-729-102-03	TRANSISTOR 2SD1020
Q631 ⚠	8-729-103-43	TRANSISTOR 2SB734
Q632 ⚠	8-729-306-72	TRANSISTOR 2SD677A
Q651 ⚠	8-729-117-54	TRANSISTOR 2SA1175
Q652 ⚠	8-729-178-54	TRANSISTOR 2SC2785
Q681 ⚠	8-729-117-54	TRANSISTOR 2SA1175
Q682 ⚠	8-729-178-54	TRANSISTOR 2SC2785

RESISTOR

Ref.No.	Part No.	Description			Remark
R601 ⚠	1-217-292-00	WIRE WOUND	3.3	5W	F
R611 ⚠	1-246-535-00	CARBON	390K	1/4W	
R612 ⚠	1-246-535-00	CARBON	390K	1/4W	
R613 ⚠	1-212-946-00	FUSIBLE	3.3	1/2W	F
R614 ⚠	1-212-946-00	FUSIBLE	3.3	1/2W	F
R615 ⚠	1-246-449-00	CARBON	100	1/4W	
R616 ⚠	1-246-449-00	CARBON	100	1/4W	
R631 ⚠	1-204-475-00	METAL OXIDE	33	2W	F
R632 ⚠	1-247-923-00	CARBON	8.2	1/4W	F
R633 ⚠	1-535-383-00	SHUNT	0.02	2W	
R634 ⚠	1-246-485-00	CARBON	3.3K	1/4W	
R635 ⚠	1-246-473-00	CARBON	1K	1/4W	
[illegible]	[illegible]	CARBON	150	1/4W	
[illegible]	[illegible]	CARBON	4.7	1/4W	
[illegible]	1-246-473-00	CARBON	1K	1/4W	
[illegible]	[illegible]	CARBON	3.3K	1/4W	
[illegible]	[illegible]	CARBON	6.8K	1/4W	
[illegible]	[illegible]	CARBON	4.7K	1/4W	
[illegible]	[illegible]	CARBON	10K	1/4W	
[illegible]	[illegible]	CARBON	2.2K	1/4W	
[illegible]	[illegible]	CARBON	4.7K	1/4W	
[illegible]	[illegible]	CARBON	200	1/4W	
[illegible]	[illegible]	CARBON	2.2K	1/4W	
[illegible]	[illegible]	CARBON	3.3K	1/4W	
[illegible]	[illegible]	CARBON	1K	1/4W	
R683 ⚠	1-246-789-00	CARBON	3.3K	1/8W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No.	Part No.	Description			Remark
R684	⚠1-246-798-00	CARBON	18K	1/8W	
R685	⚠1-246-787-00	CARBON	2.2K	1/8W	
R686	⚠1-246-801-00	CARBON	33K	1/8W	
R687	⚠1-246-781-00	CARBON	680	1/8W	
R688	⚠1-246-790-00	CARBON	3.9K	1/8W	
R689	⚠1-246-787-00	CARBON	2.2K	1/8W	
R690	⚠1-246-790-00	CARBON	3.9K	1/8W	
R691	⚠1-246-793-00	CARBON	6.8K	1/8W	
R692	⚠1-246-783-00	CARBON	1K	1/8W	
R693	⚠1-246-795-00	CARBON	10K	1/8W	
R694	⚠1-246-798-00	CARBON	18K	1/8W	
R695	⚠1-246-798-00	CARBON	18K	1/8W	

VARIABLE RESISTOR

RV651	⚠1-228-141-00	RES, ADJ, METAL GLAZE	500		
RV681	⚠1-228-141-00	RES, ADJ, METAL GLAZE	500		

RELAY

RY651	⚠1-515-418-00	RELAY 12V 5A			

SWITCH

SW601	⚠1-553-834-11	PUSH SW 250V 5A/80A			

TRANSFORMER

T601	⚠1-421-481-00	LFT			
T611	⚠1-421-486-00	CHOKE COIL, COMMON			
T612	⚠1-447-282-00	CONV. T			
T613	⚠1-437-120-00	DR, T			

****

MISCELLANEOUS
****

1-533-037-00 HOLDER, FUSE
⚠1-534-777-31 CORD, POWER

****

CD-09 (DC-DC CONV)
****

CAPACITOR

C1	⚠1-123-319-00	ELECT	47MF		16V
C2	⚠1-161-190-00	CERAMIC	0.01MF		
C3	⚠1-130-281-00	POLYPRO	0.0068MF		100V
C4	⚠1-123-355-00	ELECT	10MF		50V
C5	⚠1-123-355-00	ELECT	10MF		50V
C6	⚠1-130-494-00	POLYESTER	0.047MF		
C7	⚠1-130-491-00	POLYESTER	0.047MF		
C8	⚠1-123-617-00	ELECT	10MF		16V

DIODE

D2	⚠8-719-815-85	DIODE	1S1585
D3	⚠8-719-101-40	DIODE	RD3.9E-L1

COIL

L1	⚠1-421-550-00	66UH	
L2	⚠1-421-549-11	36UH	
L3	⚠1-408-575-00	100UH	
L4	⚠1-408-575-00	100UH	
L5	⚠1-408-416-00	47UH	
L6	⚠1-408-571-00	47UH	
L7	⚠1-408-571-00	47UH	

****

PRINTED CIRCUIT BOARD
****

♦:1-608-212-00 CD.09 BOARD

TRANSISTOR

Q1	⚠8-729-117-54	TRANSISTOR	2SA1175
Q2	⚠8-729-117-43	TRANSISTOR	2SD774
Q3	⚠8-729-178-54	TRANSISTOR	2SC2785
Q4	⚠8-729-178-54	TRANSISTOR	2SC2785

RESISTOR

R1	⚠1-246-789-00	CARBON	3.3K	1/8W	
R2	⚠1-246-811-00	CARBON	220K	1/8W	
R3	⚠1-246-802-00	CARBON	39K	1/8W	
R4	⚠1-246-860-00	CARBON	24K	1/8W	
R5	⚠1-246-806-00	CARBON	68K	1/8W	
R6	⚠1-246-805-00	CARBON	68K	1/8W	
R7	⚠1-246-852-00	CARBON	5.1K	1/8W	
R8	⚠1-246-800-59	CARBON	27K	1/8W	
R8	⚠1-246-802-59	CARBON	39K	1/8W	
R8	⚠1-246-803-59	CARBON	47K	1/8W	
R8	⚠1-246-804-59	CARBON	56K	1/8W	
R8	⚠1-246-861-59	CARBON	30K	1/8W	
R8	⚠1-246-862-59	CARBON	36K	1/8W	
R8	⚠1-246-856-59	CARBON	75K	1/8W	
R9	⚠1-246-771-00	CARBON	100	1/8W	

TRANSFORMER

T1	⚠1-447-383-00	CONV.T	

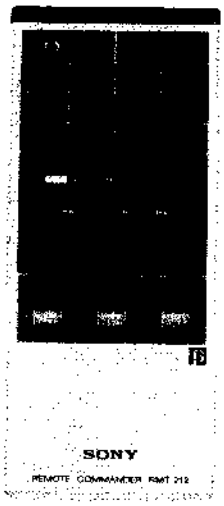
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

MEMO

RMT-212

SERVICE MANUAL



West Germany Model

November, 1982

SPECIFICATIONS

Remote control unit

Remote control system	Infrared control
Power requirements	3V dc, 2 size AA batteries (IEC designation R6)
Dimensions	Approx. 65 × 150 × 18 mm (w/h/d) ($2^{5}/_{8} \times 6 \times {}^{3}/_{4}$ inches) incl. projecting parts and controls
Weight	Approx. 140 g (5 oz) incl. batteries

REMOTE CONTROL UNIT

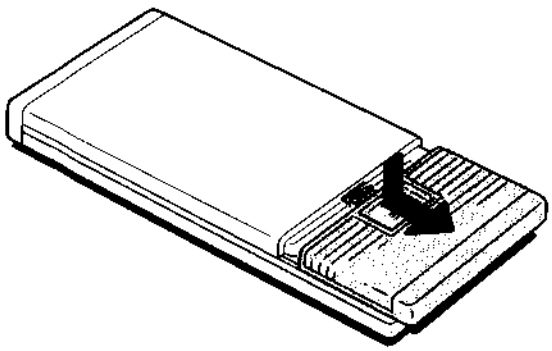
SONY®

1. REMOTE CONTROL OPERATION

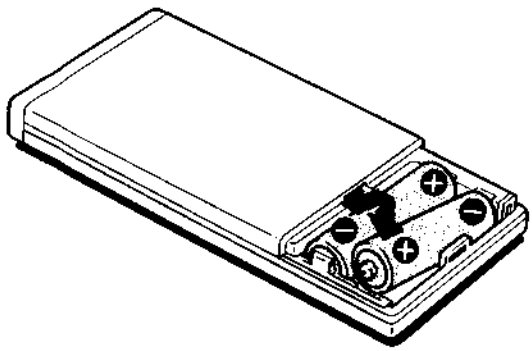
You can control almost all the functions of the SL-C9E video cassette recorder from your armchair using the supplied remote control unit.

BATTERY INSERTION

1. Open the lid.



2. Insert two size AA batteries (IEC designation R6) with correct polarity.



3. Close the lid firmly.

Notes on the remote control unit

- Avoid dropping foreign objects into the cabinet, particularly when replacing batteries.
- Keep the unit away from extremely hot or humid places.
- Avoid mechanical shock to the unit.
- This remote control unit may be used only with the SL-C9E video cassette recorder.

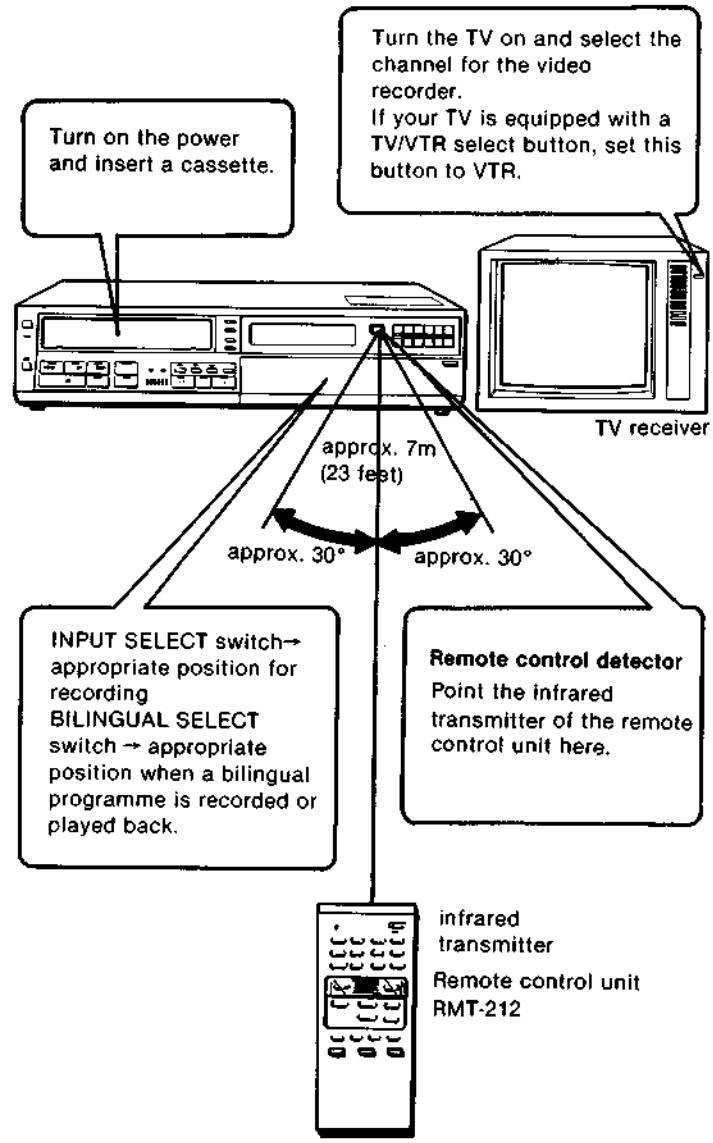
Battery life

In normal operation, batteries will last for about six months. If the range of the remote control unit becomes noticeably short, replace the batteries with new ones. When the batteries are exhausted, the remote function indicator will not light when the buttons on the control unit are pressed.

If the remote control unit is not to be used for a long period of time, remove the batteries to avoid possible damage from battery leakage.

HOW TO USE THE REMOTE CONTROL UNIT

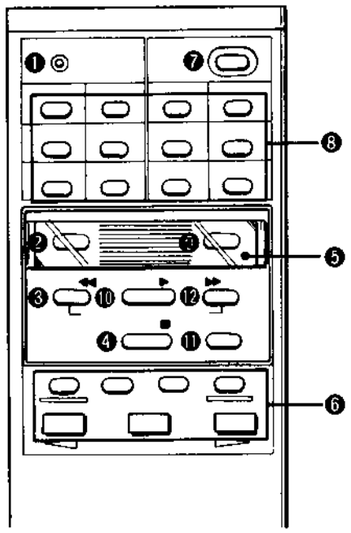
Preparation



Notes

- There should be no obstacles between the remote control unit and the remote control detector of the recorder.
- The shorter the distance between the remote control unit and the recorder, the wider the angle within which the recorder can be controlled.

Function of the buttons
The buttons on the remote control unit perform the same function as the corresponding buttons on the video recorder.



❶ Remote function indicator
Lights up when any of the buttons on the remote control unit are pressed.

❷ PAUSE button
Press to stop the tape momentarily. To resume the previous mode, press it again.

❸ REW ◀◀ button
Press to rewind the tape. Used also for reverse picture search operation during playback.

❹ ■STOP button
Press to stop the tape.

❺ Sliding cover
During playback, slide this cover over the record button to prevent accidental recording. During recording, slide this cover down to prevent accidental interruption of recording.

❻ SPEED CONTROL buttons
During playback or double speed playback, first select the playback speed with the FRAME, 1/10, 1/5 or 1 button, then select the playback direction with the ▷ or ◁ button.
● For frame-by-frame playback, press and release the ▷ or ◁ button repeatedly. Keep the button depressed for continuous frame-by-frame playback.

❼ ON button
Press to turn the power on. To turn it off, press again.

❽ Programme select buttons
Press to select a programme to be viewed or to be recorded.

❾ REC ● button
Press to start recording.

❿ PLAY ▶ button
Press to play the tape back.

⓫ ×2 button
Press to obtain a double speed playback picture.

⓬ ▶▶ FF button
Press to adavance the tape rapidly. Used also forward picture search operation during playback.

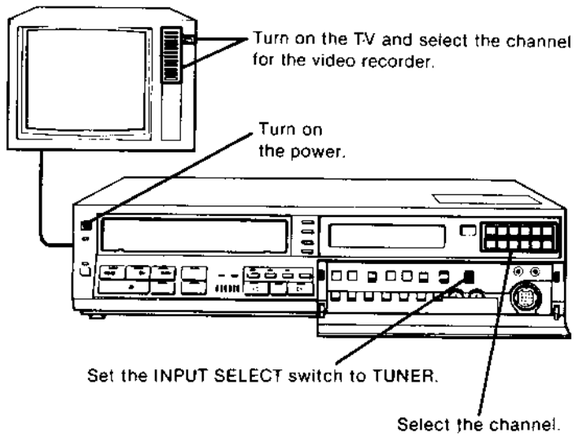
OPERATION

Recording
1. Select the channel to be recorded with the programme select buttons.
2. Press the REC button. The recording will begin.
To stop recording, press the STOP button.

Playback
Press the PLAY ▶ button. Playback will begin.
To stop playback, press the ■ STOP button.

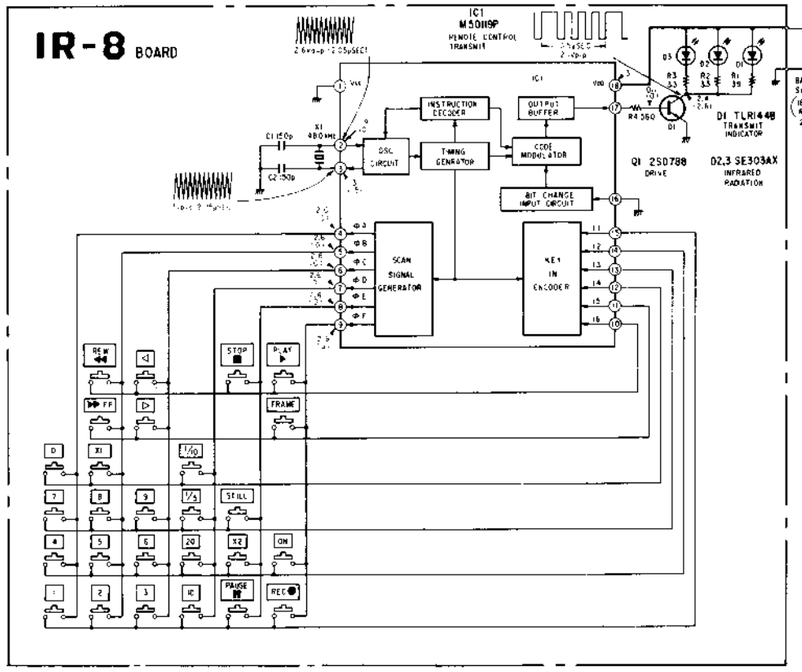
WATCHING TELEVISION

You can watch television in the usual way when recorder is turned off. You will find it convenient to use the recorder to remotely control TV channel selection.

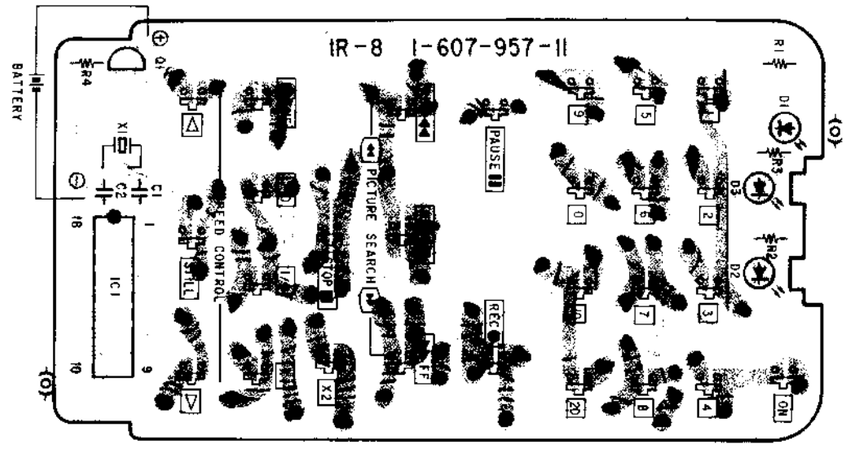


Channel selection is even easier when you use the supplied remote control unit.

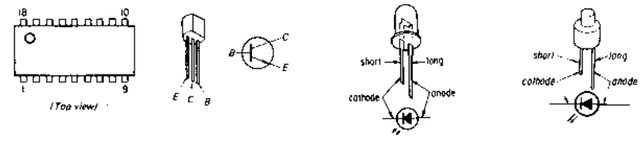
2. SCHEMATIC DIAGRAM



3. PRINTED WIRING BOARD

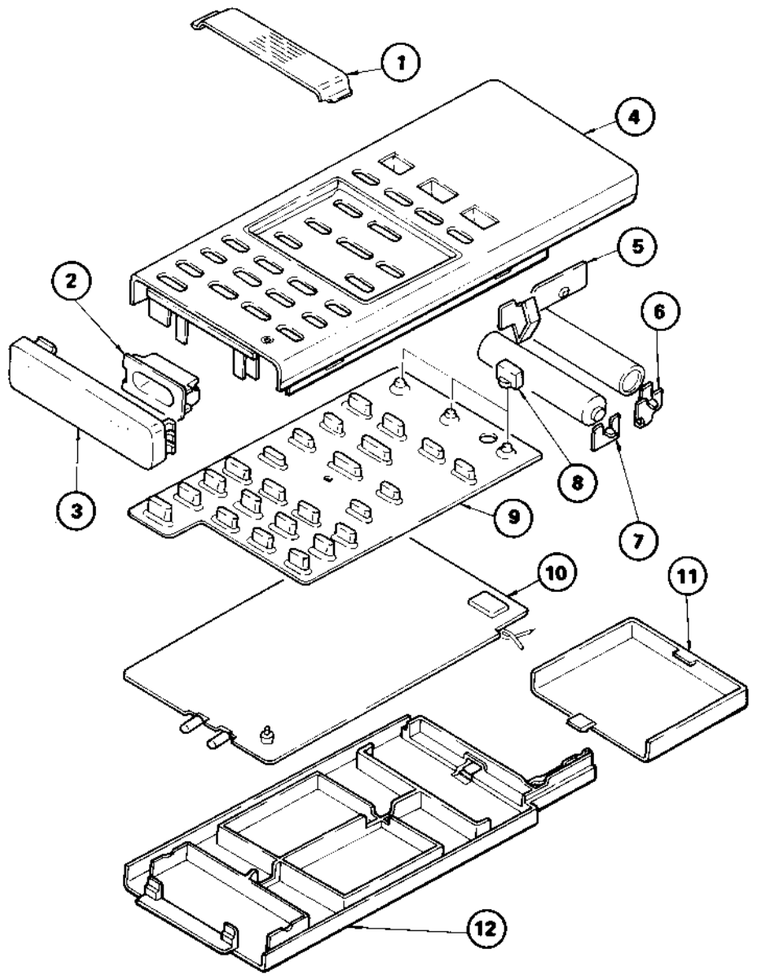


M50119P **2SD788** **SE303AX** **SLP144B**



5. EXPLODED VIEW

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.



No.	Part No	Description	Remark
1	2-290-603-00	CURSOR	
2	2-298-402-00	MIRROR	
3	2-290-608-00	PLATE, FROSTED	
4	2-2367-401-0	CASE (F) ASSY, UPPER	
5	4-350-925-00	TERMINAL (C), BATTERY	
6	2-290-601-00	TERMINAL (A), BATTERY	
7	2-290-602-00	TERMINAL (B), BATTERY	
8	2-290-604-00	PUSH BUTTON	
9	2-367-403-00	SHEET (H), RUBBER	
10	♦1-607-957-00	IR-8 BOARD	
11	2-290-606-00	COVER, BATTERY	
12	2-290-611-00	CASE, LOWER	

6. ELECTRICAL PARTS LIST

NOTE:
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

CAPACITORS
- MF : μF, PF : μμF

RESISTORS
- All resistors are in ohms
- F : nonflammable

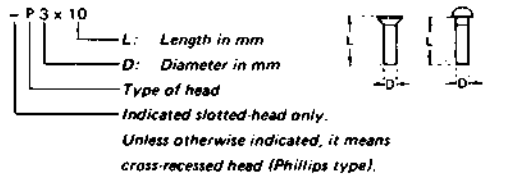
COILS
- MMH : mH, UH : μH

When indicating parts by reference number, please include the board name.

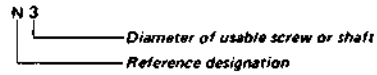
Ref.No.	Part No.	Description			Remark
	1-607-957-00	IR-8 BOARD **********			
	2-290-601-00	TERMINAL (A), BATTERY			
	2-290-602-00	TERMINAL (B), BATTERY			
		CAPACITOR			
C001	1-102-108-00	CERAMIC	150PF	10% 50V	
C002	1-102-108-00	CERAMIC	150PF	10% 50V	
		DIODE			
D001	8-719-901-44	DIODE SLP144B			
D002	8-719-193-03	DIODE SE303AX			
D003	8-719-193-03	DIODE SE303AX			
		IC			
IC001	8-759-600-07	IC M50119P			
		TRANSISTOR			
Q001	8-729-378-84	TRANSISTOR 2SD788			
		RESISTOR			
R001	1-246-766-00	CARBON	39	1/8W	
R002	1-246-753-00	CARBON	3.3	1/8W	
R003	1-246-753-00	CARBON	3.3	1/8W	
R004	1-246-780-00	CARBON	560	1/8W	
		CRYSTAL			
X001	1-527-476-00	OSCILLATOR, CERAMIC			

HARDWARE NOMENCLATURE

Screw:



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
		SCREWS	
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		brazier-head screw	

Reference Designation	Shape	Description	Remarks
		SELF-TAPPING SCREWS	
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
		SET SCREWS	
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
		NUT	
N		nut	
		WASHERS	
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
		RETAINING RINGS	
E		retaining ring	
G		grip-type retaining ring	

SL-C9E

SONY

ADJUSTMENT MANUAL

AEP Model
UK Model
E Model

SUPPLEMENT-1

Subject: • Adjustment procedures are partly changed accompanying modifications in the audio circuits.
• Errors involved in some adjustment procedures are corrected below.

This supplement updates the adjustment manual to include production changes.

Note: Refer to the SL-C9E adjustment manual for related information not containd in this supplement.

File this supplement with adjustment manual.

Consumer VIDEO

(A) SL-C9E

Ser. No. 208,451 – 208,500
224,486 – 226,000
228,945 – 230,300
230,501 – 235,500
235,592 – 240,999

SL-C9UB

Ser. No. 215,501 – 217,000
224,486 – 226,000
228,945 – 241,000

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5-5. ADJUSTMENT OF THE AUDIO SECTION (AM-1 board)

[Connection]

Fig. 5-48 shows how the video tape recorder and measuring instruments should be connected.

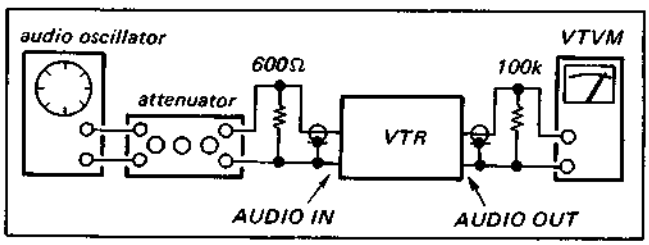

Fig. 5-48. Connection of audio test equipment

(1) Azimuth adjustment . . . . . See "Mechanical Adjustment"

Note: Part names enclosed with parentheses are adjustment of CH-2.
Set the BNR to OFF during adjustment of the audio system. (except for BNR adjustment)

[Connection]

BNR OFF: Connect the point where R516 and R520 meets to GND with a jumper.

Page 53

12. Overall S/N Check (AM-1 board)

(1) Terminate the audio line output terminal by a 100kΩ resistor, and connect up VTVM.
(2) Short the audio input line, and record for 5 seconds, as counted by the tape counter.
(3) Input 333 Hz −10dB signals to the audio input line, and record for 5 seconds, as counted by the tape counter.
(4) Playback the recorded tape, and ensure that the difference in VTVM level between portions (2) and (3) is within the following values.

BNR SW OFF: 34dB min
(for slight BNR effect)
BNR SW ON: 42dB min

(B) SL-C9E, SL-C9UB

Ser. No. 241,001 and later

Page 52

5-5. ADJUSTMENT OF THE AUDIO SECTION (AM-1 board)

[Connection]

Fig. 5-48 shows how the video tape recorder and measuring instruments should be connected.

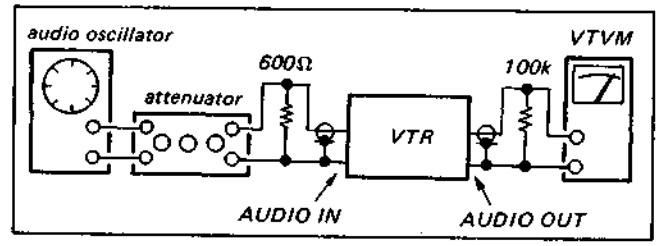

Fig. 5-48. Connection of audio test equipment

(1) Azimuth adjustment . . . . . See "Mechanical Adjustment"

Note: Part names enclosed with parentheses are adjustment of CH-2.
Set the BNR to OFF during adjustment of the audio system. (except for BNR adjustment)

[Connection]

BNR OFF: Connect TP-520 to GND with a jumper.

4. Bias Trap Adjustment (AM-1 board)

(1) Apply zero signal (zero the audio oscillator's output level with maximum attenuation).

Note: Be sure to tighten the shield case properly when adjusting.

(2) Load a cassette tape and put the recorder in Record mode.
(3) Connect an oscilloscope to TP506 (TP507).
(4) Minimize bias leak with LV501 (LV502).
Requirement: minimum level at 6Vp-p or less.

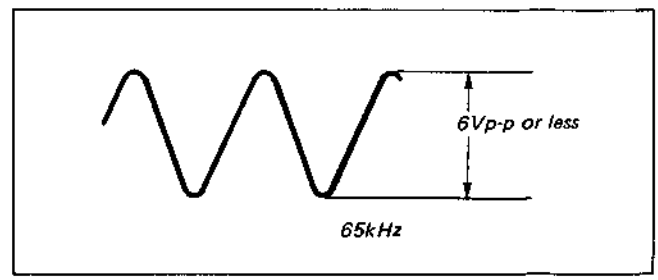

Fig. 5-50. Bias trap adjustment

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5-6. ADJUSTMENT OF THE TUNER BLOCK (TU-24 board)

2. Stereo ID of Adjustment (TU-24 board)

(1) Input 12.5 Hz −49dB signals to Pin 2 of CN002.
(2) Adjust RV201 until the output level at Pin 7 of IC202 reaches a maximum.

3. Stereo ID Gain Adjustment (TU-24 board)

(1) Input 12.5 Hz −49dB signals to Pin 2 of CN002.
(2) Adjust RV202 until the output level at Pin 7 of IC202 becomes 10 ± 0.5dB.
(3) Check the DC level at Pin 3 of IC202 for 2.9V ± 0.3V. Also check that the stereo lamp is on.

(C) SL-C9E (Excluding SL-C9UB) Ser. No. 236,501 and later

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5-5. ADJUSTMENT OF THE AUDIO SECTION (AM-1 board)

2. Playback Level Adjustment (AM-1 board)

(1) Play back 333Hz from the alignment tape and adjust so that the output level is −23 ± 0.3dB with RV508 (RV509).

7. Record Level Adjustment (AM-1 board)

(1) Connect TP500 and ground with a jumper wire so as to turn off the AGC operation.
(2) Supply a 333Hz signal.
(3) Set up the E-E mode and adjust the oscillator output level so that the level meter reading is −40dB.
(4) Record signals.
(5) Play back the recorded section of the tape and check that the output level is −23 ± 0.5dB. If the level is outside this range, repeat Steps (2) through (4) above adjusting with RV506 (RV507) until the standard value is obtained.
(6) Verify that the record current adjustment has been completed.
(7) Remove the jumper wire after making the adjustment.

Page 53

11. Overall Frequency Characteristics Check (AM-1 board)

(1) Terminate the audio line output terminal with a 100kΩ resistor, and connect to VTVM. (Leave AGC turned off.)
(2) Input 333Hz signals to the audio line input terminal.
Note: Keep BNR turned off.
(3) Adjust the attenuator until VTVM becomes −23dB.
(4) Record for 5 seconds counted by the tape counter.
(5) Repeat (4) by changing the frequency to 50 Hz, 100 Hz, 333 Hz, 7 kHz, and 10 kHz.
(6) Playback the recorded tape, and check the recorded level conforms with the specifications.

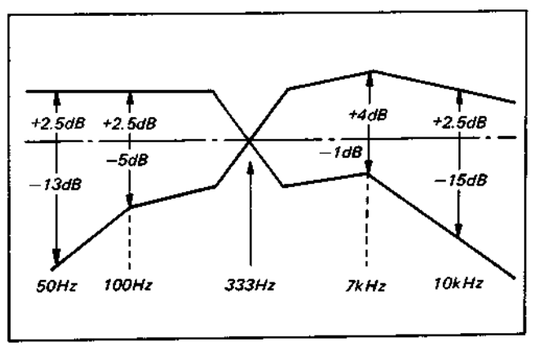

Fig. 5-52. Overall frequency characteristics check

12. Overall S/N Check (AM-1 board)

(1) Terminate the audio line output terminal by a 100kΩ resistor, and connect up VTVM.
(2) Short the audio input line, and record for 5 seconds, as counted by the tape counter.
(3) Input 333 Hz −10dB signals to the audio input line, and record for 5 seconds, as counted by the tape counter.
(4) Playback the recorded tape, and ensure that the difference in VTVM level between portions (2) and (3) is within the following values.

BNR SW OFF: 34dB min
(for slight BNR effect)
BNR SW ON: 42dB min

CORRECTION

• : corrected portion

4-2. ADJUSTMENT FOR REMOVAL OR REPLACEMENT OF THE ACE ASSEMBLY

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4-2-2. Audio head (ACE assembly) azimuth adjustment

Audio head azimuth affects phase difference of the right and left channels in stereo. Since the track width is one third of monaural, azimuth loss is small when azimuth error is the same. Therefore, only phase adjustment of the two channels is to be performed as azimuth adjustment.

Mode: playback
Signal: alignment tape, color bars, 3kHz
Oscilloscope: CH-1 . . . AUDIO OUT CH1/L terminal
CH-2 . . . AUDIO OUT CH2/R terminal

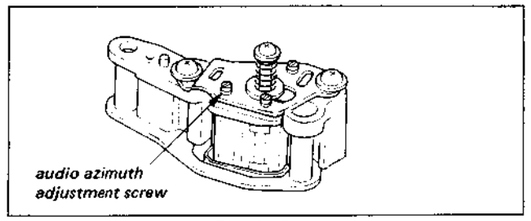
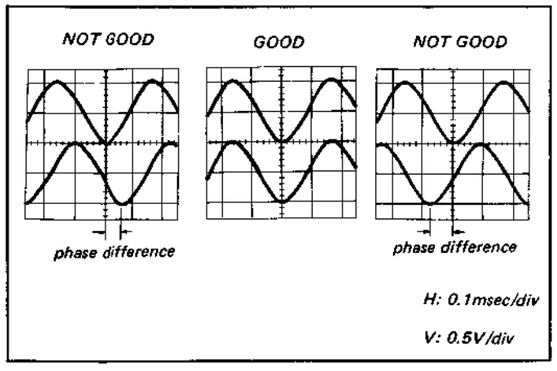


Fig. 4-12.

Adjustment procedures

1. In dual-beam mode

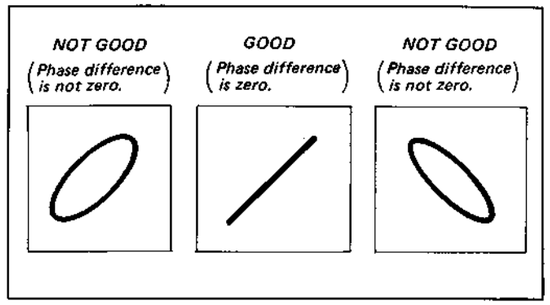
(1) Zero the phase difference of CH-1 and CH-2 signals with the azimuth adjusting screw.



(2) Requirement on phase difference angle: less than 45°

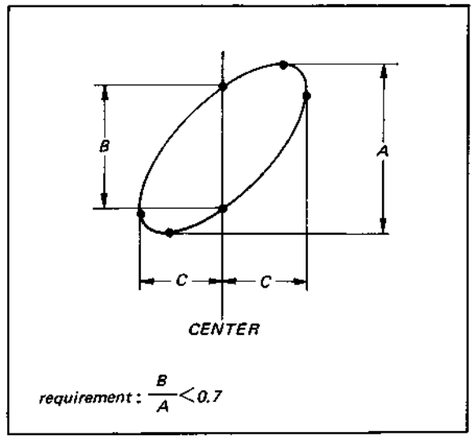
2. In X-Y mode with Lissajous' figures

(1) Zero the phase difference of CH-1 and CH-2 signals with the azimuth adjusting screw.



(2) Requirement on phase difference angle: less than 45°

The angle of phase difference is given by $\sin^{-1}$ (B/A). To meet that the angle of phase difference be less than 45°, it is sufficient that B/A < 0.7.



5-5. ADJUSTMENT OF THE AUDIO SECTION (AM -1 board)

Page 53

9. BNR Adjustment (AM-1 board)

(1) Turn on the BNR switch.
(2) Load the cassette tape, and set up the PLAYBACK PAUSE mode.
(3) Apply 1 kHz signals to TP514 and TP515.
(4) Connect VTVM to TP516, Pin 5 of IC506 (TP517, Pin 5 of IC508).
Note: Connect for respective frequencies.
(5) Adjust the attenuator to bring VTVM to −5dB.
(6) Connect VTVM to Pin ④ of IC506 (Pin ④ of IC508).
(7) Adjust RV505 (RV502) to bring VTVM to −5dB.
(8) Adjust the input signal of TP514 (TP515) to 10kHz, and repeat (4), (5) and (6).
(9) Adjust RV504 (RV503) to bring VTVM to −5dB.
(10) Repeat (3) through (6) and (8), and ensure that −5.0 ± 0.5dB is obtained for both 1 kHz and 10 kHz signals.
Where the value is unsatisfactory with process (10), repeat (3) through (9) until a satisfactory value is obtained with process (10).

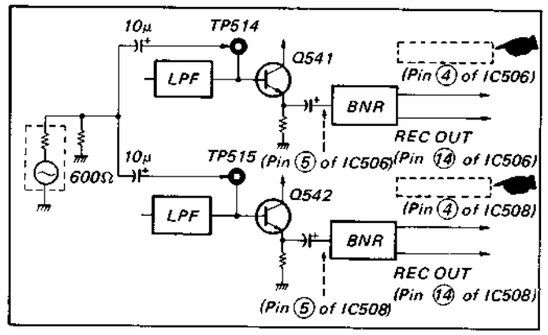


Fig. 5-51. BNR adjustment

10. BNR Characteristic Check (AM-1 board)

[Playback]

(1) Disconnect CN001 and turn on the BNR switch.
(2) Input 1 kHz signals to TP514 (TP515).
(3) Load the cassette tape, and set up the PLAYBACK PAUSE mode. (Input signals: 70Hz, 1kHz and 10kHz)
(4) Connect VTVM to TP516, Pin 5 of IC506 (TP517, Pin 5 of IC508).
Note: Connect for respective frequencies.
(5) Adjust the attenuator to bring VTVM to −35dB.
(6) Connect VTVM to Pin ④ of IC506 (Pin ④ of IC508).
(7) Execute (3) through (6) for respective frequencies, and ensure that VTVM levels are as follows.

TP514 (TP515) input signal	LINE OUT CH-1 (CH-2) output signal
70Hz	−45.5dB ± 2.0dB
1kHz	−50.4dB ± 2.0dB
10kHz	−57.8dB ± 3.0dB

[Recording]

(1) Turn on the BNR switch.
(2) Set up the STOP mode, and set the INPUT SELECT switch to LINE.
(3) Input 70Hz, 1 kHz and 10 kHz signals to TP514 (TP515).
(4) Connect VTVM to TP516, Pin 5 of IC506 (TP517, Pin 5 of IC508).
(5) Adjust the attenuator until VTVM level becomes −35dB.
Note: Make this adjustment for each input frequency.
(6) Connect VTVM to Pin 14 of IC506 (Pin 14 of IC508).
(7) Execute (3) through (6) for all input frequencies, and ensure that the VTVM levels are as shown below.

TP514 (TP515) input signal	LINE OUT CH-1 (CH-2) output signal
70Hz	−26.0dB ± 2.0dB
1kHz	−22.9dB ± 2.0dB
10kHz	−23.9dB ± 2.0dB

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Sony Corporation
Consumer Products Group
Technical Support Dept.

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