

# SERVICE MANUAL

**TEAC Tascam Series**  
**MODEL 80-8**  
**8 CHANNEL**  
**RECORDER/REPRODUCER**

**TEAC®**

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# I. INTRODUCTION



The TEAC Tascam Series 80-8 Recorder/Reproducer is an 8 track 8 channel machine regardless of its small size and light weight, and is designed for recording studios and other similar applications.

The front panel control layout is designed with emphasis on simplicity without sacrifice in ease of operation for a multi-track recorder.

The record/reproduce amplifiers can be adjusted from the front and a plug-in type PC card is provided for each channel.

Tape travel is controlled by a full IC logic control system housed in the control unit above the record/reproduce amplifiers.

The Series 80-8 can also be mounted on a standard 19" rack by utilizing the TEAC RM-88 Rack Mounting Adaptor.

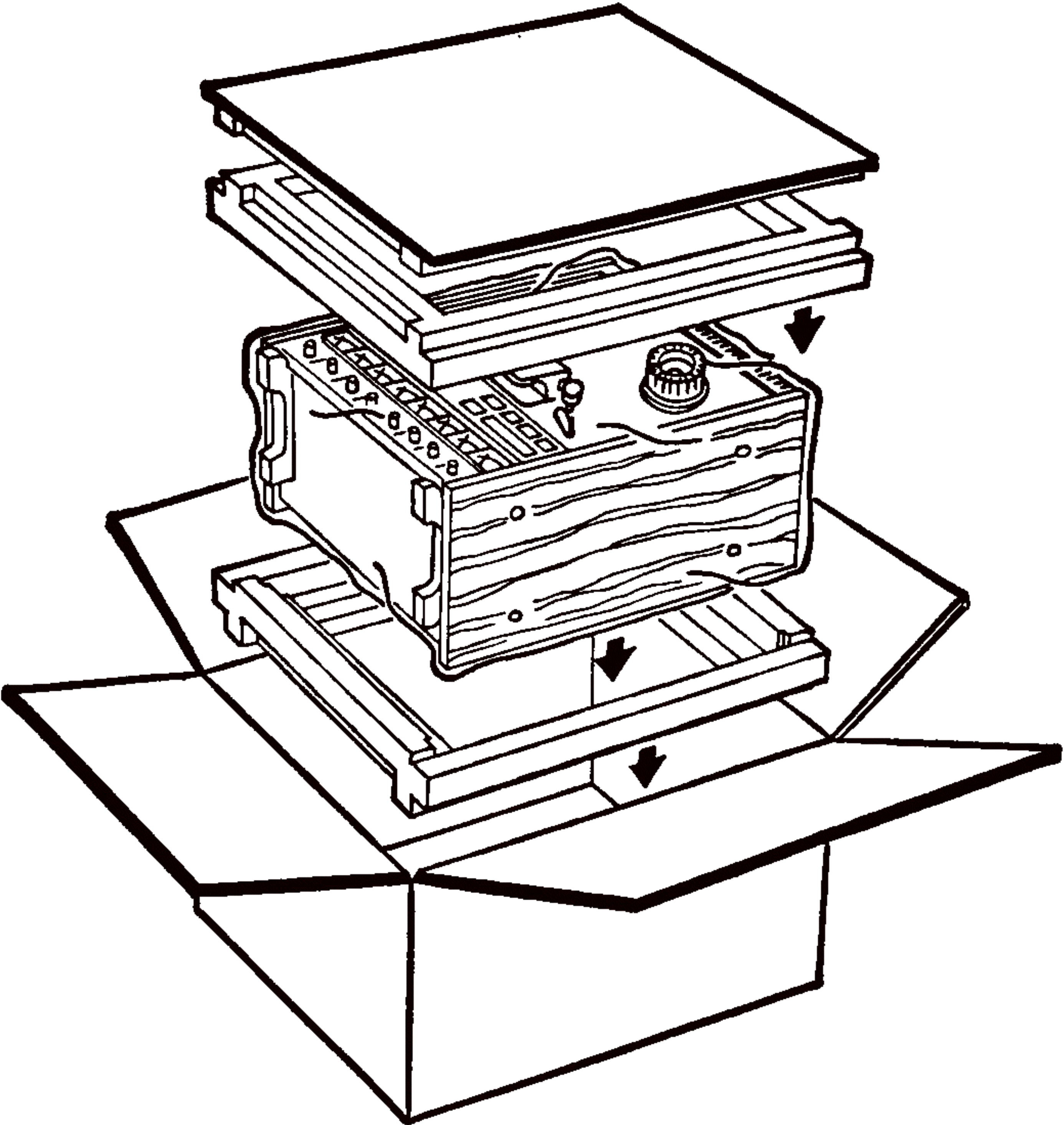
The TEAC DX-8 dbx Unit is also available which can be installed into the Series 80-8 to make one complete unit. Necessary connecting cables are included.



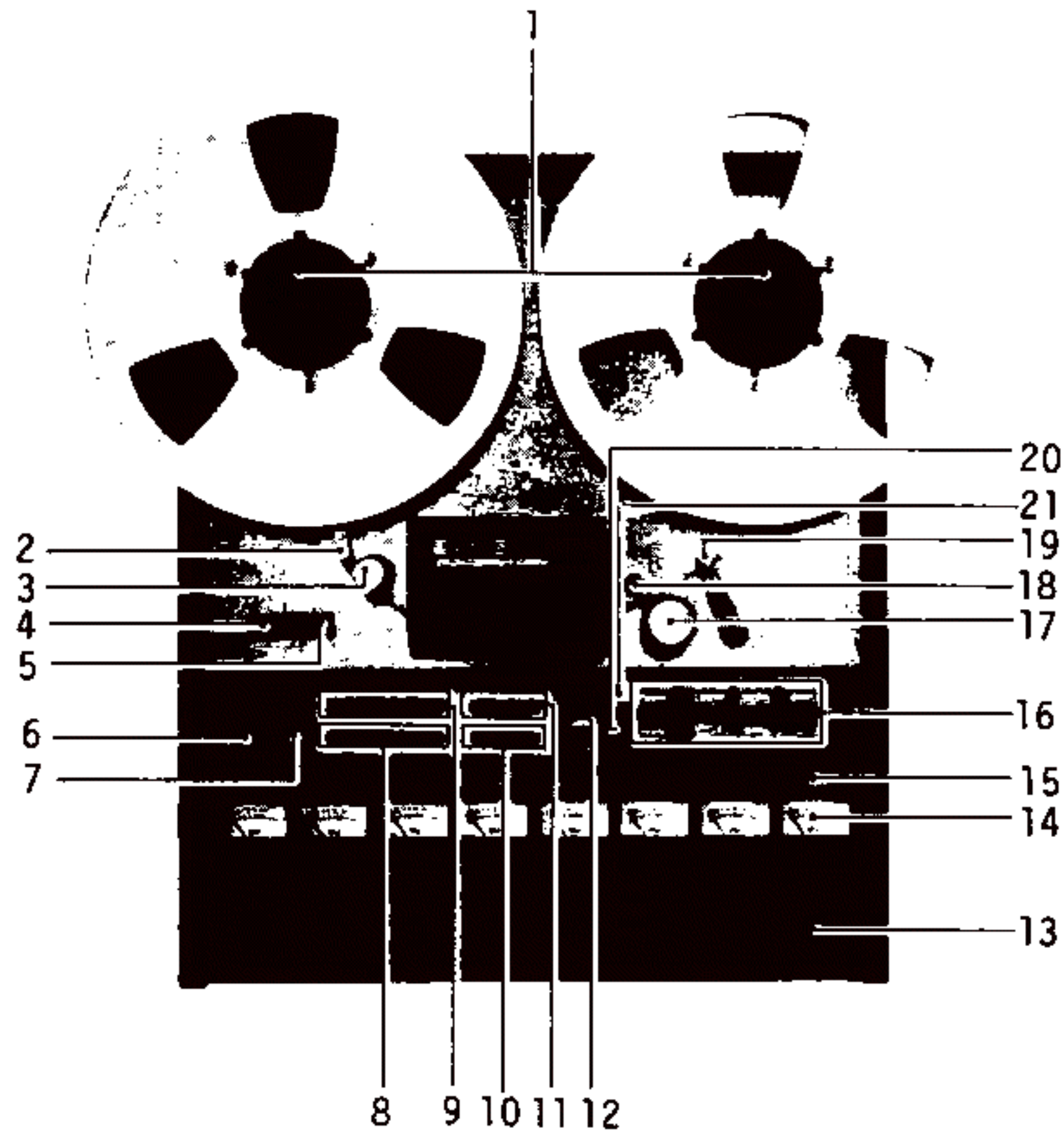
## 2. SPECIFICATIONS

|                                     |                                                                                                                         |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| TAPE WIDTH                          | 1/2 inch                                                                                                                |
| FORMAT                              | 8-track, 8-channel                                                                                                      |
| REEL SIZE                           | 10-1/2" maximum, NAB hub only                                                                                           |
| TAPE SPEED                          | 15 ips                                                                                                                  |
| LINE INPUT                          | -10 dB (0.3V)<br>Impedance: greater than 20K ohms, unbalanced                                                           |
| LINE OUTPUT                         | -10 dB (0.3V)<br>Load impedance: greater than 10K ohms, unbalanced                                                      |
| RECORD LEVEL CALIBRATION            | 0 VU referenced to 3 dB above 185nWb/m of tape flux;<br>adjustable                                                      |
| SPEED ACCURACY                      | ±0.5% deviation from 15 ips                                                                                             |
| WOW AND FLUTTER                     | 0.04% RMS (NAB), weighted<br>±0.06% peak (ANSI), weighted<br>Measured with flutter test tape                            |
| STARTING TIME                       | Less than 0.5 second                                                                                                    |
| FAST WIND TIME                      | 120 second for 2400 ft. of tape                                                                                         |
| OVERALL FREQUENCY<br>RESPONSE, SYNC | 40 Hz ~ 18 KHz, ±3 dB                                                                                                   |
| SIGNAL TO NOISE RATIO               | 65 dB weighted, 60 dB unweighted (22.4 Hz ~ 22.4 KHz),<br>referenced to 3% T.H.D. level (10 dB above 0 VU)<br>at 400 Hz |
| DISTORTION                          | 1% at 400 Hz, 0 VU                                                                                                      |
| T.H.D. Overall                      | 3% at 10 dB above 0 VU                                                                                                  |
| CROSSTALK                           | Greater than 45 dB at 400 Hz                                                                                            |
| ERASURE                             | Greater than 65 dB at 1 KHz, +10 VU reference                                                                           |
| POWER REQUIREMENTS                  | 117 V, 60 Hz, 200 W                                                                                                     |
| DIMENSIONS Overall                  | 17-1/2" (W) X 21" (H) X 12" (D)                                                                                         |
| WEIGHT                              | 17 lbs.                                                                                                                 |

3. OPENING THE PACKAGE



## 4. FUNCTION OF THE CONTROLS



### 1. NAB hub adaptors

These are permanently mounted on the reel turntables.

In securing the 10-1/2" reel on the turntable, the three nicks in the reel center hole is matched with the three protrusions in the hub adaptor, the reel snugly pressed against the turntable face and the top knob of the hub adaptor rotated clockwise to firmly seat the reel.

### 2. Tape tension arm

### 3. Impedance roller

### 4. Index counter

By switching ON the MEMORY button located on the control panel just below the counter, the tape will automatically stop from the rewind mode when all digits of the counter reach "zero."

### 5. Index counter reset button

All digits of the tape counter will be reset to "zero" when the button on the right side of the counter is depressed.



## 6. Power switch

Controls AC power to the tape transport and the electronics assembly.

Press to energize and power ON will be indicated by illumination of the VU meter lamps and an OUTPUT SELECT lamp whose button has been depressed. Also, the PAUSE lamp will blink for 10 seconds after switch ON, indicating that all deck controls are inoperable until they are extinguished.

## 7. Memory stop

Tape will stop from rewind when the counter digits reach all "zero" by depressing (switch ON) this button.

## 8. Function select buttons and,

## 9. LED indicators

- a) During the STOP mode, when any of the FUNCTION SELECT switch is depressed, the LED for the depressed channel will blink to indicate that this channel is in "record standby." If the PLAY and RECORD buttons are depressed, the machine will immediately go into the record mode.

When it goes to the record mode, the FUNCTION SELECT LED which was blinking will change to a continuous light to indicate that this channel is recording.

- b) With all channels of FUNCTION SELECT set to "OUT" and the PLAY and RECORD buttons are depressed at the same time, the RECORD lamp will start blinking.  
Under this condition, when any one or several FUNCTION SELECT buttons are depressed, those channels only will go into the RECORD mode (punch in) and return to "record standby" when these buttons are "OUT," and the RECORD lamp will start blinking again.

## 10. OUTPUT SELECT buttons and,

## 11. LED indicators

- a) When the INPUT button is depressed, the source monitor signal will be output to LINE output for all channels.
- b) When any one of the FUNCTION SELECT is "IN," by depressing the NORM button this "IN" channel source monitor only will be output to LINE output, and the tape signal reproduced by the record head will be output to the remaining LINE output jacks.
- c) Tape signal picked up by the monitor head will be output to LINE out when the MONIT button is depressed.

## 12. CUE lever

For fast search, manually apply a slight amount of pressure upwards. Do not use the latch position for fast search cueing - it is intended for pause or stop mode cueing only.



13. Input level control

For adjusting the source input level.

14. VU type averaging meters

For visual reference of input/output signal levels.

15. LED peak overload indicators

Complements VU meter by monitoring transient peaks. The trigger is factory calibrated at +10 VU, adjustable.

16. Transport controls

Includes 6 micro switch buttons which provide complete control over all modes of tape transport motion. Remote control does not disengage the front panel controls.

17. Pinch roller

Applies proper pressure for the tape to be driven by the capstan. Engaged only in PLAY and RECORD modes.

18. Capstan

Drives the tape at a constant speed in PLAY and RECORD modes. Not engaged with the Pinch Roller during Fast Forward or Rewind, but rotation continues until electrical power is turned off.

19. Shut-off arm

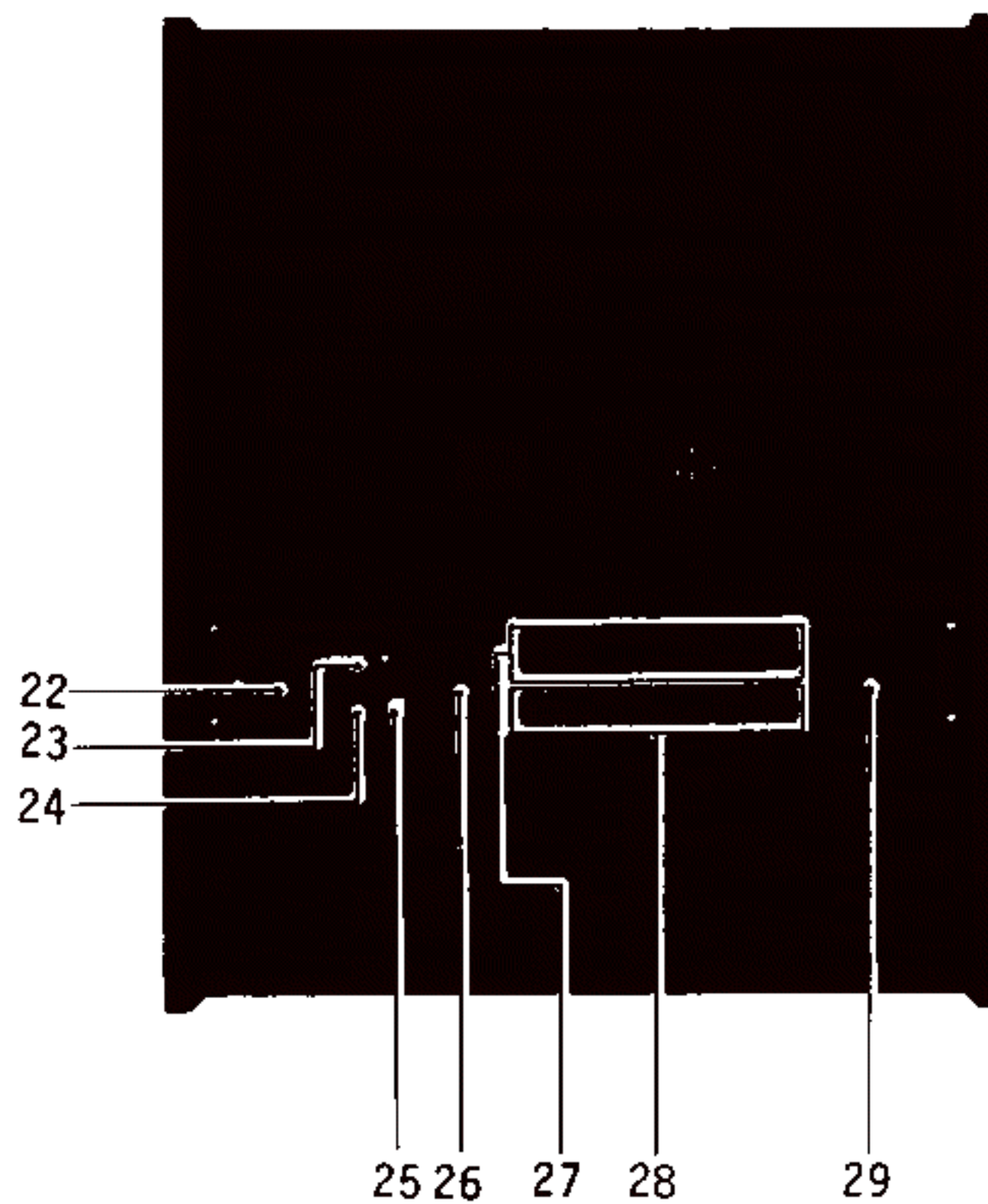
Removes electrical power from the transport section when the tape ends.

20. PAUSE lamp

This will blink for the first 10 seconds or so after POWER switch on, and all controls will be inoperable until the lamp goes out. It will, of course, light up when in PAUSE.

21. RECORD lamp

Will blink when in "record standby;" remain lit when in the RECORD mode.



22. AC power cord

Male socket. Connect power cord here.

23. AC switched

AC power supplied when the 80-8 is ON. Use no more than 300W.

24. Fuse holder

Contains 3 amp fuse for overload protection.

25. GND connection

For connecting a grounding wire between components, or to earth ground as necessary.

26. Remote control socket

For optional RC-170 Remote Control Unit. Needs no dummy plug when not in use.

27. Input jacks

Line inputs for recording are connected to these eight pin cord jacks.

28. Output jacks

Line outputs.

29. dbx interface section

Removal panel for direct integral dbx interface.

NOTE: For use with the DX-8 unit only.

## 5. MAINTENANCE

### 5.1 ROUTINE MAINTENANCE

Troubles and breakdown in the recorder can be prevented by scheduled check and maintenance. Periodically follow the check items below:

#### a) Cleaning the heads and tape guides

All heads and metal parts in the tape path must be cleaned after each 6 hours of operation or before starting a new session of recording.

The TEAC TZ-261A Cleaning Fluid is recommended.

#### b) Cleaning the pinch roller

Clean this at least once after each full day of use.

The TEAC TZ-261B Cleaning Fluid is recommended.

#### c) Cleaning the capstan

Clean this at the same time the head is cleaned.

The TEAC TZ-261A Cleaning Fluid is recommended.

#### d) Demagnetizing of heads and tape guides

All heads and tape guides should be demagnetized every morning or before starting a new session of recording. The TEAC E-1 Head Demagnetizer is recommended.

1) After cleaning, turn machine OFF!!!

2) Have all tapes at least 5 or 6 feet away when demagnetizing because the demagnetizer's magnetic field will erase them.

3) Slowly move the tip of the demagnetizer up and down in front of each head and slowly move it away (This is suggested because if you were to pull away quickly, remagnetizing of the head is possible). Like a turtle, demagnetize the second head and repeat the process, etc.

After you repeat this process for all heads, move the demagnetizer an arms-length away, turn it off, and unplug it.

#### e) Testing the brakes

See Item 5.2.2, b) Brake torque, page 12.

#### f) Testing the pinch roller pressure

See Item 5.2.2, a) Pinch roller pressure, page 11.

#### g) Testing the amplifier

Thread a blank tape on the Model 80-8 and record a 1KHz, 0VU signal.

While the machine is in the record mode, set the OUTPUT SELECT to MONITOR and adjust the INPUT level knob for a 0VU reading. On repeating the same process on each channel, the INPUT knobs should all be indicating "7" on the scale.



Rewind the above recording to the beginning, set the OUTPUT SELECT to NORM, and put the machine in the PLAY mode. The VU meters should all read 0VU.

Record a 20Hz through 20KHz signal and check the overall frequency response with the VU meter to see that it is within 2dB.

Disconnect any equipment plugged into the INPUT, record a length of no signal tape, and reproduce it to check the S/N ratio.

If it is below spec, refer to Item 5.2.4, h), page 22.

## 5.2 TESTING AND ADJUSTMENT

### 5.2.1 Test equipment required

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spring scale      | 0 ~ 8 lbs (0 ~ 4 kg)<br>0 ~ 10 ozs (0 ~ 300 g)                                                                                                                                                                                                                                                                                                                                                                                  |
| Flutter meter     | Meguro Denpa Sokki Co., Model MK-668B (Japan),<br>or - Mincom Division, 3M Co., Model 8155 (U.S.A.)                                                                                                                                                                                                                                                                                                                             |
| Audio oscillator  | Hewlett Packard, Model 204C or equivalent                                                                                                                                                                                                                                                                                                                                                                                       |
| Frequency counter | Range: 0 ~ 1MHz; sensitivity: 0.1Vrms; imp.: >1M $\Omega$ , <25pF                                                                                                                                                                                                                                                                                                                                                               |
| Band-pass filter  | TEAC M-206A or a frequency analyzer                                                                                                                                                                                                                                                                                                                                                                                             |
| AC voltmeter      | Range: -80dB ~ +40dB; imp.: >1M $\Omega$ , <25pF (example: HP400GL)                                                                                                                                                                                                                                                                                                                                                             |
| Oscilloscope      | General purpose                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test tapes        | TEAC YTT-1144 (for reproduce alignment):<br>Tape speed: 15 ips; reference fluxivity: 250nWb/m;<br>equalization: IEC; time constant: $\infty$ & 35msec.<br>or - MRL31J-129 (Magnetic Reference Lab.):<br>All specs are identical with YTT-1144 except for the<br>reference fluxivity which is 200nWb/m and thus its<br>reproduce output level will be 2dB lower.<br>For wow and flutter measurement:<br>Standard Tape Lab., #62. |
| Blank tape        | Ampex 456 or Maxell UD-50 is recommended.                                                                                                                                                                                                                                                                                                                                                                                       |

## 5.2.2 Transport check and adjustment

### a) Pinch roller pressure

Pinch roller pressure is supplied by the Pinch Roller Pressure Spring only and it is most important that the solenoid plunger be fully bottomed before taking pressure measurement.

- 1) Block the automatic shut-off arm in the ON position.
- 2) Attach a suitable spring scale to the pinch roller shaft with a short loop of twine.
- 3) Put the deck in the PLAY mode, and positioning the scale as illustrated, slowly draw it in direction opposite the capstan until the pinch roller stops rotating.
- 4) The spring scale should indicate 7 lbs.,  $\pm 10\%$ .
- 5) If the reading is off specification, loosen the 3 screws (Refer to Fig.A ) and reposition the plunger solenoid. As the pressure will greatly change with only a slight shift in position, reposition the solenoid in small increments.

The pressure will increase by moving the solenoid in the direction away from the capstan motor.

After obtaining optimum pressure, securely tighten the 3 screws and make a final re-check of the pressure.

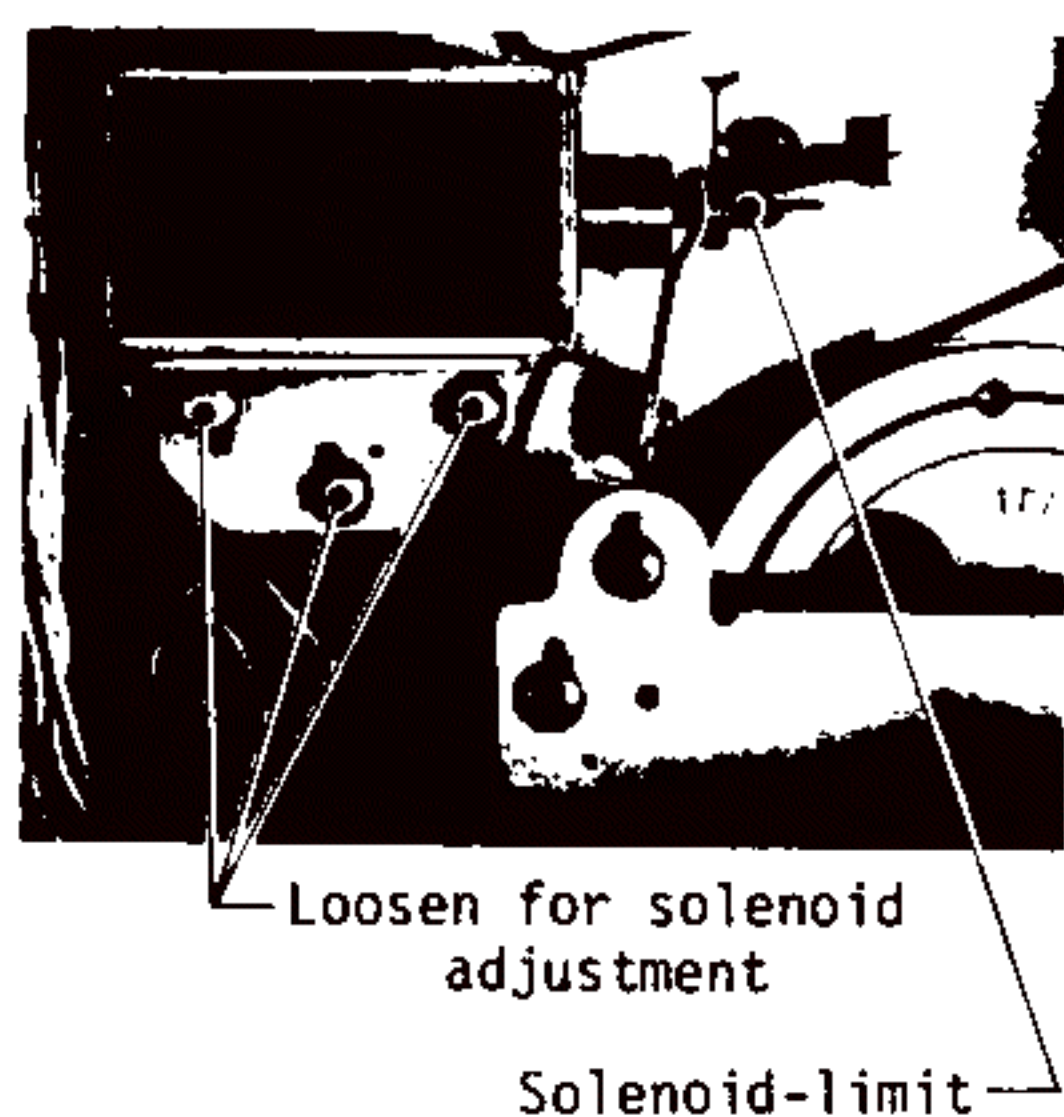


Fig. A

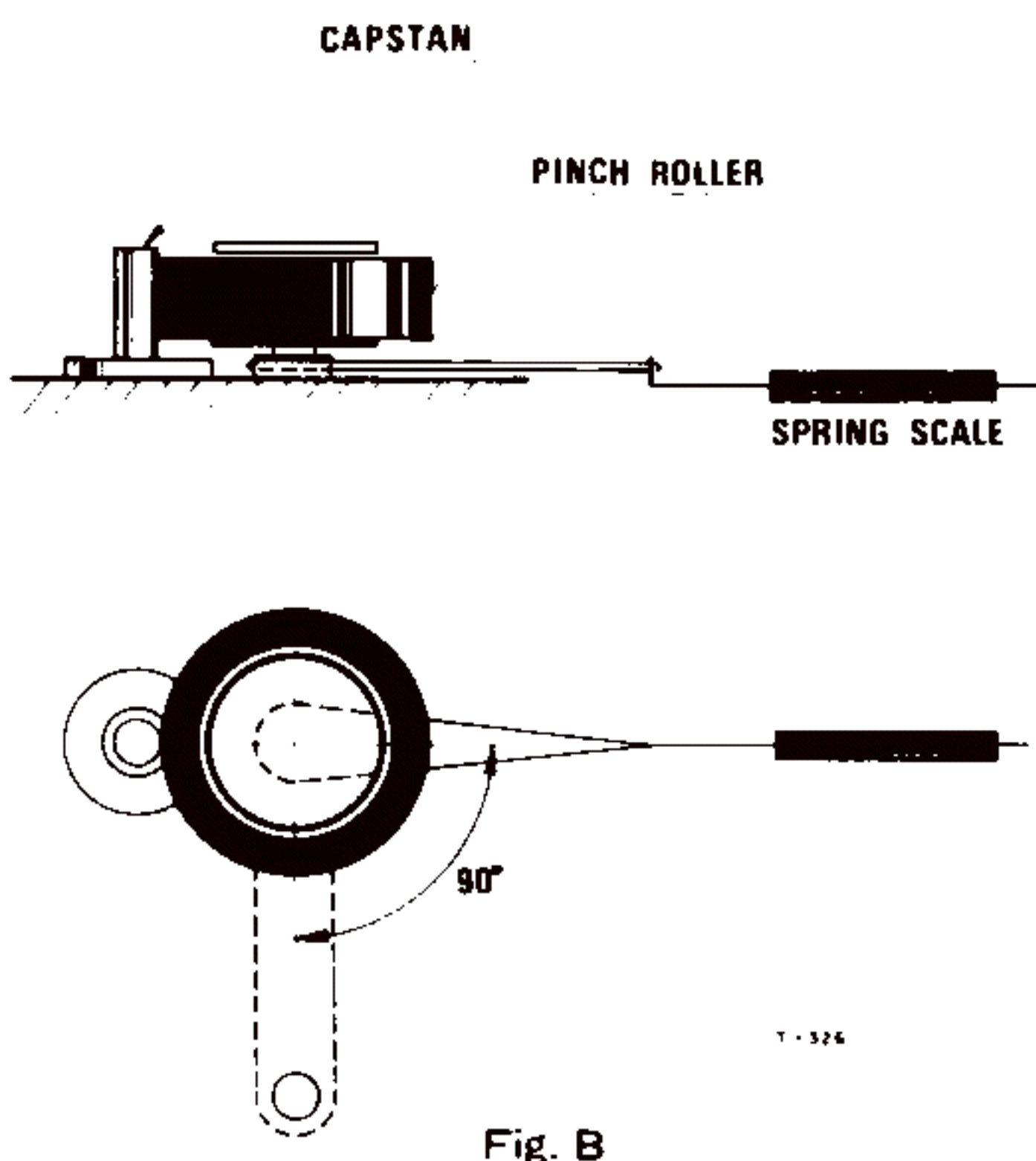


Fig. B

- 6) Adjust position of the solenoid-limit so that the gap between capstan shaft and pinch roller is approximately 7mm when solenoid is not actuated. Limit is adjusted by loosening the mounting screw (A), then sliding limit until proper gap is obtained.



b) Brake torque

Brake torque is applied mechanically. Pressure is set by the variable spring force. While making these measurements and adjustments, be careful not to bend the brake bands. As brake torque will change with cleaning, brake drums and brake shoes should be cleaned only when absolutely necessary. If cleaning is required, use TEAC cleaner TZ-261B. After cleaning, operate the machine for a month of normal operation before performing the procedures below.

Brake adjustments are made with NO power to the equipment.

- 1) Place an empty 2" hub reel on the left reel table, and fasten one end of a 30" length of string to the reel anchor.
- 2) Wind several turns of string CCW around the hub and attach a suitable spring scale to the free end of the string.
- 3) Take a reading only when the reel is in steady motion since the force required to overcome static friction will produce a false, excessively high initial reading.
- 4) The reading should be 33.5 ~ 36.5 in-oz (2400 ~ 2600 g-cm).
- 5) If adjustment is required, loosen the 2 screws shown and position the brake for optimum torque.
- 6) The adjustment of the right brake is the same, with the exception that rotations are clockwise (wind string CLOCKWISE around reel hub). The torque should be 36.5 ~ 39.5 in-oz (2650 ~ 2850 g-cm).

NOTE: The reason for the stronger brake torque than the left reel is to prevent tape slack at rewind stop.

Fig. C

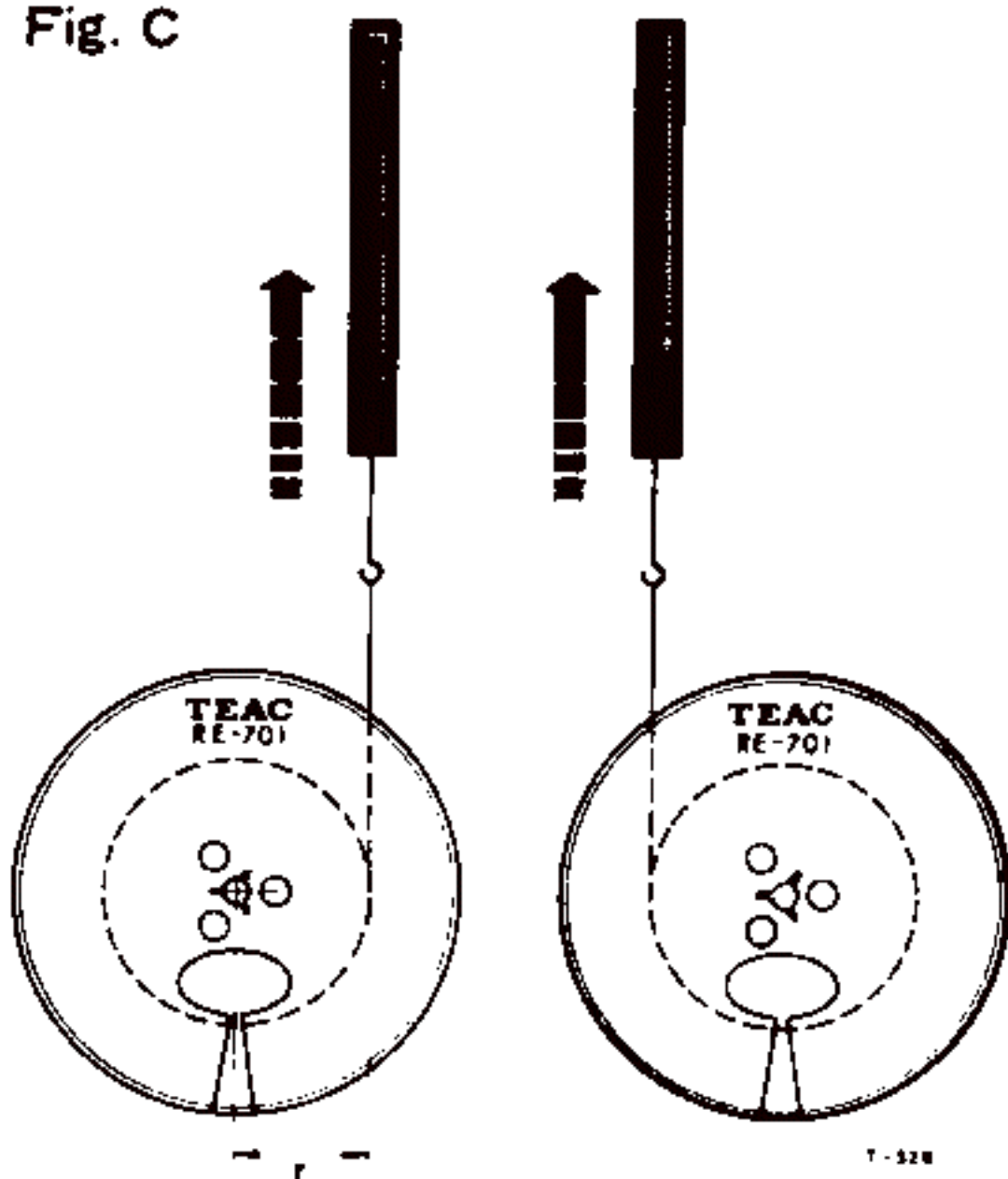


Fig. D



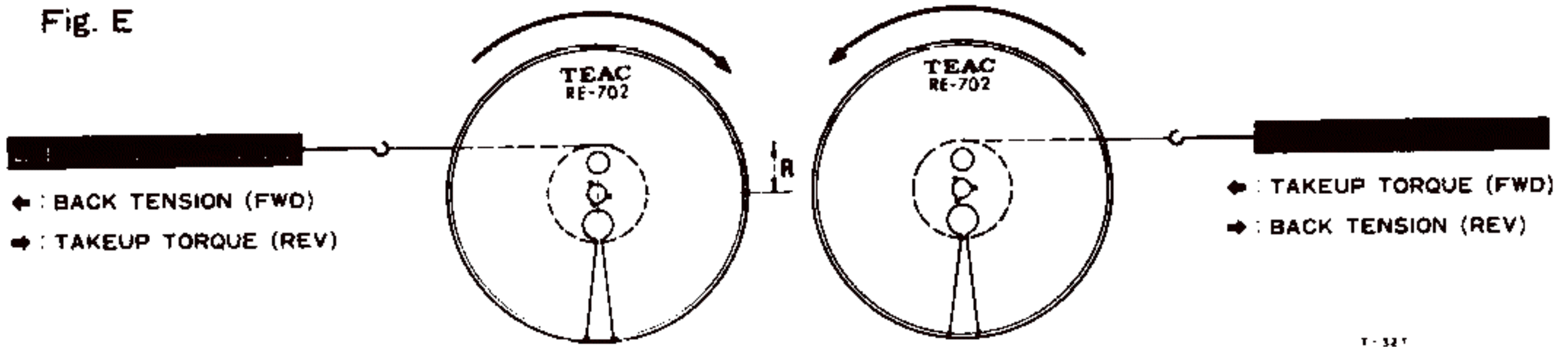
Formula for torque calculation:

$$T \text{ (in-oz/g-cm)} = R \times W \quad \text{Whereas - } R = \text{Radius of hub (in/cm)} \\ W = \text{(oz/gm)}$$

c) Tape tension adjustment procedures

Tape tension is determined indirectly by measuring the torque supplied by the supply and takeup motors.

Fig. E



\* Back tension adjustment procedures \*

- 1) Block the shut-off arm in the ON position.
- 2) Place an empty NAB reel on the left reel table.
- 3) Manually rotate the reel and wind several turns of twine around the hub. Attach spring scale to other end of the twine.
- 4) Place deck in the PLAY mode.
- 5) Pull the scale away from the reel against the motor torque with a smooth, steady motion.
- 6) Read the scale while it is in steady motion and multiply this value by the hub radius to obtain the torque.
- 7) Be sure the twine is not rubbing against the reel flange when taking measurements.
- 8) The specified torque is 12 in-oz (850 g-cm),  $\pm 20\%$ .
- 9) If adjustment is required, adjust tap of power resistor R204, as required. Refer to "Tape tension resistors," page 14 for details.

\* Takeup tension adjustment procedures \*

- 1) Place an empty NAB reel, with a spring scale attached to the hub by a length of twine, on the right reel table.
- 2) Place deck in the PLAY mode.
- 3) Allow the reel to slowly wind-in the scale.
- 4) Follow the spring scale travel with enough force to allow a steady reading and multiply this value by the reel hub radius to calculate the torque.
- 5) The specified torque is 17 in-oz (1200 g-cm),  $\pm 20\%$ .
- 6) If adjustment is required, adjust tap of power resistor R203, as required. Refer to "Tape tension resistors," page 14 for details.

\* Fast wind back tension adjustment procedures \*

- 1) Block the shut-off arm in the ON position.
- 2) Place an empty NAB reel on the left reel table.



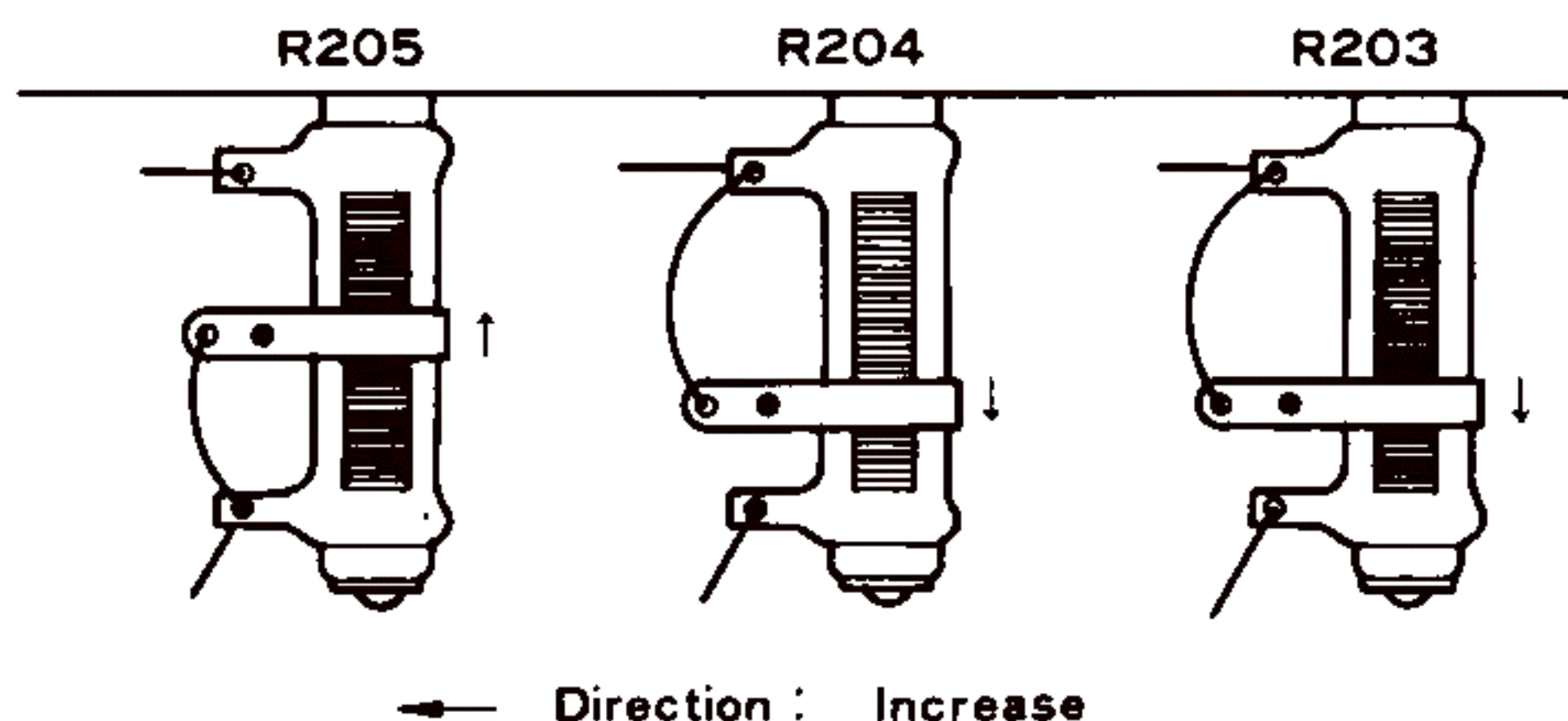
- 3) Attach one end of a length of twine to the hub, and wind several turns of it in direction of reel motor rotation when activated.
- 4) Attach a spring scale to other end of the twine.
- 5) Pull the scale to take up slack in the twine, and then place deck in the fast forward mode.
- 6) Hold the scale stationary (so that it is not pulled in) and take the reading when scale balances with tension of pull.
- 7) Torque is calculated by multiplying the reading with the hub radius.
- 8) Specified torque is between 0.7 and 1.0 in-oz (50 ~ 70 g-cm).
- 9) If adjustment is required, adjust tap of power resistor R205, as required. Refer to "Tape tension resistors," below, for details.

This one-adjustment procedure completes back tension adjustments for both the rewind and fast forward modes.

#### d) Tape tension resistors

Tape tension is adjusted by sliding taps on the wirewound power resistors located above the supply reel motors, looking at the transport from the rear (See Fig. H, page 17).

Fig. F



| Resistor | Adjustment for -                       |
|----------|----------------------------------------|
| R203     | Takeup reel tension in PLAY mode.      |
| R204     | Supply reel back tension in PLAY mode. |
| R205     | Back tension in fast winding mode.     |



e) Reel height

Reel height adjustment is required only if a motor has been replaced or if tape rubs excessively against the reel flanges.

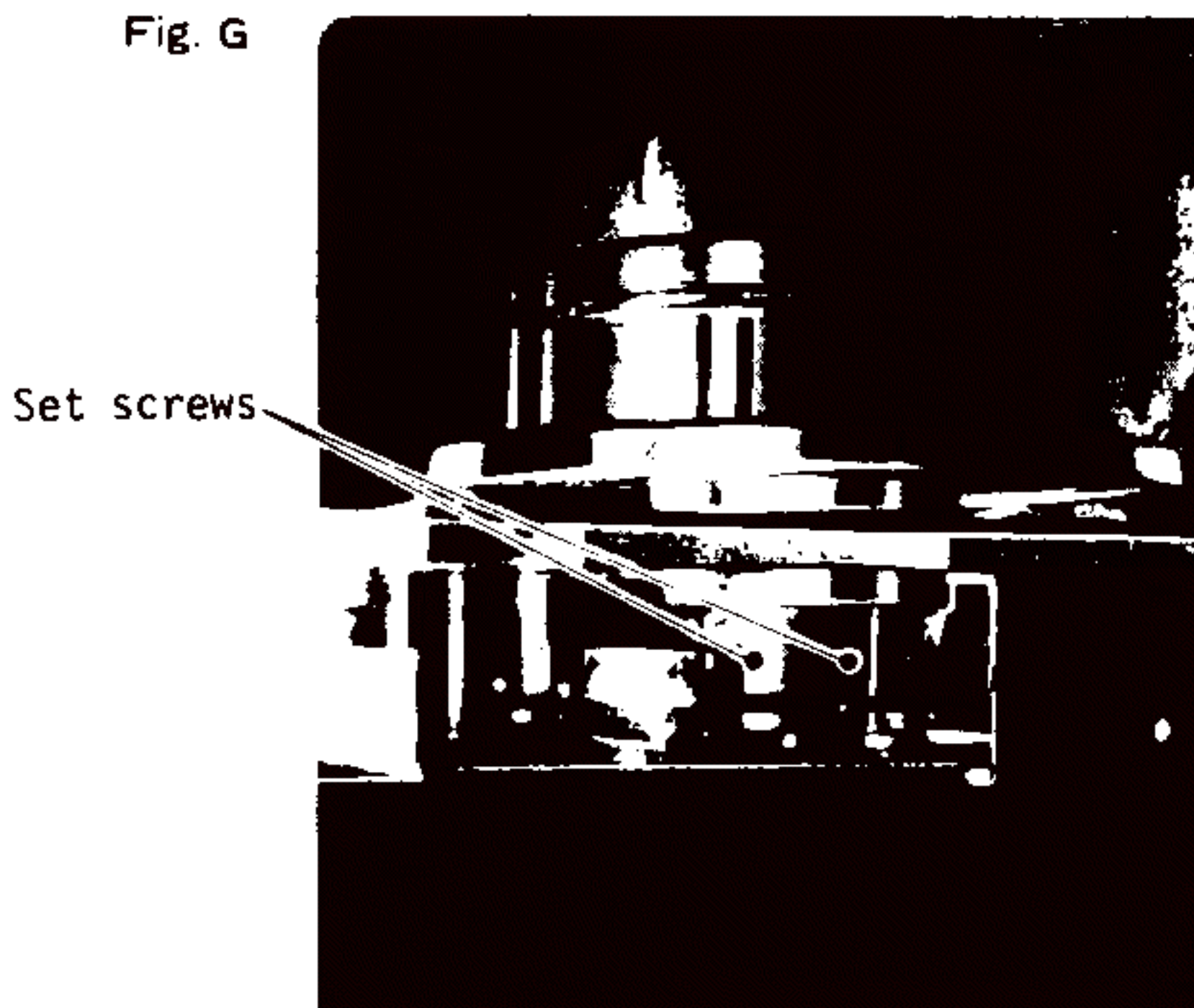
Adjustment is accomplished by loosening the reel set screws and moving the reel table on the motor shaft as shown in Fig.G.

Remove the wooden side board on the left or right of the deck for access to the Set Screw in the reel motor shaft.

Reel table should be adjusted using standard NAB 10" reels.

With a tape loaded on the machine, position the reel table height for smooth tape travel. Be sure to tighten the set screws after adjustment is made.

Fig. G



f) Wow and flutter

Wow and flutter measurements should be undertaken only after studying the following items and determining which method and standard will be employed.

A) Determine whether the Reproduce Method, or the Record/Reproduce Method, is to be employed for measurement.

If the Reproduce Method is to be employed, a flutter test tape will be required.

Recommended test tape: Standard Tape Lab., #62, or equivalent.

In the Record/Reproduce Method, a 3KHz sine wave is recorded on a blank tape, rewound to beginning of the recording, and reproduced again for the measurement process.

NOTE:

When reproducing the recorded signal at measurements by the Record/Reproduce Method, adopt the maximum wow and flutter value obtained by repeated play and stop modes of operation which is necessary to be sure that wow and flutter content between record and reproduce will not be in phase to create a false reading.

B) Determine the Standard to be used.

The wow and flutter meter is set to measure either the IEC or ANSI peak value, or the NAB rms value, whichever is determined.

C) Whether the peak value or the rms value is adopted, the wow and flutter meter must be calibrated for "weighted" measurements.

D) As the measured results will vary with respect to location on tape at which it was taken, at least two points - at beginning and near the end of tape - should be selected for measurement.

NOTE:

Recommended Wow & Flutter Meters:

- 1) Meguro Denpa Sokki Co., Model MK-668B (Japan)
- 2) Mincom Div., 3M Co., Model 8100W (U.S.A.)

There will be slight differences in absolute value according to manufacturer.

|                         | IEC/ANSI (peak value) | NAB (rms value) |
|-------------------------|-----------------------|-----------------|
| Reproduce method        | $\pm 0.06\%$          | 0.04%           |
| Record/reproduce method | $\pm 0.08\%$          | 0.06%           |

g) Tape speed

Tape speed is measured by using Flutter Test Tape, which contain a highly accurate, continuous 3KHz tone.

Connect a digital frequency counter to either OUTPUT.

The indicated frequency should be 3KHz,  $\pm 0.5\%$  for all speeds.

If tape speed is greatly offset from the specification, check pinch roller pressure and takeup tension for correct values, and see that the tape path is clean.

### 5.2.3 Power supply check and adjustment

Except for the power transformer and fuse holder, the 80-8 power supply components are all mounted behind the black aluminum rear panel (chassis).

The rear panel (chassis) can be swung out and down for easy access to the inner components by removing four screws on both edges of the panel.



Fig. H



\* Supply voltage check \*

- 1) Connect a voltmeter to No. 14 or 15 (plus side) and No. 11 or 12 (minus side) on the PCB wiring points. The voltage should not fluctuate beyond +27.5V and +30.5V when PLAY and STOP is quickly repeated.

When the voltage is not within this range, the fault can be quickly located by comparing the actual voltage with those indicated in the power supply schematic.

- 2) Connect a voltmeter to No. 21 (plus side) and No. 19 (minus side) of the PCB wiring points. The voltage should be within the range of +5.0V and +5.3V. If the reading is off spec, adjust R101.

It must be noted that this section of the supply has a current limiting circuit to prevent excess current flow cause by trouble in the load. R102 (22k $\Omega$ ) is the trim pot for setting the maximum current and is generally set to limit at 2.5A. Therefore, it is usually unnecessary to touch the trim pot but if it must be re-adjusted, connect a voltmeter, ammeter and rheostat as shown in Fig.

Fig. I a)

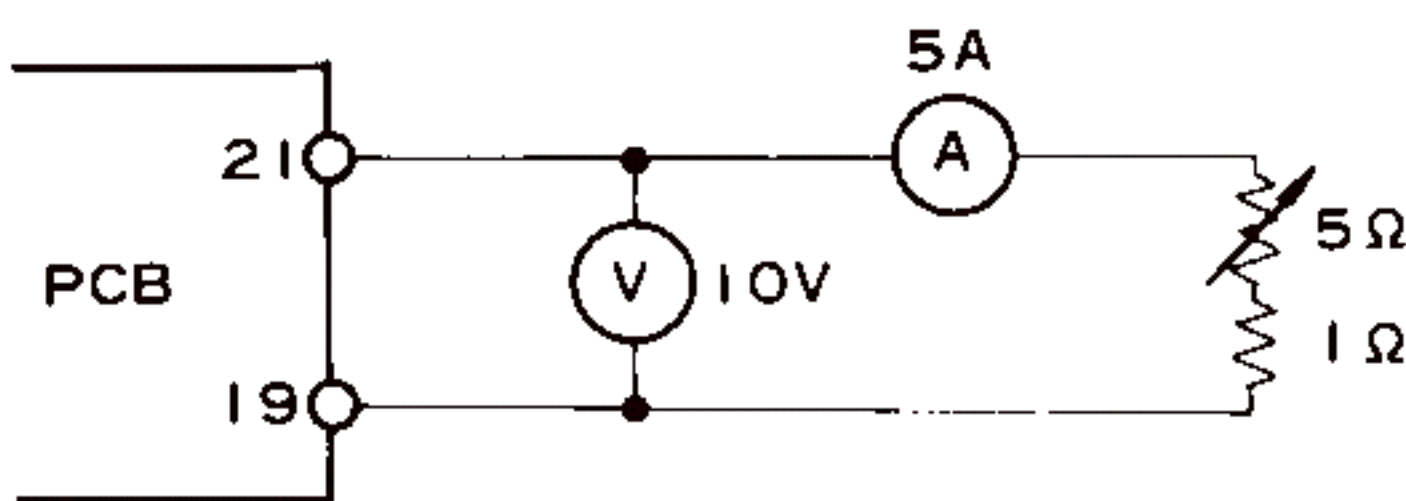


Fig. I b)

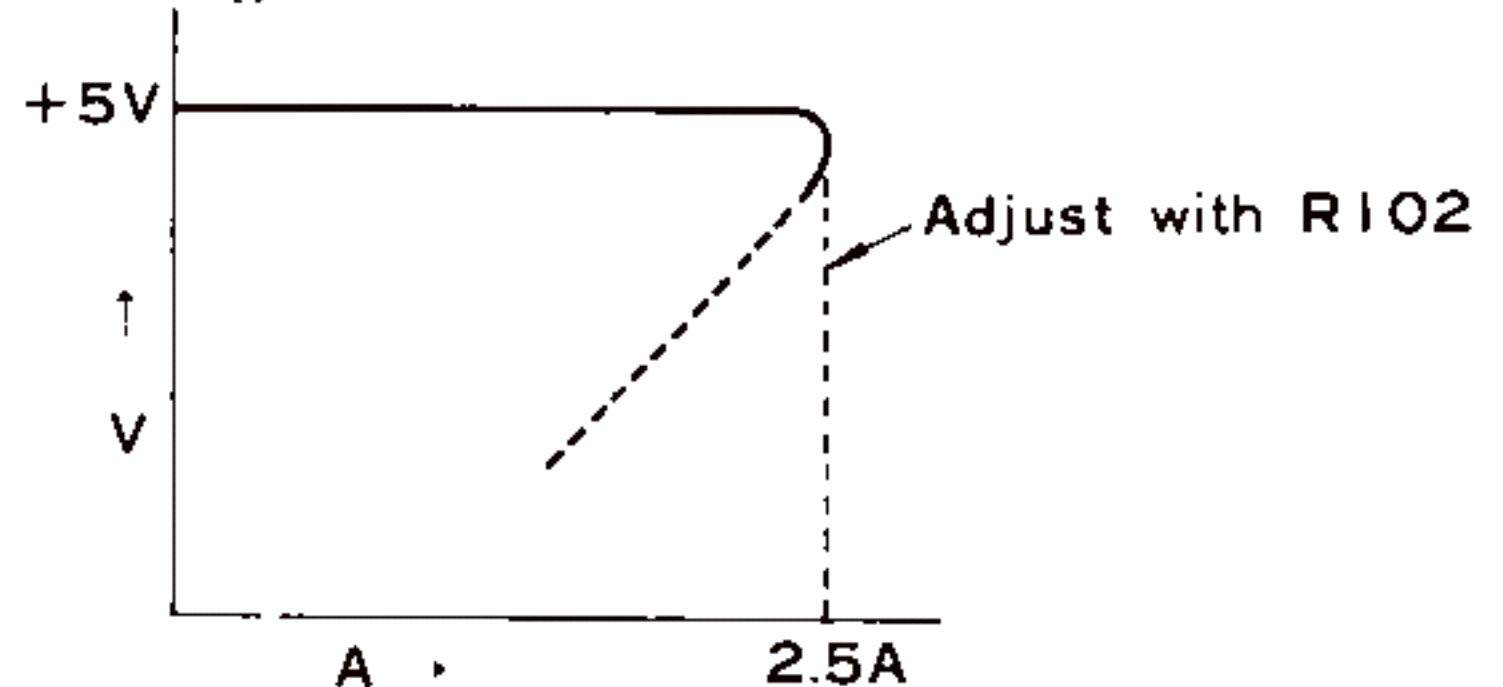


Fig. J





- 3) Connect a voltmeter to the PCB wiring points No. 30 (plus side) and No. 28 (minus side). The voltage reading should be between +23V and +25V. If it is off spec, adjust R103 (10K $\Omega$ ).

Trim pot R104 (4.7K $\Omega$ ) functions in the same way as R102 in the +5V supply.

If readjusting is necessary, set this for limiting at 1.6A.

#### 5.2.4 Record/reproduce amplifier check and adjustment

Open the service door by removing the two set screws, one in each upper corner, of the front door.

Checking and adjusting can be most efficiently expedited by successively continuing to the end each procedure in the order explained in the following.

Fig. K

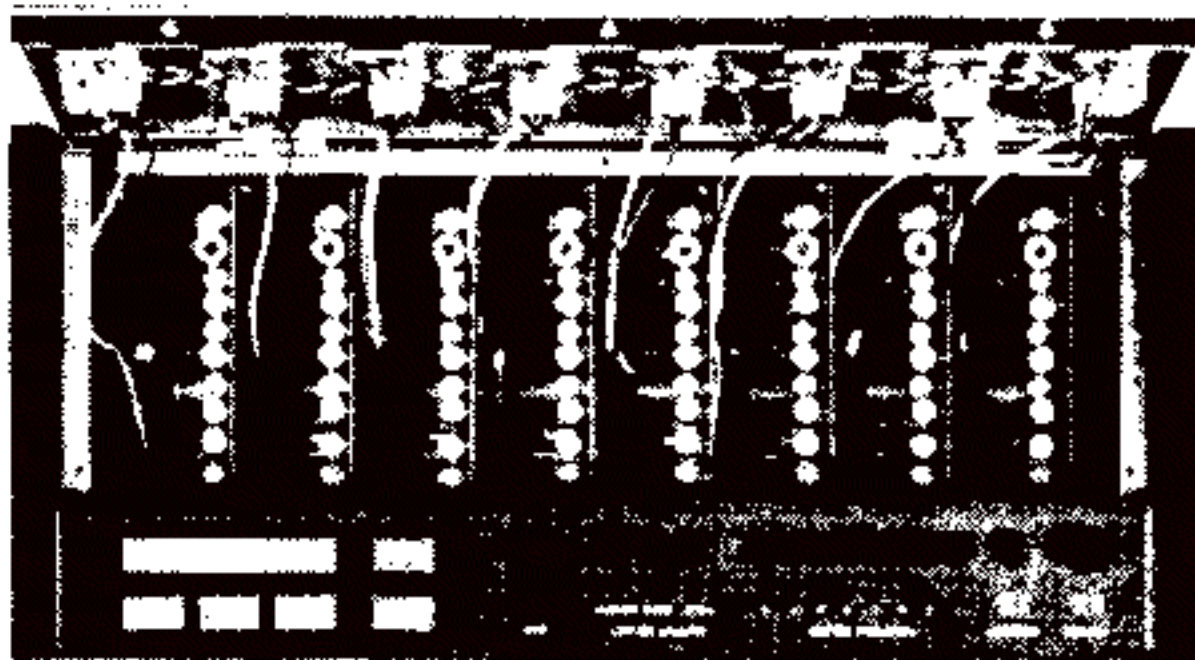
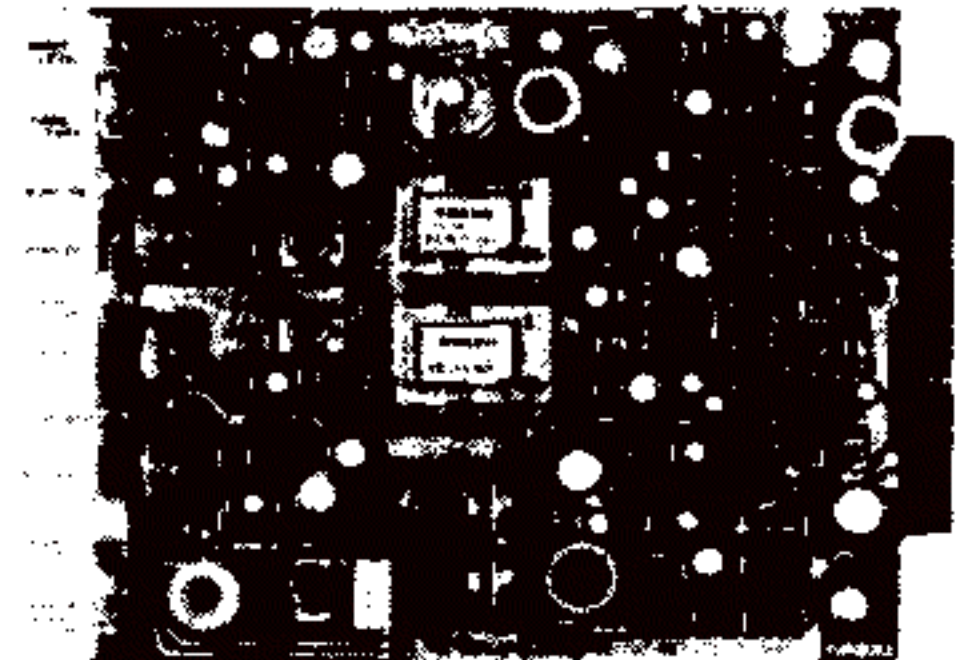


Fig. L



##### a) Setting of reproduce level

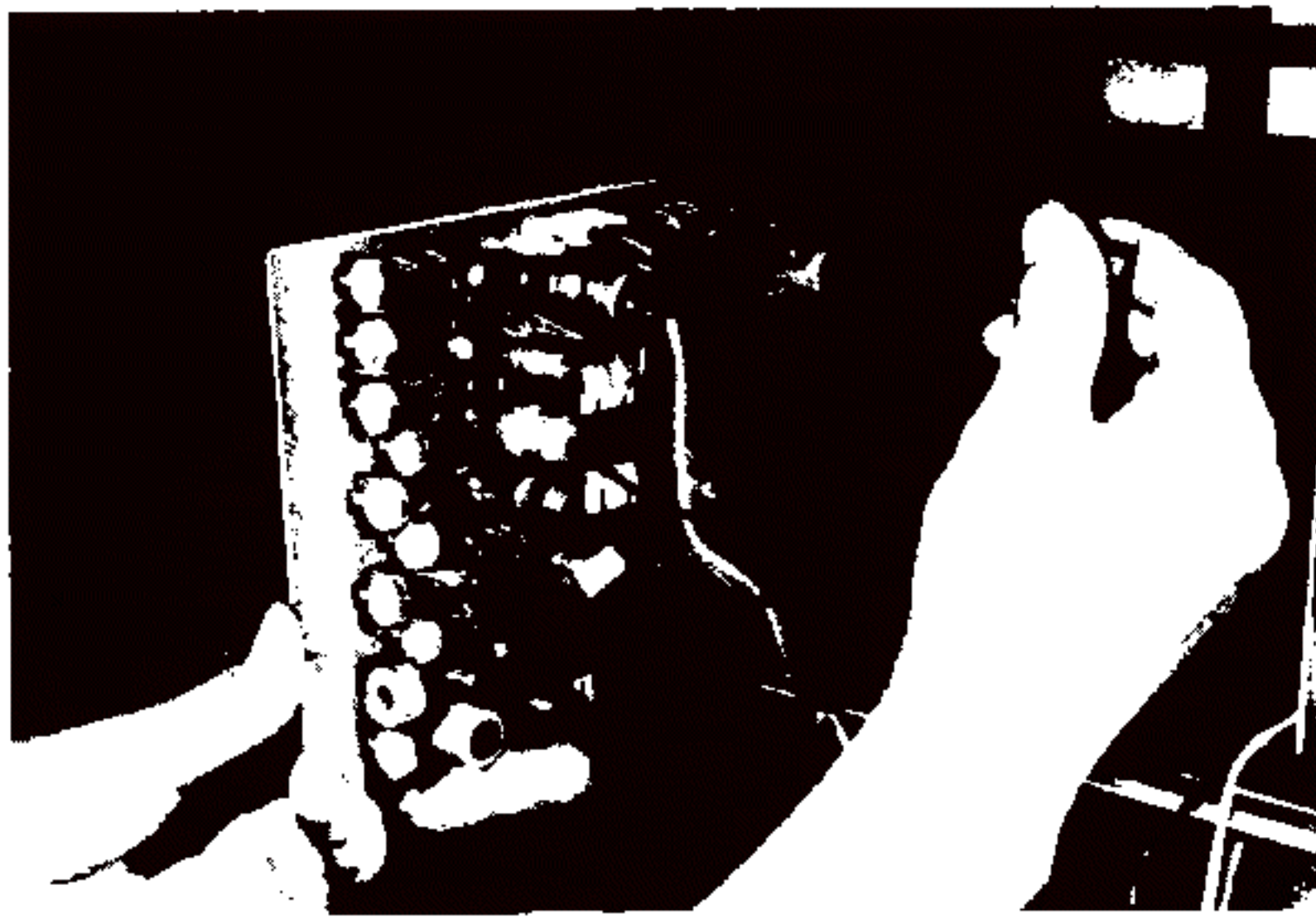
- 1) Connect the AC voltmeter to the OUTPUT 1 pin jack on rear panel.
- 2) Turn the machine ON and thread the test tape.
- 3) Play the "operating level" portion (a voice on the tape identifies each section at the beginning).
- 4) Switch the OUTPUT on the 80-8 to MONITOR. Then set output until the AC voltmeter reads -10dB (0.3V) by the trim pot marked MONIT LEVEL (R104, 10K $\Omega$ ).
- 5) Switch the OUTPUT SELECT to NORMAL. Then set output until the meter reads -10dB (0.3V) by the trim pot marked NORM LEVEL (R103, 10K $\Omega$ ).

##### b) Meter calibration

- 1) When the AC voltmeter reads -10dB (0.3V), the front panel meter should read 0VU.
- 2) If it does not, then you must use the extender card (Part No. 6085 3030) to gain access to the proper control pot.
- 3) Carefully remove the Channel 1 RECORD/REPRODUCE PC card from the machine. But do not unplug the cables that are attached to it. There is just enough wire on them to allow replacing the PC card and extender combination into the proper receptacle.

NOTE: When removing or replacing card, TURN MACHINE OFF.

Fig. M



- 4) Looking at the RECORD/REPRODUCE PC card from the component side and with the edge connector to the right, the upper right corner R105 ( $22K\Omega$ ) is the meter calibration pot.
- 5) Adjust R105 to obtain a 0VU reading on the Channel 1 front panel VU meter when the AC voltmeter reads  $-10\text{dB}$  ( $0.3\text{V}$ ).
- 6) After finishing the above adjustment, remove the test tape from the 80-8, turn off the power, and disconnect the card extender. Return the Channel 1 electronics to its proper receptacle.
- 7) Turn the power on and rethread the test tape. Plug the AC voltmeter into OUTPUT 2 pin jack. Play the "operating level" section of the test tape. Switch the OUTPUT SELECT to MONITOR, adjust trim pot R104 ( $10K\Omega$ ) on the Channel 2 RECORD/REPRODUCE PC card so that the AC voltmeter reads  $-10\text{dB}$  ( $0.3\text{V}$ ).

Switch the OUTPUT SELECT to NORMAL, adjust trim pot R103 ( $10K\Omega$ ) on the Channel 2 RECORD/REPRODUCE PC card so that the AC voltmeter reads  $-10\text{dB}$  ( $0.3\text{V}$ ). Now read the Channel 2 meter.

It should read 0VU. If not, you must repeat the previous procedure for adjusting the meter circuit (card extender, etc.).

- 8) Adjust the remaining 6 channels in the same way.

#### c) Reproduce frequency response

- 1) Rethread the test tape after setting up the levels in all 8 channels.

At checking and adjusting of the reproduce frequency response, it is more efficient to simultaneously check all 8 channels with the front panel VU meters instead of plugging the AC voltmeter into the OUTPUT pin jacks one channel at a time. To be able to do so, the previous Meter Calibration must have been completed.

- 2) Switch the OUTPUT SELECT to NORMAL. Reproduce the phase, azimuth, and frequency response section of the test tape and check for a flat frequency response. If



necessary, adjust the trim pot marked NORM EQ, R101 (6.8K $\Omega$ ). Trim the pot so that 10KHz will be flat with the 1KHz reference frequency. Then, see if the response is within  $\pm 2$ dB at 12.5KHz and 16KHz.

- 3) Switch the OUTPUT SELECT to MONIT. Reproduce the same sections of the test tape and check the response. If adjustment is necessary, trim the pot marked MONIT EQ, R102 (6.8K $\Omega$ ).

It must be noted, however, that the MONITOR frequency response will be slightly inferior than NORM. This is due to emphasis placed on NORM, and MONIT is provided consistently for bias adjusting and simultaneous record/reproduce monitoring.

#### d) Record calibration

You can use the MONITOR head as a test instrument to check and adjust the record circuits. Almost all of the following steps involve recording a tone on a tape and reading the reproduce output of the recorder.

NOTE: Do not touch trim pots set during the previous reproduce adjusting procedures.

#### \* Input level calibration and overload indicator adjustment \*

- 1) Begin the record adjustments with the INPUT MON LEVEL trim pot on the Record/reproduce amplifier card.

Apply a 1KHz, -10dB (0.3V) signal to INPUT 1. Rotate the front panel knob to the "2 o'clock" position and mark this with a grease pencil for later reference.

Punch the INPUT button of the front panel OUTPUT SELECT buttons. If the VU meter does not read 0VU, adjust the pot marked INPUT MONIT LEVEL, R 107, (22k $\Omega$ ).

- 2) Raise to 0dB (1V) the 1KHz signal applied to INPUT 1. The overload indicator is functioning normally if the Channel 1 LED is ignited. Should the LED ignite before reaching 0dB or not ignite at this level, adjust R106 (22K $\Omega$ ) on the Record/reproduce amplifier card.
- 3) Should it be necessary to adjust R106, the extender card must be used again. Refer to "Meter calibration" 2) and 3).
- 4) Looking at the RECORD/REPRODUCE PC card from the component side and with the edge connector to the right, R106 is the second pot from the upper right hand corner. This is adjusted so that the LED ignites when the INPUT 1 signal level is raised to 0dB (1V).

NOTE: The LED will remain ignited although the level is lowered by about 1.5dB due to hysteresis but this is normal.

- 5) Check and adjust the remaining 7 channels in the same way.



e) Bias level

- 1) Record a 10KHz test tone.
- 2) Set OUTPUT SELECT to MONITOR.
- 3) Adjust the front panel INPUT so that the VU meter indicates a conveniently read value.
- 4) The trim pot to adjust is R112 (50K $\Omega$ ) marked BIAS LEVEL.
- 5) It is first rotated fully CCW, then slowly rotated CW.
- 6) The VU meter will slowly rise, reach the peak, then begin to fall again. The trim pot is set ~~3dB~~ beyond and below this peak.
- 7) Should the VU meter scale out during this procedure, retard the INPUT knob slightly and repeat the above procedure.
- 8) Repeat the same procedures on the remaining 7 channels.

f) Record level

The following adjustments are done only after the reproduce level is set and the bias level set to specification.

- 1) Put the 80-8 in the record mode and record a 1KHz, -10dB (0.3V) signal. Set the front panel INPUT level knob to the 2 o'clock position (previously marked on the panel).
- 2) Set the OUTPUT SELECT to MONITOR.
- 3) Adjust the trim pot R110 (10K $\Omega$ ) marked REC LEVEL to obtain a 0VU reading on the front panel VU meter.
- 4) An AC voltmeter plugged into the record channel OUTPUT should indicate -10dB.
- 5) If not, trim pot R105 (22K $\Omega$ ) is out of adjustment and the meter must be recalibrated (Refer to Meter Calibration, page 18).
- 6) Rewind the above recorded 1KHz signal to the beginning, set OUTPUT SELECT to NORM, reproduce the 1KHz signal and check for a 0VU,  $\pm 0.5$ VU reading on the VU meter.
- 7) If it does not read 0VU, readjust the reproduce level setting (Refer to "a) Setting of reproduce level," page 18).

g) Record equalization

There are two trim pots for Record Equalization on the 80-8. One, marked REC EQ (R108, 3.3K $\Omega$ ) is for shifting the high frequency peak, and the other, marked PEAK ADJ (R109, 470 $\Omega$ ) is for raising or lowering the peak.

- 1) Put the 80-8 in the record mode and record a 1KHz, 0VU (-10dB) signal.
- 2) For a quick check, use the front panel VU meter but for critical adjustments plug an AC voltmeter into the OUTPUT pin jack.
- 3) Set OUTPUT SELECT to MONITOR and monitor with the VU meter or the AC voltmeter.
- 4) Then, raise the record frequency to 15KHz, 0VU (-10dB) and check the difference

from 1KHz.

- 5) The difference should be within  $\pm 2\text{dB}$ .
- 6) Should it be off spec, adjust R108.
- 7) Adjust REC EQ, R108 for frequencies from 10KHz through 15KHz, and PEAK ADJ, R109 for frequencies above 15KHz.

NOTE: Please be fully aware of the difference in range between NORM reproduce and MONITOR reproduce when checking the overall frequency response by the MONITOR mode or you may do the wrong adjustment.

h) Signal-to-noise ratio measurement

Prior to measurement, demagnetize all heads and tape guides as described in Item 5.1, d), page 8.

- 1) Before signal-to-noise ratio measurement, be sure the Item 5.2.4 Record/reproduce amplifiers are checked out and if required, properly adjusted.
- 2) Connect the AC voltmeter to OUTPUT 1 pin jack on rear panel.
- 3) Record a certain length of OVU, 1KHz signal, then while still in the recording mode, unplug the oscillator to INPUT 1 pin jack on rear panel and make another length of no-signal recording.
- 4) Set OUTPUT SELECT to NORM.
- 5) Rewind the recording made in Item 3) to beginning and reproduce it.
- 6) Making sure the reproduce output of the previously recorded 1KHz, OVU signal is  $-10\text{dB}$ , then raise sensitivity of the AC voltmeter and measure the level of the no-signal portion of the tape.
- 7) With OVU as the reference level, the signal-to-noise ratio as measured by the AC voltmeter, should be larger than 48dB.
- 8) If it is off spec:
  - \* Demagnetize the head.
  - \* Check erasure [Refer to Item 5.3.3, c)]
  - \* Check and compare measurements of other channels. If they stand up to spec, correct or repair the off spec channel Record/reproduce amplifier PCB.
  - \* Check for proper adjustment of the bias trap.
  - \* Try another tape of same type No.



## 5.3 CORRECTIVE MAINTENANCE

### 5.3.1 Preliminary disassembly procedures

#### a) Power supply unit

The power supply unit can be completely detached from the frame by first removing both side boards, removing the four screws securing the power supply rear panel and tilting the panel outward, unplug the 34 pin connector on the left side, also unplugging the 7 pin round inter-cable connector, and removing one screw on each side serving as the hinge. The power supply together with the rear panel can then be lifted out.

#### b) Control unit

To remove the control unit, the dress panel is first removed by taking off the two screws, one on each side, then removing the 4 screws, two on each side just under the previously removed two screws, then pulling the unit out and forward. To completely pull out the unit, the two blue colored card-edge connectors at the back side of the unit are unplugged. Then, cables with 3 pin and 4 pin connectors plugged into receptacles amidst the PC components are unplugged, another inter-cable connector on the right hand end of the PC is unplugged. For the next step, the 12 pin REMOTE connector on the rear panel is pushed in after removing the two screws securing it, and lastly unsoldering the wires to the power switch.

#### c) Record/reproduce amplifier assembly

The record/reproduce amplifier front panel is tilted forward by removing one screw each on the left and right side of the panel, then removing the 6 screws securing the Pin Jack Board on the rear panel. The whole amplifier assembly can then be pulled out from the front after removing four screws on each side of the frame, accessible through holes in the frame.

#### d) Head assembly

- 1) Tilt forward the record/reproduce amplifier front panel by removing one screw each on the left and right side of the panel.
- 2) Unplug the 24 pin plugs inserted into jacks on the amplifier PC cards.
- 3) Remove the top cover by taking off the 9 screws securing it.
- 4) Fully tilt backward to a horizontal position by removing the 4 screws securing the power supply rear panel.
- 5) Loosen the head cable clamp on the capstan assembly thrust plate and free the cable so that it can easily be pulled out.
- 6) Remove the head housing by taking off the two screws securing it.
- 7) Take off the 4 hex screws securing the head assembly base plate and carefully lift up the head assembly from the transport.



- 8) Pull out the pin plug cables two or three at a time through the transport panel hole.
- 9) Each head can be removed from the assembly by unscrewing two hex screws for each head, from the bottom of the base plate.

#### 5.3.2 Disassembly and replacement of assemblies

##### a) Capstan motor assembly (See page 36 )

- 1) Remove the 3 screws holding the capstan motor.
- 2) Unsolder the 6 wires connecting the capstan motor.
- 3) Remove the 4 screws holding the capstan motor. Watch for the Rubber Cushions.
- 4) Loosen the 2 set screws (hex head) in pulley and lift off pulley.

NOTE: \*Clean the drive belt with TZ-261B Cleaning Fluid, and the motor pulley and capstan flywheel with TZ-261A Cleaning Fluid.

\*Be sure to note the wire color codes so that you can replace them correctly to their original connections.

##### b) Capstan assembly (See page 36 )

- 1) Unscrew capstan cover (front panel).
- 2) Remove 2 screws from rear bracket, allow bracket to drop toward floor of cabinet.
- 3) Remove capstan belt.
- 4) Loosen 2 screws in capstan assembly.
- 5) Gently move capstan assembly up and down until it slides out of panel.

##### c) Reel motor assembly (See page 31 )

- 1) Disconnect the 4 motor wires from terminals and release wire harness straps.
- 2) Loosen 2 set screws (hex head) in Brake Drum and 2 in the Reel Turntable assembly. Lift off these parts.
- 3) Remove 4 screws securing the Brake Assembly to the motor. Carefully lift off the Brake Retainer with its 2 wires still connected to the Brake Solenoid.
- 4) Remove 4 screws securing Reel Motor to chassis through the front panel.

NOTE: Reel motor assemblies are mirror images of each other; these assemblies are not interchangeable.

##### d) Tension arms, left and right (See pages 40 and 42)

CAUTION: Do not over-tighten screws holding the right tension arm. Insulating spacer and micro-switch are easily broken by excess pressure.

IMPORTANT: After reassembly, check clearance to ascertain that arm moves freely.

### 5.3.3 Record/reproduce amplifier PC card adjustment

#### a) Bias trap adjustment

Bias trap adjustment is not required other than at the following:

- \* When the head is replaced
- \* When the record/reproduce PC card is replaced
- \* When there is increase in bias leakage

Bias traps L1, L2, and L3 are provided in each record/reproduce PC card.

#### L1 and L2 (Reproduce)

- 1) Plug an AC voltmeter (preferably an oscilloscope also in parallel) to the OUTPUT. 1 pin jack on rear panel.
- 2) Carefully remove the Channel 1 record/reproduce PC card from the 80-8 without unplugging the cables to it, install an extender card to it, and reinsert it into the proper connector.

NOTE: When removing or replacing the PC card, TURN MACHINE OFF.

- 3) Lock the right tape tension arm so that the shut-off switch does not turn off the 80-8. Punch 'in' the FUNCTION SELECT buttons for all channels and set OUTPUT SELECT to NORM.
- 4) Turn ON the 80-8 and put in the record mode.
- 5) Raise the AC voltmeter sensitivity and check the bias leakage. It should be less than -40dB.
- 6) If it is higher than permissible, adjust L1 for minimum leakage with a non-inductive screwdriver.
- 7) Then, adjust L2, also for minimum leakage.

#### L3 (Record)

- 8) Connect the GND side of an AC voltmeter or oscilloscope to pin #4 (0V) of T3, and the HOT side to the junction between L3 and C32 (Refer to Fig. 8.8, page 83).
- 9) Put the 80-8 in the record mode and adjust L3 for minimum leakage.

#### b) Inter-stage transformer tuning

- 1) Switch OFF the 80-8.
- 2) Carefully remove the Channel 1 record/reproduce PC card from the 80-8 without unplugging the the cables to it, install an extender card to it, and reinsert it into the proper connector.

NOTE: When removing or replacing the PC card, TURN MACHINE OFF.

- 3) Connect an AC voltmeter or oscilloscope to the terminals of J3 (erase head) and adjust T2 for maximum output.

#### c) Erasure

A 1KHz band pass filter or frequency analyzer is required for measuring erasure.



- 1) A test tone (1KHz) is recorded, the tape rewound to beginning of this recording, the tape run through a second time in the record mode with the record INPUT shorted, and the residual 1KHz component measured.
- 2) It is within spec if the ratio between the initially recorded 1KHz signal and the erased portion is more than 65dB.
- 3) Should erasure be insufficient, slowly rotate CW the trim pot marked ERASE & BIAS LEVEL, R111 (1K $\Omega$ ) until a ratio of 65dB is obtained.

NOTE 1: Readjust the bias as bias current will also change with adjustment of the erase current.

NOTE 2: The voltage at J3 (for erase head), measured on an oscilloscope (Imp.>1M , <25pF), for a 65dB erasure is 110V p-p.

If sufficient erasure cannot be obtained although a higher voltage than this is applied, check the head face for accumulated tape oxide or improper tape travel and/or touch over the head face.

## 6.1 Preliminary disassembly

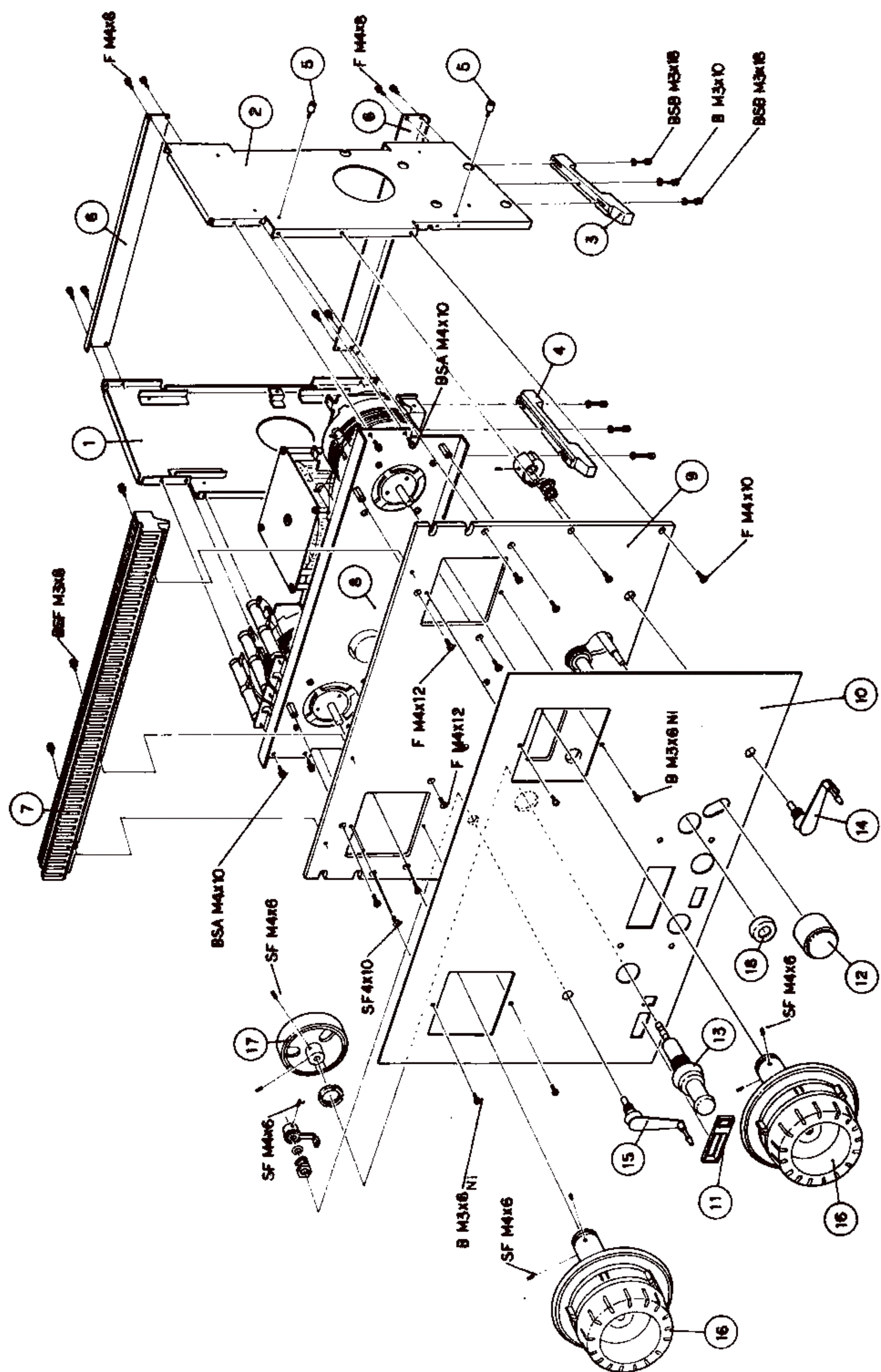




| Title Preliminary Disassembly, TEAC Tascam Series 80-8 |                                           |           |
|--------------------------------------------------------|-------------------------------------------|-----------|
| Ref. No.                                               | Description                               | Parts No. |
| 01                                                     | Tape transport assembly (See p. 29 )      | 6070 0190 |
| 02                                                     | Control unit assembly (See p. 44 )        | 6080 0560 |
| 03                                                     | Rec/repro amplifier assembly (See p. 46 ) | 6085 2580 |
| 04                                                     | Power supply unit (See p. 48 )            | 6080 0290 |
| 05                                                     | Rear panel assembly (See p. 50 )          | 6085 2550 |
| 06                                                     | Cover, top                                | 6038 2711 |
| 07                                                     | Cover, bottom                             | 6038 2720 |
| 08                                                     | Board, side dress                         | 6038 2740 |
| 09                                                     | Washer                                    | 5027 6931 |
| 10                                                     | Head assembly (See p. 52 )                | 6013 0180 |
| 11                                                     | Head housing assembly (See p. 52 )        | 6013 0170 |

PARTS LIST  
Preliminary disassembly  
REV. \_\_\_\_\_

6.2 Tape transport assembly





| Title      Tape Transport Assembly |                                     |           |
|------------------------------------|-------------------------------------|-----------|
| Ref. No.                           | Description                         | Parts No. |
| 01                                 | Chassis, side, left                 | 6010 0040 |
| 02                                 | "      ,      "      , right        | 6010 0050 |
| 03                                 | Foot, plastic mold, right           | 5533 0180 |
| 04                                 | "      ,      "      "      , left  | 5533 0190 |
| 05                                 | Screw, stud, side board positioning | 5581 0370 |
| 06                                 | Angle, rear cover mount             | 5023 5312 |
| 07                                 | Grille, air vent                    | 6038 2730 |
| 08                                 | Reel motor ass'y (See p. 31 )       | 6012 0140 |
| 09                                 | Panel, sub top                      | 6010 2720 |
| 10                                 | Panel, dress                        | 6010 2730 |
| 11                                 | Escutcheon, counter                 | 5534 0250 |
| 12                                 | Pinch roller ass'y (See p. 34 )     | 6011 0220 |
|                                    | Collar, ball bearing                | 6011 2660 |
|                                    | Cap, pinch roller                   | 5014 2180 |
| 13                                 | Impedance roller ass'y (See p. 38 ) | 6011 0250 |
| 14                                 | Tension arm, right (See p. 40 )     | 6014 0560 |
| 15                                 | Tension arm, left (See p. 42 )      | 6014 0570 |
| 16                                 | Reel table ass'y                    | 6012 0120 |
| 17                                 | Flywheel, impedance roller          | 5530 5060 |
| 18                                 | Cap, dust, capstan                  | 6011 2630 |

PARTS LIST  
Tape transport ass'y  
REV. \_\_\_\_\_

## 6.3





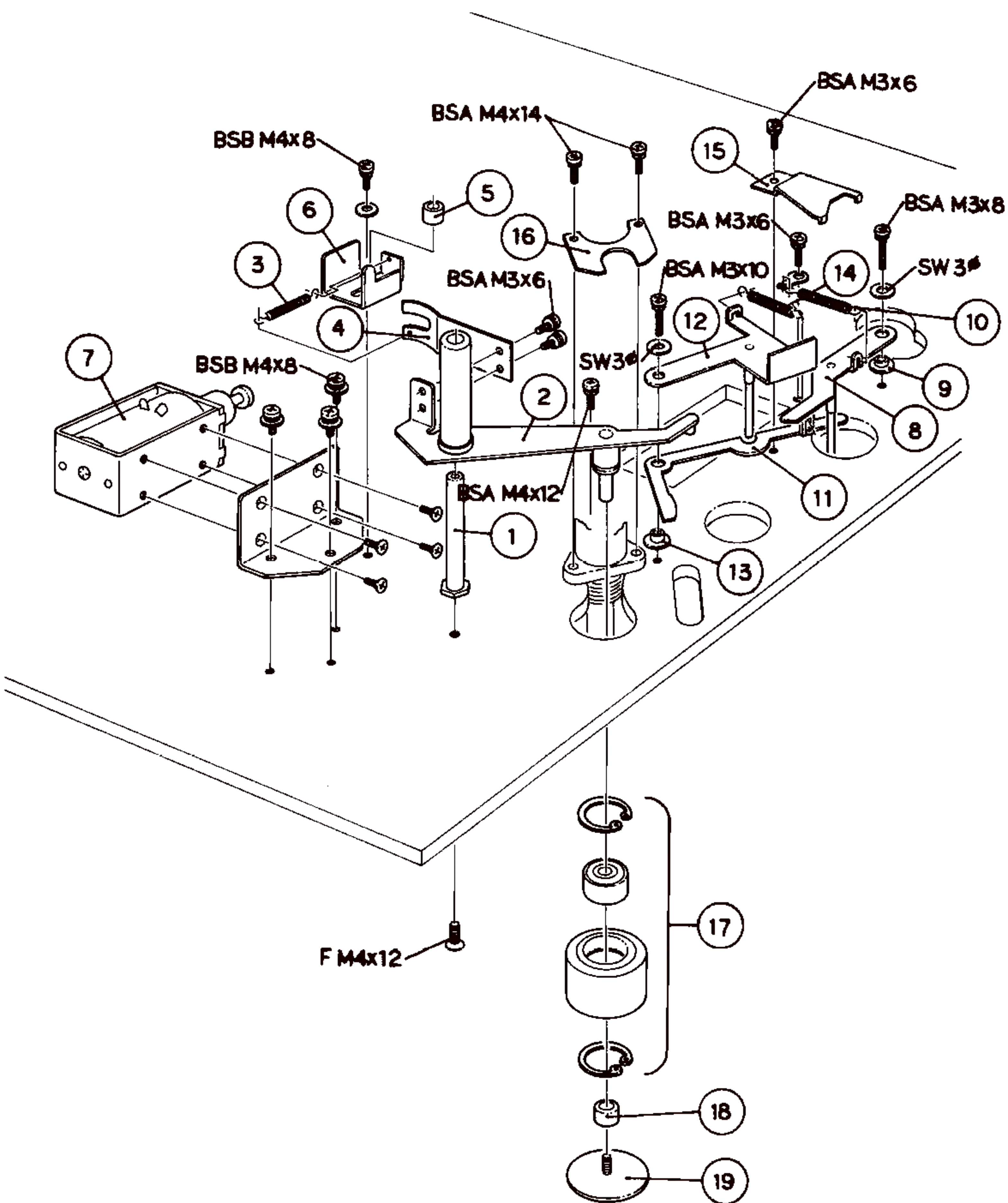
| Title      Reel Motor Assembly |                                    | Assembly No. 6012 0140 |
|--------------------------------|------------------------------------|------------------------|
| Ref. No.                       | Description                        | Parts No.              |
| 01                             | Plate, base, reel motor            | 6010 2741              |
| 02                             | Motor, reel                        | 7070 2283              |
| 03                             | Capacitor, HP (4 + 1) X 2, 250WV   | 5054 5800              |
| 04                             | Drum, brake, right                 | 6012 0110              |
| 05                             | " , " , left                       | 6012 2310              |
| 06                             | Magnet                             | 5015 2392              |
| 07                             | Oil seal                           | 5012 3900              |
| 08                             | Plate, base, brake                 | 5017 3601              |
| 09                             | Brake retainer                     | 5017 3481              |
| 10                             | Standoff, brake                    | 5017 3490              |
| 11                             | Felt, brake                        | 5554 1560              |
| 12                             | Brake band ass'y, left             | 5017 3332              |
| 13                             | " " " , right                      | 5017 3392              |
| 14                             | Solenoid, brake                    | 6047 5100              |
| 15                             | Bracket, reed switch               | 6014 4880              |
| 16                             | Cushion, rubber                    | 7111 1901              |
| 17                             | PCB, reed switch                   | 6050 0510              |
| 18                             | Switch, reed                       | 5044 7200              |
| 19                             | Bracket, resistor mount            | 6014 4480              |
| 20                             | " , power transformer mount        | 6014 4951              |
| 21                             | Standoff, power transformer        | 6004 9420              |
| 22                             | Plate, power transformer           | 6014 4960              |
| 23                             | Washer, insulator                  | 6014 4971              |
| 24                             | Terminal strip, 2P                 | 5043 8350              |
| 25                             | Spacer, threaded                   | 6004 8870              |
| 26                             | Spacer, threaded                   | 6004 9040              |
| 27                             | PCB ass'y, fuse (See p. 55 )       | 6080 0300              |
| 28                             | PCB ass'y, terminal (See p. 56 )   | 6080 0420              |
| 29                             | Support, motor                     | 5016 1950              |
| 30                             | Bracket, lamp                      | 6014 5900              |
| 31                             | " , tape counter                   | 6014 5890              |
| 32                             | PCB ass'y, lamp                    | 6050 3220              |
| 33                             | Counter, tape                      | 5058 5150              |
| 34                             | Reel table ass'y (w/o reel holder) | 6012 0310              |
| 35                             | Holder, reel                       | 6012 0130              |

PARTS LIST  
Reel motor ass'y  
REV. \_\_\_\_\_

| Ref. No.  | Description                            | Parts No. |
|-----------|----------------------------------------|-----------|
| 36        | Plate, reel holder mounting            | 6012 2610 |
| 37        | Bracket, top cover support             | 6014 6030 |
| 38        | Belt, tape counter                     | 5534 0110 |
| 39        | Terminal, strip, 5P                    | 6053 0160 |
| R203, 204 | Resistor, wirewound, 50 $\Omega$ , 30H | 6040 2190 |
| R205      | " , " , 200 $\Omega$ , 30H             | 6040 2200 |
| R206      | " , " , 80 $\Omega$ , 10H              | 6040 2260 |
| R207      | " , " , 33 $\Omega$ , 10H              | 6040 2210 |
| T201      | Transformer, power, 100/117V           | 6046 0590 |
|           | " , " , 220/240V                       | 6046 0610 |
| PL201,202 | Lamp, tape counter                     | 6046 8100 |

PARTS LIST  
Reel motor ass'y  
REV. \_\_\_\_\_



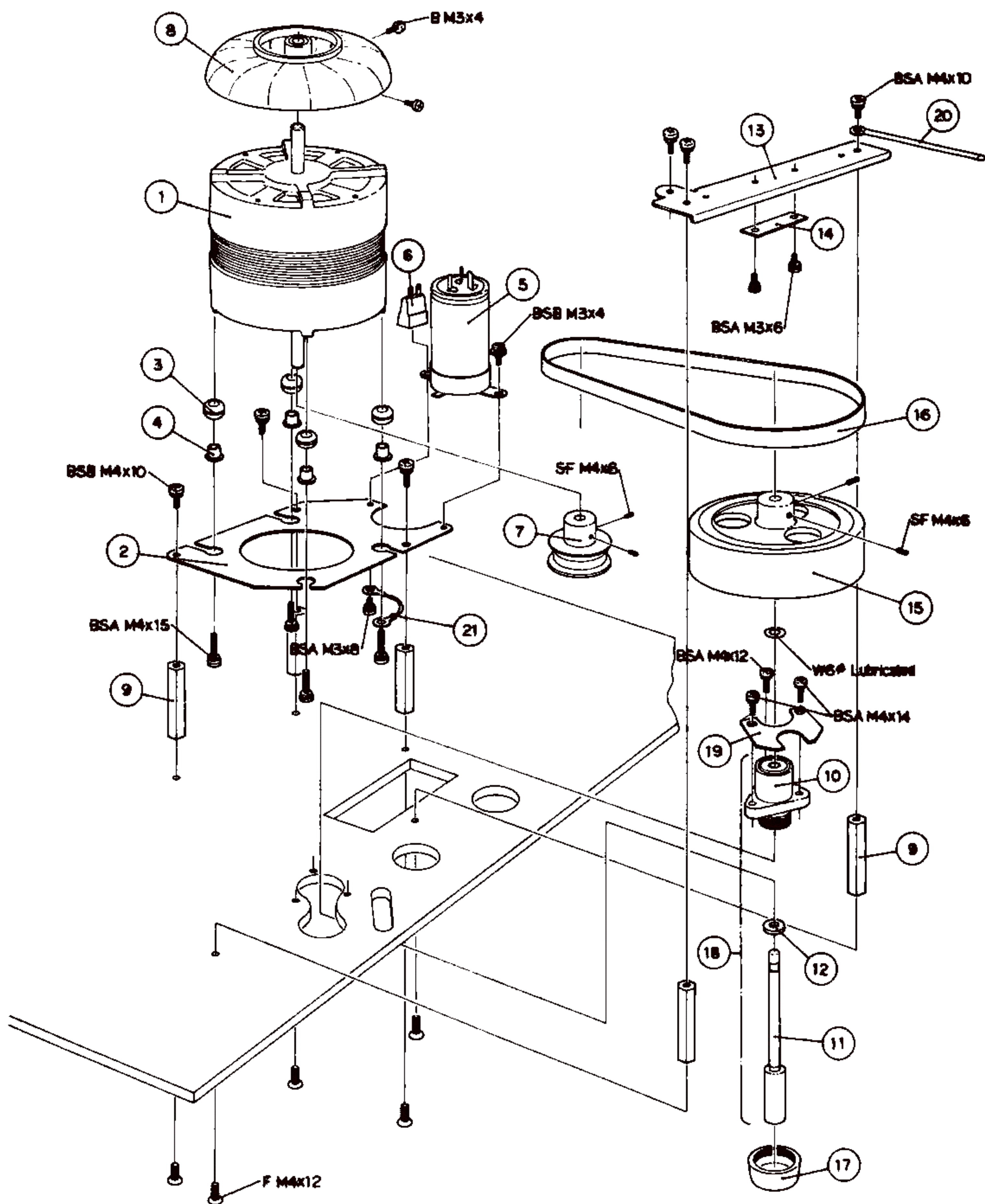


| Title Pinch Roller/Lifter Section |                          |           |
|-----------------------------------|--------------------------|-----------|
| Ref. No.                          | Description              | Parts No. |
| 01                                | Shaft, pinch roller arm  | 5014 1821 |
| 02                                | Arm ass'y, pinch roller  | 6011 0210 |
| 03                                | Spring, return           | 5524 0080 |
| 04                                | Spring, pressure         | 5520 0620 |
| 05                                | Rubber, cushion          | 5027 5690 |
| 06                                | Limit stop, pinch roller | 5014 1842 |
| 07                                | Solenoid, capstan        | 5163 0040 |
| 08                                | Lifter arm ass'y, R      | 6014 0490 |
| 09                                | Shaft, lifter arm        | 5015 2502 |
| 10                                | Spring, A                | 5022 1100 |
| 11                                | Arm, cue                 | 6014 4740 |
| 12                                | Cue lifter ass'y         | 6014 0500 |
| 13                                | Shaft, cue lifter arm    | 5544 0221 |
| 14                                | Spring, cue lifter       | 6004 0400 |
| 15                                | Plate, lifter, B         | 5554 0610 |
| 16                                | Plate, roller arm rest   | 5014 2190 |
| 17                                | Pinch roller ass'y       | 6011 0220 |
| 18                                | Collar, ball bearing     | 6011 2660 |
| 19                                | Cap, pinch roller        | 5014 2180 |

PARTS LIST  
Pinch roller/lifter section  
REV. \_\_\_\_\_



## 6.5 Capstan motor assembly

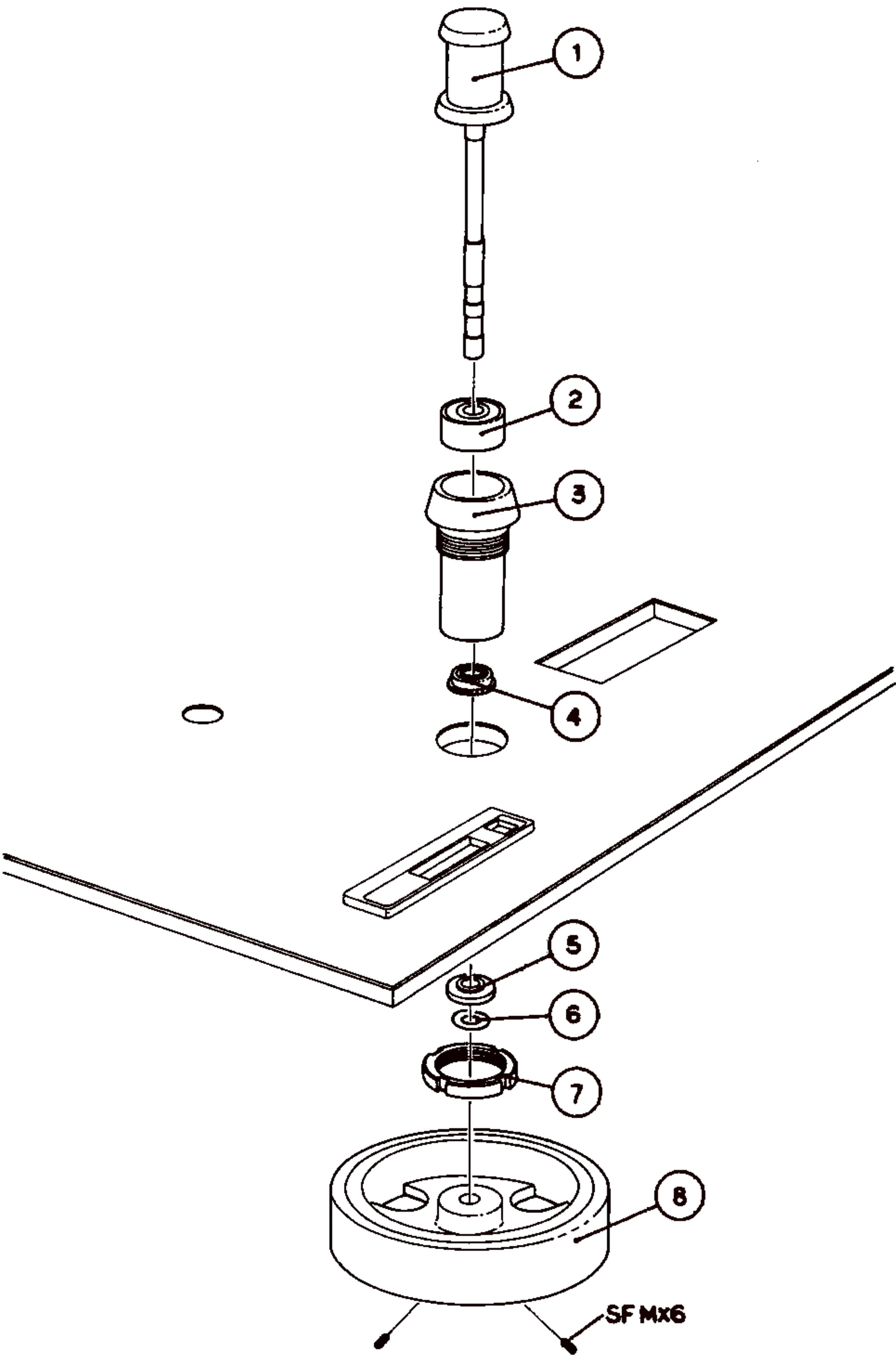


| Title    |                                | Capstan Motor Assembly |
|----------|--------------------------------|------------------------|
| Ref. No. | Description                    | Parts No.              |
| 01       | Motor, capstan                 | 5070 1341              |
| 02       | Plate, capstan motor           | 6011 2730              |
| 03       | Cushion, rubber                | 5070 6211              |
| 04       | Spacer, rubber cushion         | 5033 2790              |
| 05       | Capacitor, MP, (2+0.8)uF/250WV | 5054 5650              |
| 06       | Terminal strip, 1-lug          | 6053 0170              |
| 07       | Pulley, motor, 60Hz            | 6011 2720              |
|          | " , " , 50/60Hz                | 6011 2900              |
| 08       | Fan, motor cooling             | 5012 3984              |
| 09       | Standoff, capstan motor        | 5012 3860              |
| 10       | Bearing, capstan               | 5012 0211              |
| 11       | Shaft, capstan                 | 6011 2680              |
| 12       | Oil pad ring                   | 5012 3900              |
| 13       | Angle, thrust plate            | 5554 0580              |
| 14       | Plate, thrust                  | 5027 7232              |
| 15       | Flywheel, capstan              | 5012 3802              |
| 16       | Belt, capstan                  | 5012 5340              |
| 17       | Cap, dust, capstan             | 6011 2630              |
| 18       | Capstan ass'y                  | 6011 0260              |
| 19       | Plate, arm rest                | 5014 2190              |
| 20       | Clamp, cable harness           | 6014 4890              |
| 21       | Wire, motor grounding          | 5047 7830              |

PARTS LIST  
Capstan motor ass'y  
REV. \_\_\_\_\_



6.6 Impedance roller assembly



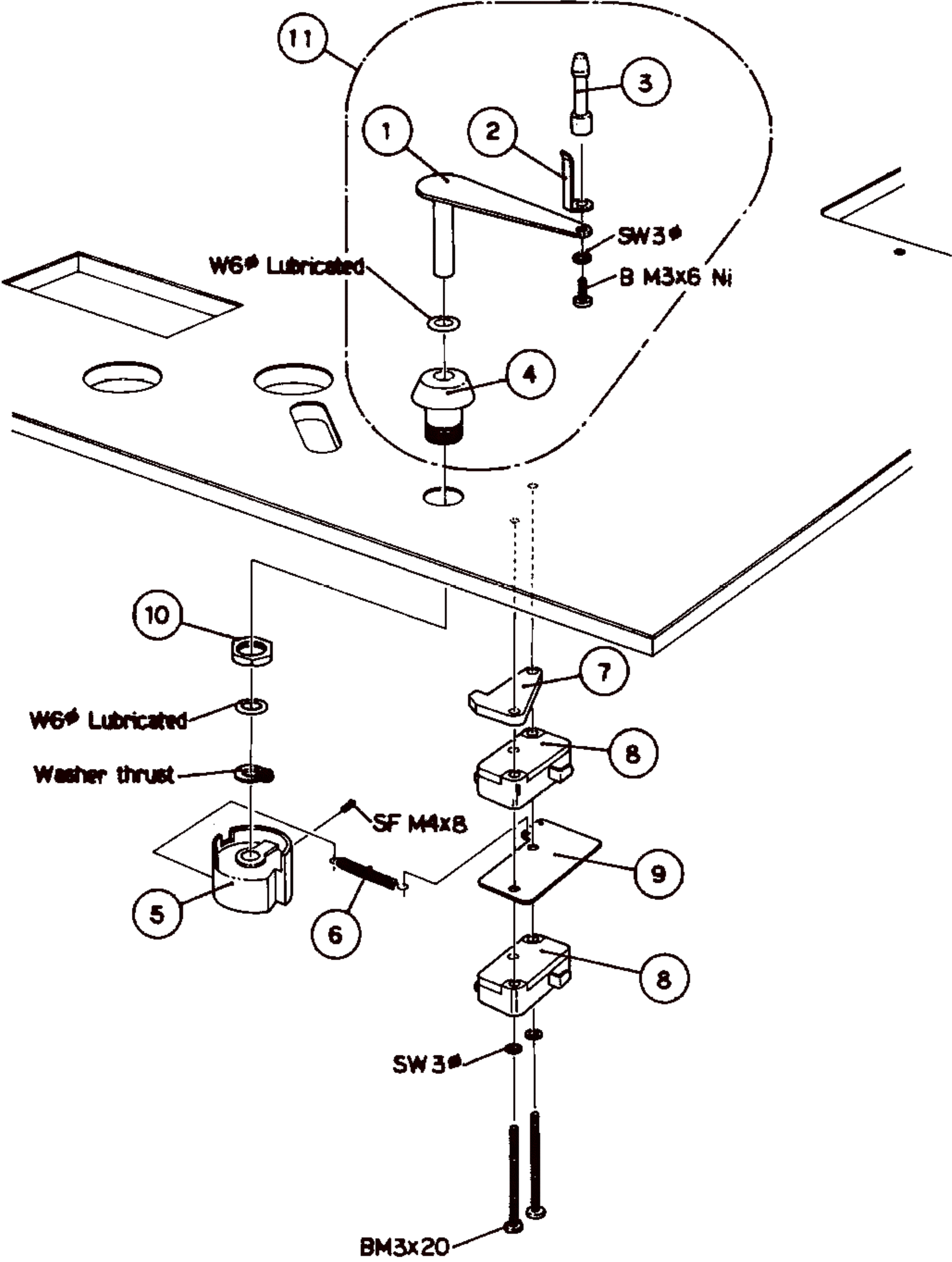
| Title    | Impedance Roller Assembly   | Assembly No. 6011 0250 |
|----------|-----------------------------|------------------------|
| Ref. No. | Description                 | Parts No.              |
| 01       | Roller, impedance           | 6011 0200              |
| 02       | Bearing, ball (626VV)       | 5500 2160              |
| 03       | Bushing, bearing            | 6011 2710              |
| 04       | Bearing, ball (MF126ZZ)     | 6004 6640              |
| 05       | Collar, impedance roller    | 5540 5070              |
| 06       | Washer, spring friction     | 5520 2000              |
| 07       | Nut, bushing mount          | 6011 2690              |
| 08       | Flywheel, impedance roller* | 5530 5060              |

\* Not included in Assembly No. 6011 0250.

PARTS LIST  
Impedance roller ass'y  
REV. \_\_\_\_\_



6.7 Right tension arm

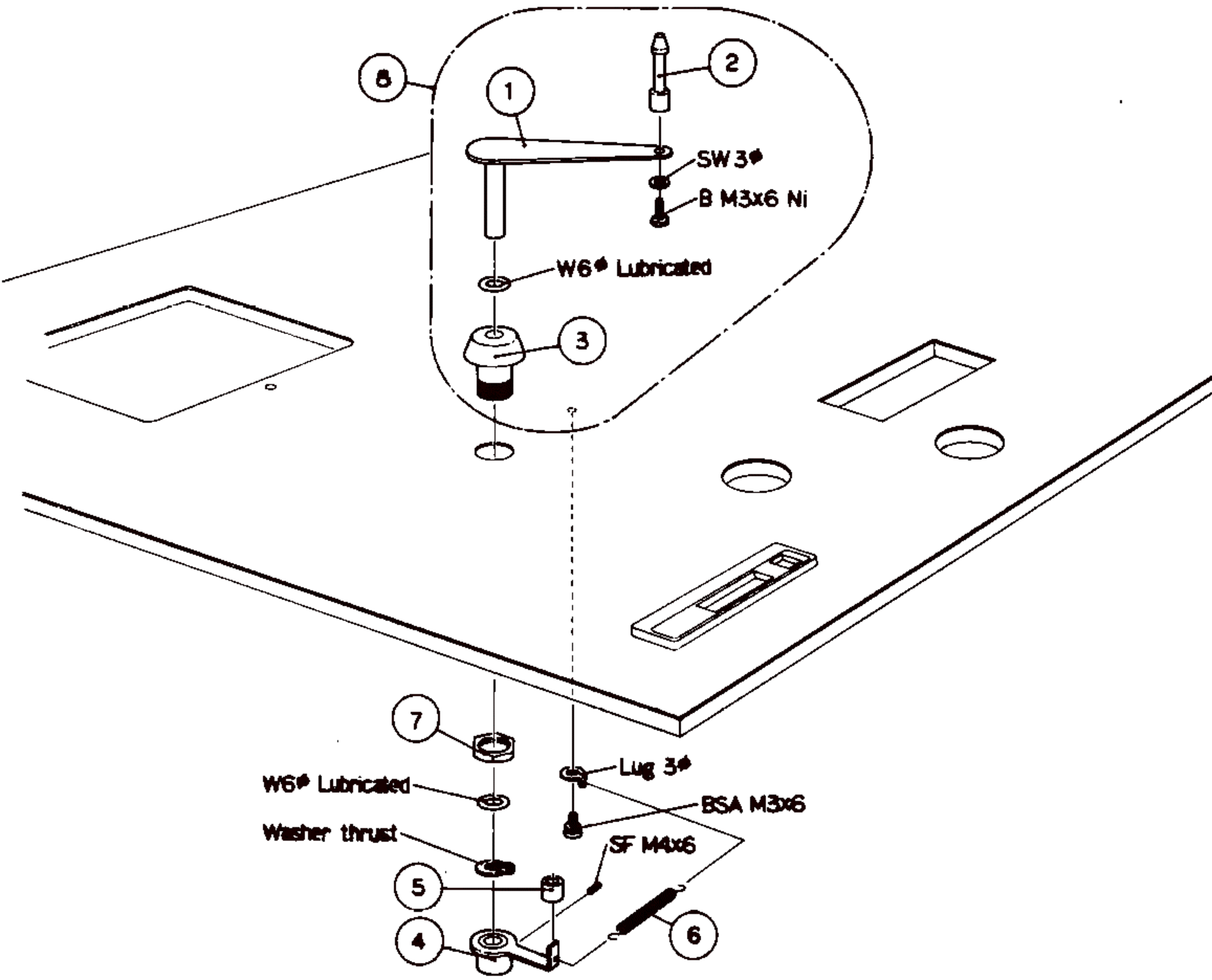




| Title    |                            | Right Tension Arm |           |
|----------|----------------------------|-------------------|-----------|
| Ref. No. | Description                |                   | Parts No. |
| 01       | Arm, tension               |                   | 6014 0510 |
| 02       | Hook, tape                 |                   | 6014 4830 |
| 03       | Guide, tape, right         |                   | 6014 4820 |
| 04       | Holder, arm, C             |                   | 5530 0831 |
| 05       | Drum, switch OFF           |                   | 5018 3821 |
| 06       | Spring, C                  |                   | 5022 1122 |
| 07       | Limiter, tension           |                   | 5018 2730 |
| 08       | Switch, micro              |                   | 5130 0100 |
| 09       | Insulator, paper           |                   | 5018 3932 |
| 10       | Nut, M9, tension arm       |                   |           |
| 11       | Right tension arm assembly |                   | 6014 0560 |

PARTS LIST  
Right tension arm  
REV. \_\_\_\_\_

6.8 Left tension arm



| Title    |                         | Left Tension Arm |           |
|----------|-------------------------|------------------|-----------|
| Ref. No. | Description             |                  | Parts No. |
| 01       | Arm, tension            |                  | 6014 0510 |
| 02       | Guide, tension arm      |                  | 6014 4810 |
| 03       | Bushing, arm shaft, C   |                  | 5530 0831 |
| 04       | Limit stop, tension arm |                  | 6014 0520 |
| 05       | Collar, rubber          |                  | 5027 6990 |
| 06       | Spring, tension arm     |                  | 6004 0370 |
| 07       | Nut, M-9, tension arm   |                  |           |
| 08       | Tension arm ass'y       |                  | 6014 0570 |

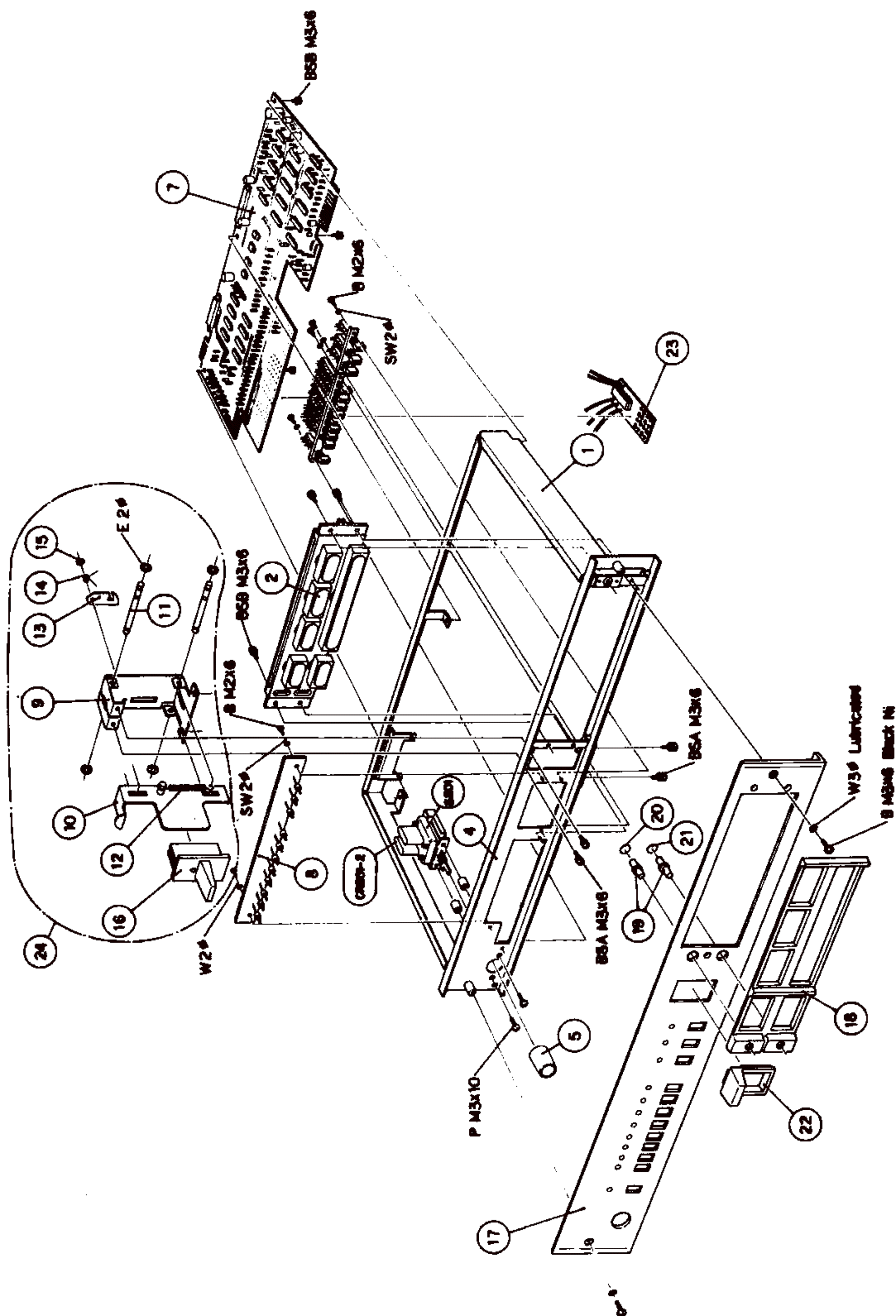
PARTS LIST

Left tension arm

REV. \_\_\_\_\_



## 6.9 Control unit assembly

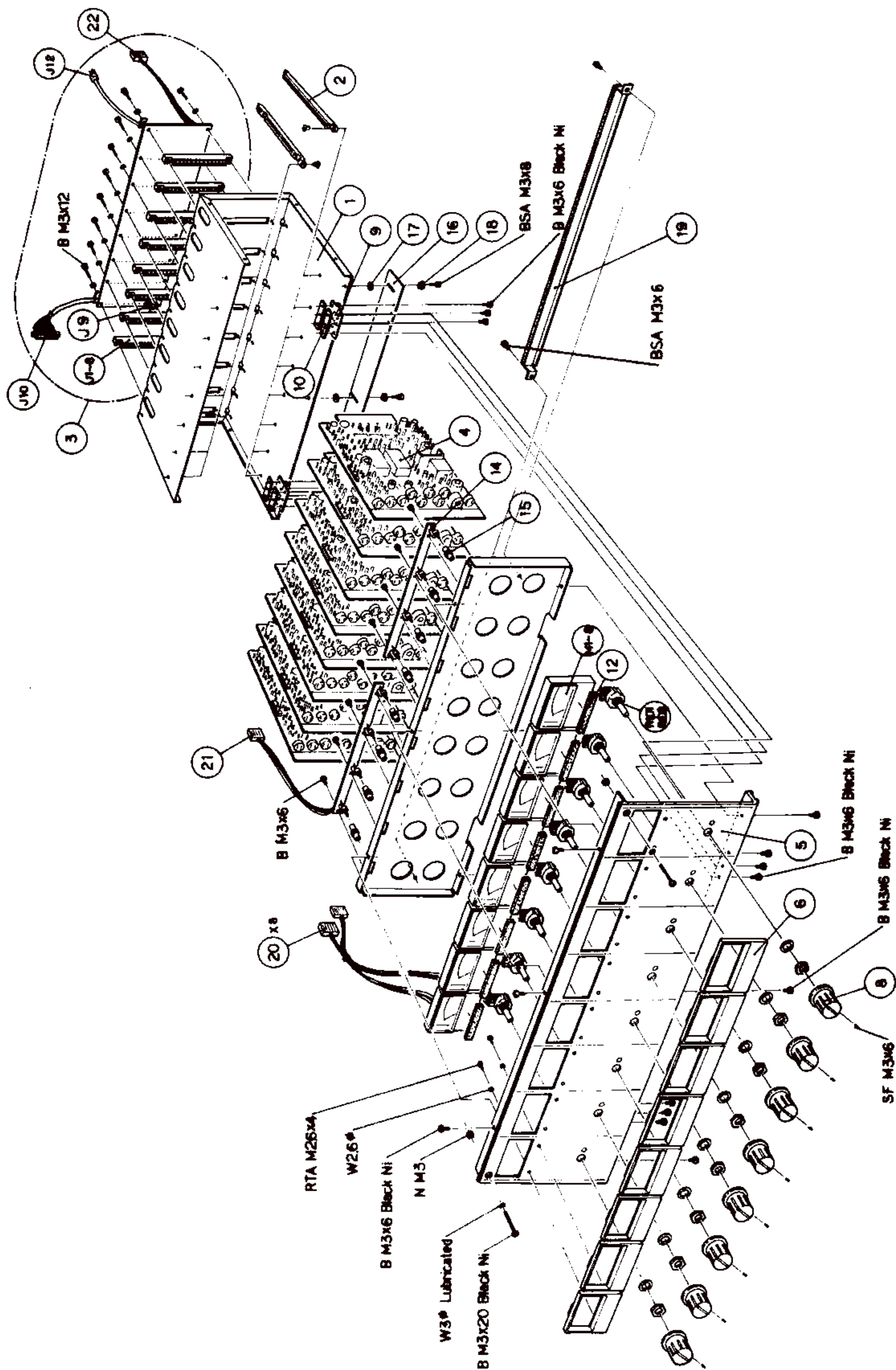


| Title         | Control Unit Assembly                  | Assembly No. 6080 0560 |
|---------------|----------------------------------------|------------------------|
| Ref. No.      | Description                            | Parts No.              |
| 01            | Chassis, control unit                  | 6010 0060              |
| 02            | Key board switch ass'y B               | 5044 8611              |
| 03            | (deleted)                              |                        |
| 04            | Standoff, power switch                 | 6004 8050              |
| 05            | Button, power switch                   | 6006 0190              |
| 06            | (deleted)                              |                        |
| 07            | PCB ass'y, system control (See p. 57 ) | 6080 0270              |
| 08            | PCB ass'y, LED indicators (See p. 64 ) | 6080 0310              |
| 09            | Guide ass'y, cue linkage               | 6014 0470              |
| 10            | Linkage ass'y, cue                     | 6014 0480              |
| 11            | Shaft, linkage guide                   | 5544 0330              |
| 12            | Spring, cue linkage                    | 6004 0390              |
| 13            | Plate, pause lock                      | 5550 0270              |
| 14            | Spring, lock plate                     | 5520 0161              |
| 15            | Nut, speed, M1.5                       |                        |
| 16            | Lever, cue                             | 5530 5150              |
| 17            | Panel, control                         | 6010 2691              |
| 18            | Escutcheon, tape control               | 5530 5310              |
| 19            | Lens, lamp                             | 5530 5260              |
| 20            | Film, filter, red                      | 5550 7270              |
| 21            | Film, filter, green                    | 5550 7280              |
| 22            | Hook, cue lever                        | 5530 5300              |
| 23            | PCB ass'y, normal gate                 | 6050 3560              |
| 24            | Cue lever ass'y                        | 6014 0530              |
| S201          | Switch, power                          | 5044 4510              |
| CR201,<br>202 | Spark killer, 0.033uF+120Ω/400WV       | 5052 9050              |

PARTS LIST  
Control unit ass'y  
REV. \_\_\_\_\_



## 6.10 Record/reproduce amplifier assembly

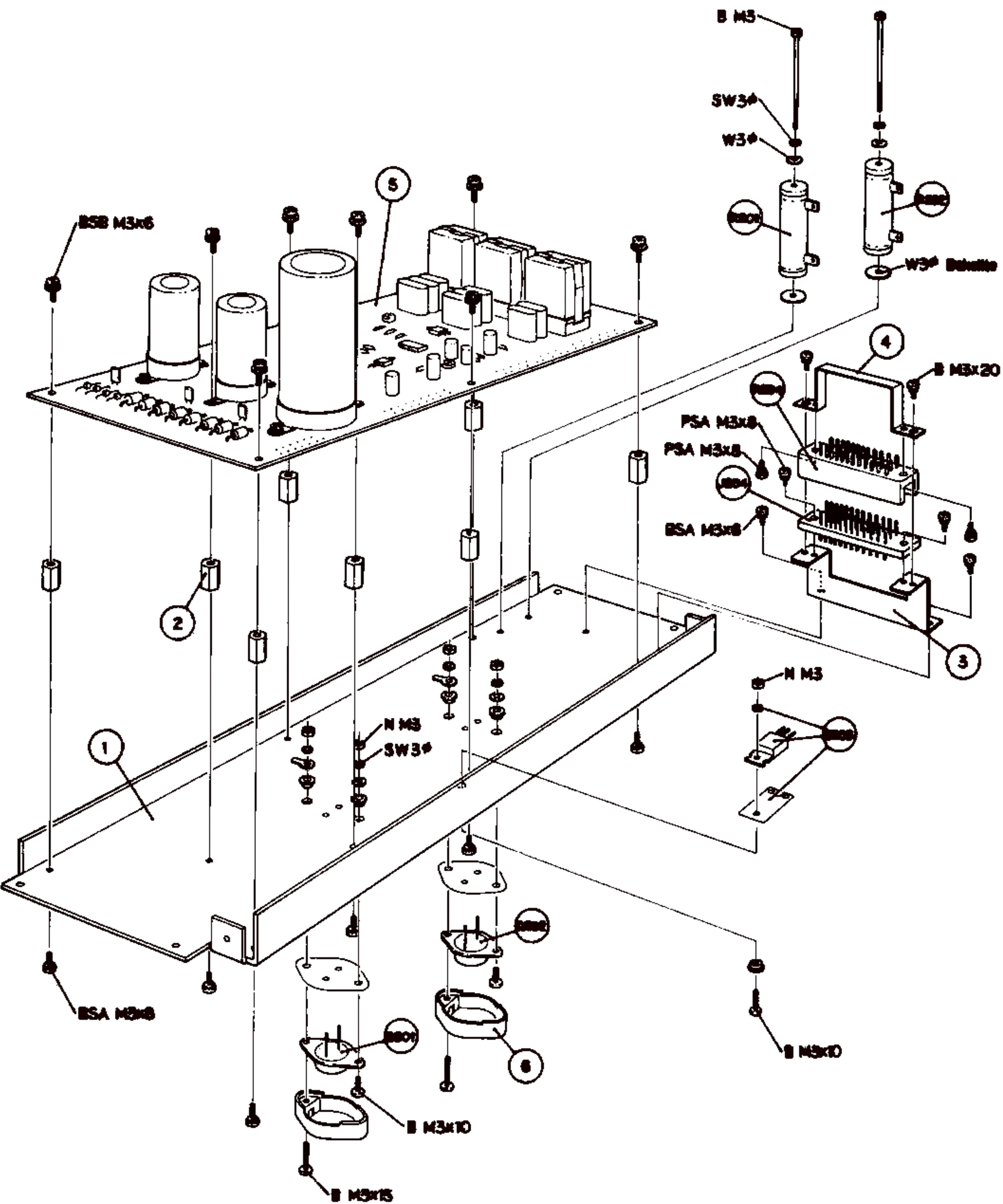




| Title    |                                               | Record/Reproduce Amplifier Ass'y | Assembly No. 6085 2580 |
|----------|-----------------------------------------------|----------------------------------|------------------------|
| Ref. No. | Description                                   |                                  | Parts No.              |
| 01       | Chassis, amplifier                            |                                  | 6037 2310              |
| 02       | Guide, PCB                                    |                                  | 6045 0100              |
| 03       | Connector board ass'y (See p. 65 )            |                                  | 6085 2520              |
| 04       | PCB, rec/repro amplifier ass'y (See p. 66 )   |                                  | 6085 2530              |
| 05       | Panel, amplifier                              |                                  | 6036 1640              |
| 06       | Escutcheon, meter                             |                                  | 6014 4920              |
| 07       | (deleted)                                     |                                  |                        |
| 08       | Knob, line-in control, B-20B                  |                                  | 5025 3750              |
| 09       | Hinge                                         |                                  | 6014 4970              |
| 10       | Plate, hinge                                  |                                  | 6014 4900              |
| 11       | (deleted)                                     |                                  |                        |
| 12       | Cushion, meter                                |                                  | 6014 4840              |
| 13       | Chassis, meter                                |                                  | 6037 3441              |
| 14       | PCB, peak indicator (See p. 72 )              |                                  | 6085 2540              |
| 15       | Cushion, lamp                                 |                                  | 5083 4240              |
| 16       | Plate, sliding                                |                                  | 6014 5940              |
| 17       | Spacer (A)                                    |                                  | 6014 5950              |
| 18       | Spacer (B)                                    |                                  | 6014 5960              |
| 19       | Bar, PCB locking                              |                                  | 6014 6010              |
| 20       | Harness cable, meter circuit                  |                                  | 6049 5850              |
| 21       | " " , peak indicator                          |                                  | 6049 2340-01           |
| 22       | " " , mother board                            |                                  | 6049 2340-00           |
| R101~108 | Potentiometer, rotary, 10K $\Omega$ , taper A |                                  | 6042 0050              |
| M1~8     | Meter, VU                                     |                                  | 6055 0210              |
| J1~8     | Connector, PCB, M44-18-10-139M                |                                  | 6052 1730              |
| J10      | " , " , PHC6-15S-2.5E                         |                                  | 6052 1630              |
| J12      | " , 7P, S-I 7302                              |                                  | 6052 1680              |
| J 9      | Receptacle (3 pin), 48-0008, SMK              |                                  | 6052 1720              |

PARTS LIST  
 Rec/repro amp. ass'y  
 REV. \_\_\_\_\_

6.11 Power supply unit



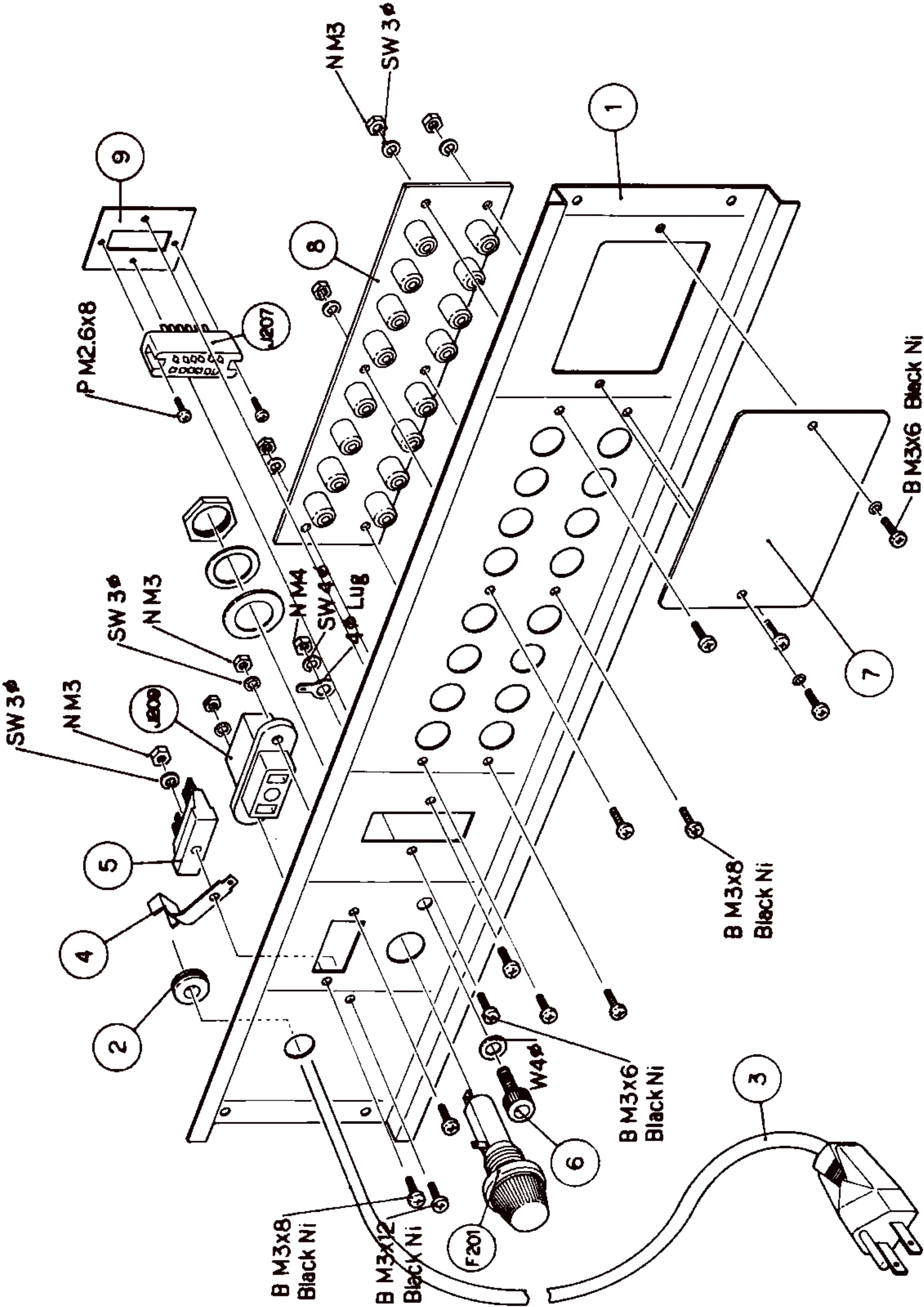


| Title     | Power Supply Unit                                          | Assembly No. 6080 0290 |
|-----------|------------------------------------------------------------|------------------------|
| Ref. No.  | Description                                                | Parts No.              |
| 01        | Chassis, power supply                                      | 6037 2340              |
| 02        | Standoff, PCB                                              | 6004 8870              |
| 03        | Bracket, connector                                         | 6014 4940              |
| 04        | Handle, connector                                          | 5028 7490              |
| 05        | PCB ass'y, power supply and reel motor control (See p.73 ) | 6080 0280              |
| 06        | Insulating cover, transistor                               | 6053 0150              |
| Q201, 202 | Transistor, 2SD-111                                        | 6048 0700              |
| Q203      | " , 2SD-234 (D)                                            | 6048 0680              |
| R201, 202 | Resistor, wirewound, 1 ohm, 15H                            | 6040 2180              |
| J204      | Connector, multi, 34P receptacle, male, Hirose P-1334      | 5043 6390              |
| P204      | " , " , 34P plug, female, Hirose S-1334                    | 5043 8200              |

PARTS LIST  
Power supply unit  
REV. \_\_\_\_\_



6.12 Rear panel assembly

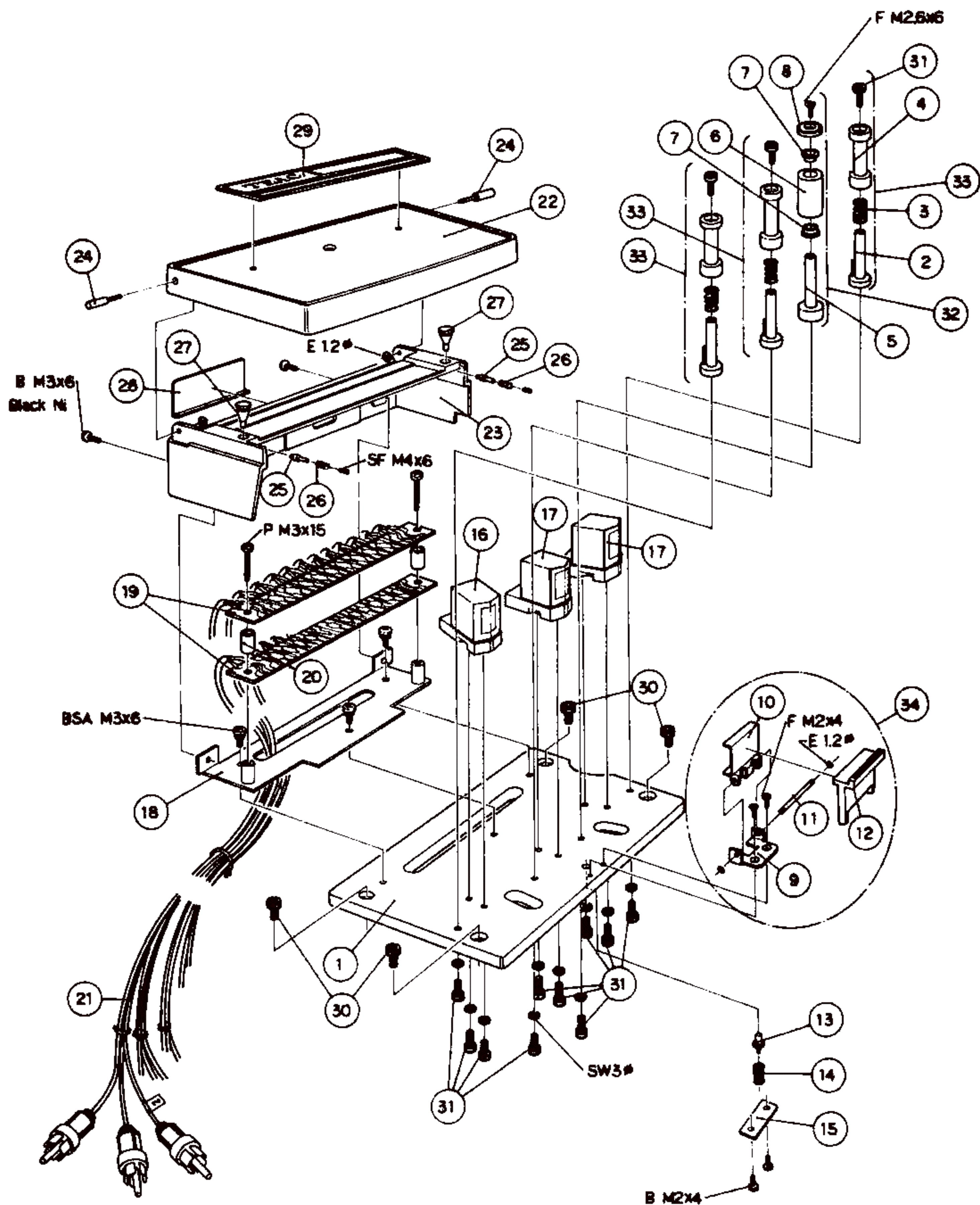


| Title      Rear Panel Assembly |                           | Assembly No. 6085 2550 |
|--------------------------------|---------------------------|------------------------|
| Ref. No.                       | Description               | Parts No.              |
| 01                             | Panel, rear               | 6037 2300              |
| 02                             | Grommet, AC power cord    | 5032 3011              |
| 03                             | Cord, AC power cord       | 6049 0960              |
| 04                             | Clamp, AC power cord      | 6037 2200              |
| 05                             | Terminal strip, 2P        | 5043 8350              |
| 06                             | Terminal, grounding       | 5045 4071              |
| 07                             | Plate, hole cover         | 6014 4850              |
| 08                             | Pin jack strip, 16 jack   | 6052 1740              |
| 09                             | Bracket, receptacle mount | 6014 4910              |
| F 201                          | Holder, fuse              | 5041 2280              |
| J 207                          | Receptacle, 12P           | 5043 8410              |
| J 209                          | Outlet, AC                | 6052 0080              |

PARTS LIST  
Rear panel ass'y  
REV. \_\_\_\_\_



## 6.13 Head assembly/head housing assembly





| Title    | Head Assembly<br>Head Housing Assembly | Assembly No. | 6013 0180<br>" " 6013 0170 |
|----------|----------------------------------------|--------------|----------------------------|
| Ref. No. | Description                            | Parts No.    |                            |
| 01       | Plate, housing base                    | 6013         | 2380                       |
| 02       | Shaft, tape guide                      | 6013         | 2400                       |
| 03       | Spring, tape guide                     | 6004         | 0360                       |
| 04       | Tape guide                             | 6013         | 2390                       |
| 05       | Shaft, scrape flutter roller           | 6013         | 2420                       |
| 06       | Roller, scrape flutter                 | 6013         | 2410                       |
| 07       | Bearing, ball (LF-740ZZ)               | 6004         | 6650                       |
| 08       | Cap, scrape flutter roller             | 6013         | 2410                       |
| 09       | Base, magnetic shield                  | 6013         | 2460                       |
| 10       | Plate, magnetic shield                 | 6013         | 2470                       |
| 11       | Shaft, magnetic shield                 | 6013         | 2500                       |
| 12       | Lever, magnetic shield                 | 6013         | 2540                       |
| 13       | Pin, lock, magnetic shield             | 6013         | 2510                       |
| 14       | Spring, lock pin                       | 6004         | 0380                       |
| 15       | Plate, spring retaining                | 6013         | 2530                       |
| 16       | Head, 8 track erase                    | 5064         | 0820                       |
| 17       | Head, 8 track rec/repro.               | 5064         | 0810                       |
| 18       | Bracket, PCB mount                     | 6013         | 2370                       |
| 19       | PCB, head wiring                       | 6050         | 2691                       |
| 20       | Spacer, tubular                        | 6004         | 8080                       |
| 21       | Cable ass'y, pin plug                  | 6049         | 1080                       |
| 22       | Housing A, head                        | 6013         | 2450                       |
| 23       | Housing B, head                        | 5533         | 0020                       |
| 24       | Shaft, head housing                    | 6013         | 2520                       |
| 25       | Pin, lock, head housing                | 5534         | 0120                       |
| 26       | Spring, lock pin                       | 5520         | 2260                       |
| 27       | Cushion, rubber                        | 5530         | 5390                       |
| 28       | Plate, hole cover                      | 6013         | 2440                       |
| 29       | Plate, TEAC name                       | 6007         | 1240                       |
| 30       | Screw, hex head, M4X6                  | 5021         | 7190                       |
| 31       | " , " " , M3X6                         | 5021         | 7160                       |

PARTS LIST  
Head ass'y  
Head housing ass'y  
REV. \_\_\_\_\_

| Ref. No. | Description                    | Parts No. |
|----------|--------------------------------|-----------|
| 32       | Scrape flutter roller assembly | 6013 0190 |
| 33       | Tape guide assembly            | 6013 0200 |
| 34       | Shield cover assembly          | 6013 0210 |

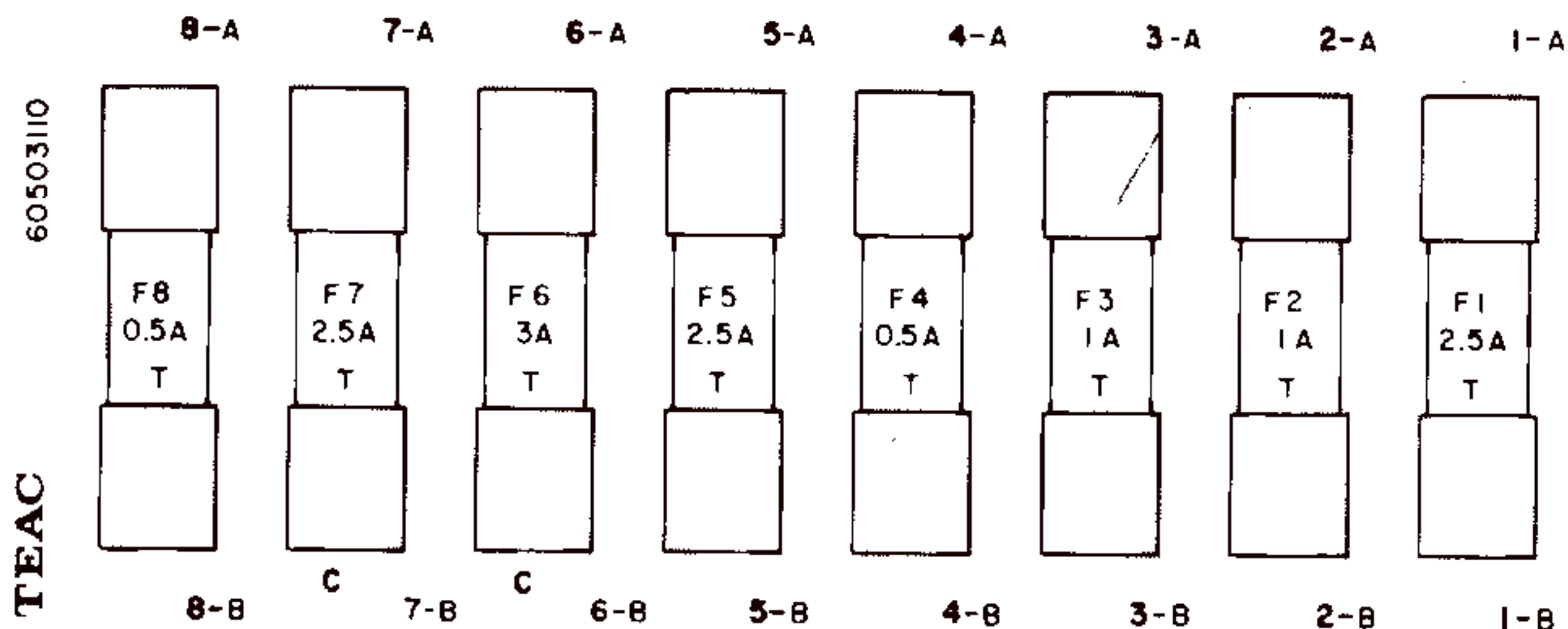
PARTS LIST  
Head ass'y  
Head housing ass'y  
REV. \_\_\_\_\_

# 7. PC CARDS AND PARTS LIST

## 7.1 Fuse PCB assembly

*used 7  
21/10/80*

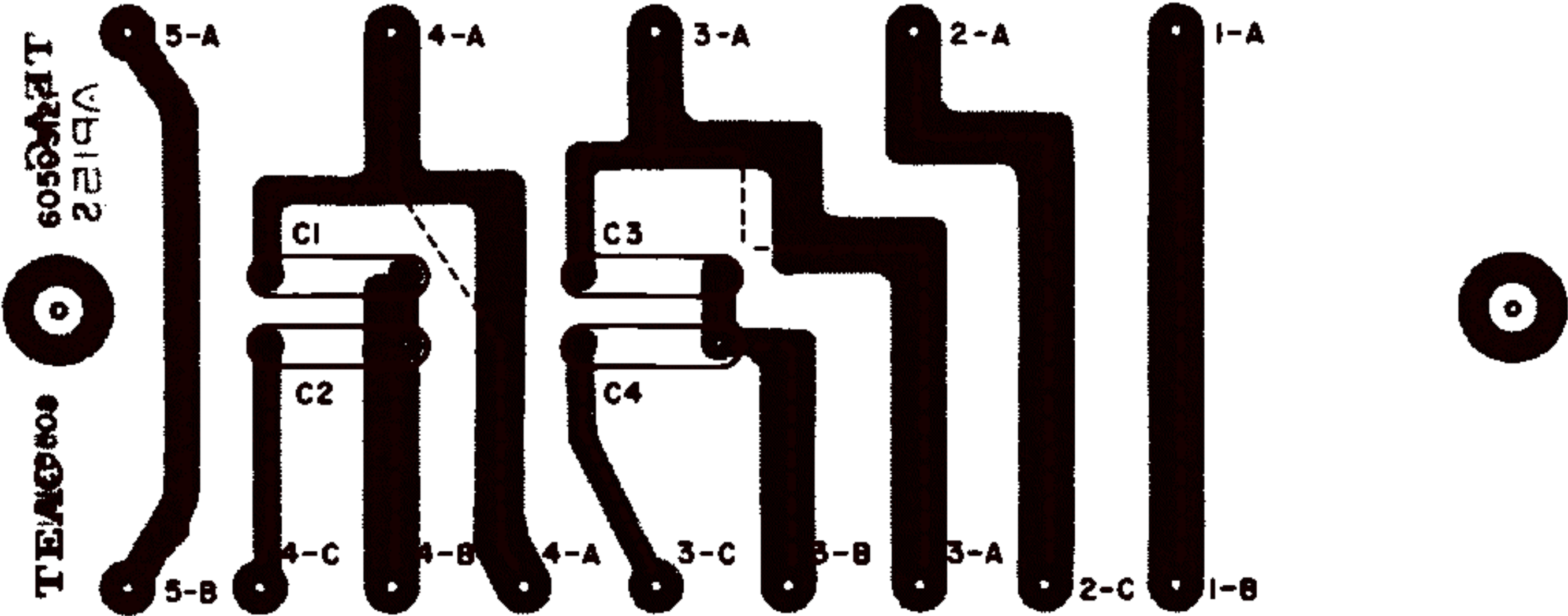
*60x32mm*



| Title     | Fuse PCB Assembly     | Assembly No. 6080 0300 |
|-----------|-----------------------|------------------------|
| Ref. No.  | Description           | Parts No.              |
| 1         | PCB, fuse holder      | 6050 3110              |
| F 1, 5, 7 | Fuse, slow blow, 2.5A | 6046 9010-03           |
| F 2, 3    | " , " , 1A            | 6046 9010-01           |
| F 4, 8    | " , " , 0.5A          | 6046 9010-00           |
| F 6       | " , " , 3A            | 6046 9010-04           |
|           | Fuse holder, S-N5054  | 6052 9020              |

PARTS LIST, PC CARD  
Fuse PCB Assembly  
REV. \_\_\_\_\_

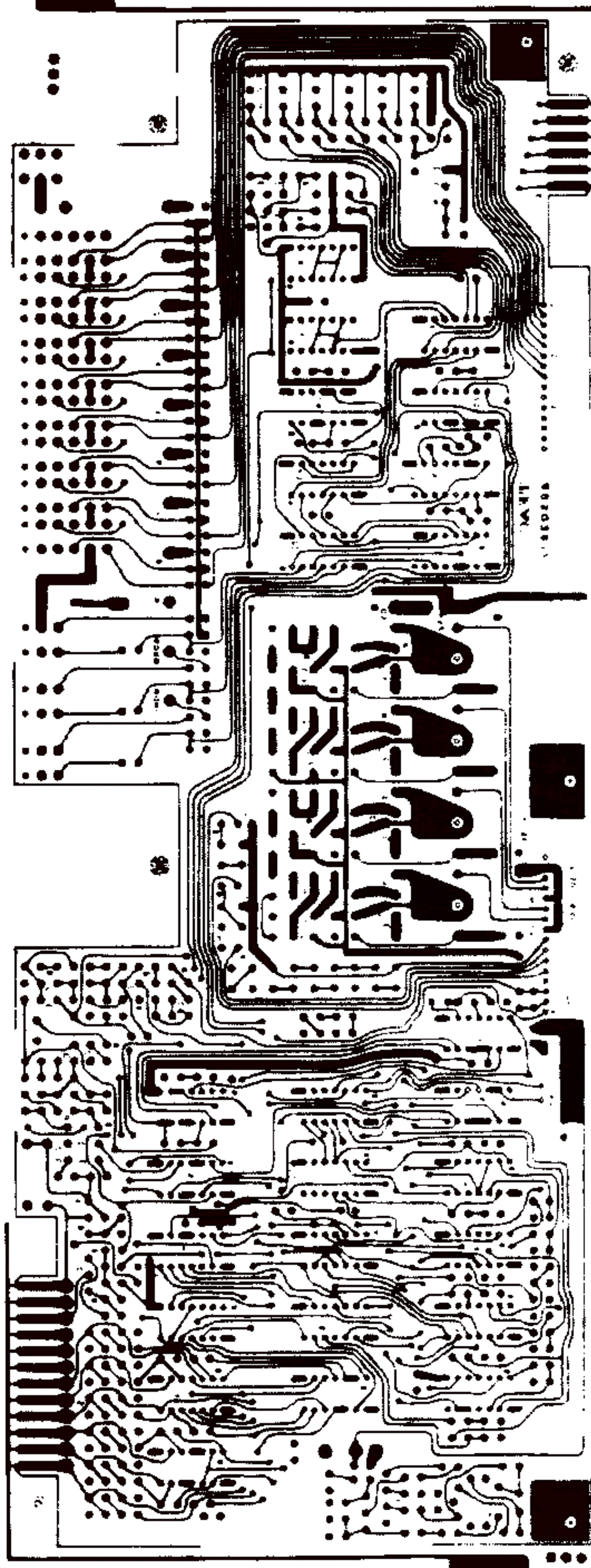
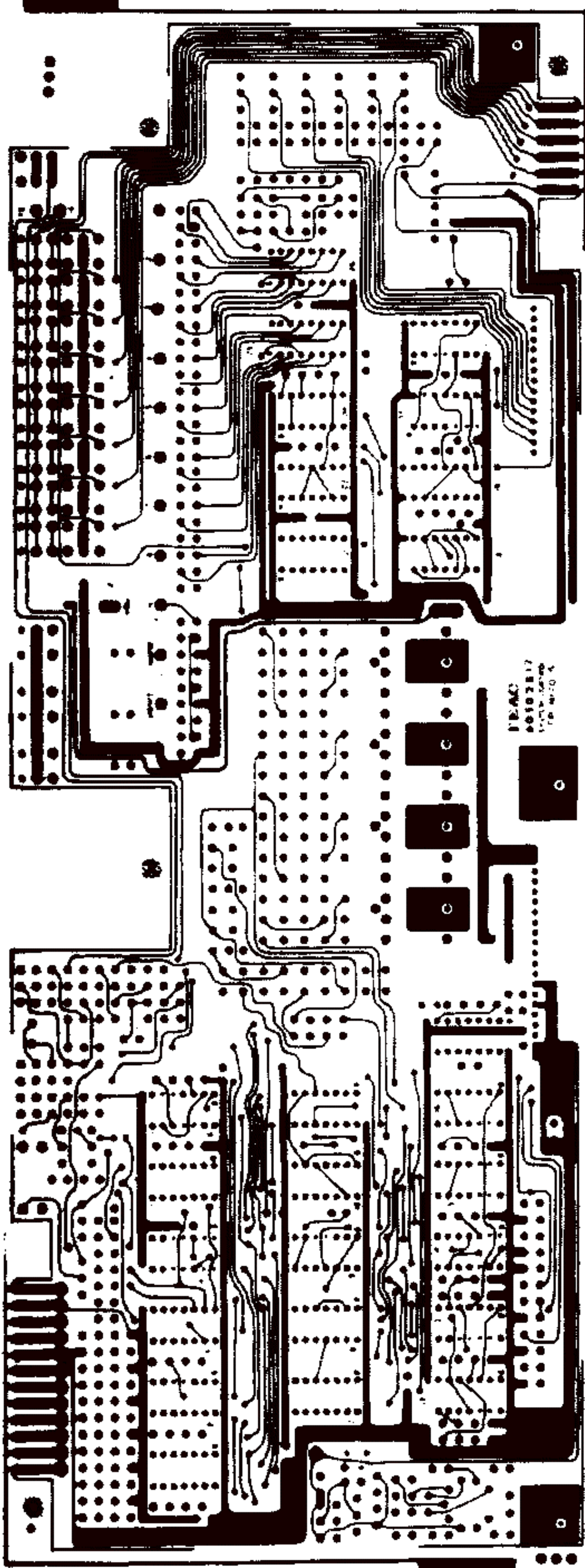




| Title    | Terminal PCB assembly            | Assembly No. 6080 0420 |
|----------|----------------------------------|------------------------|
| Ref. No. | Description                      | Parts No.              |
| 1        | PCB, terminal assembly           | 6050 3121              |
| C 1~4    | Capacitor, ceramic, 500V, 0.01uF | 5054 2230              |
|          | Wire, terminal PCB               | 6049 1210              |

PARTS LIST, PC CARD  
Terminal PCB assembly  
REV. \_\_\_\_\_







| Title    | System Control PCB Assembly               | Assembly No. 6080 0270 |
|----------|-------------------------------------------|------------------------|
| Ref. No. | Description                               | Parts No.              |
|          | PCB, System control                       | 6050 2812              |
|          | Switch, push, 3 button, Alps              | 6051 0650              |
|          | " , " , 9 button, "                       | 6051 0640              |
|          | Socket, IC (14P), A-4497-14, Showa Molex  | 6052 1790              |
|          | " , IC (16P), A-4497-16, " "              | 6052 1800              |
| IC 1~3   | Integrated circuit, SN7400N               | 6048 9000              |
| IC 4     | " " , SN7404N                             | 6048 9040              |
| IC 5, 6  | " " , SN7400N                             | 6048 9000              |
| IC 7     | " " , SN7404N                             | 6048 9040              |
| IC 8     | " " , SN7400N                             | 6048 9000              |
| IC 9, 10 | " " , SN7408N                             | 6048 9080              |
| IC11     | " " , SN7404N                             | 6048 9040              |
| IC12, 13 | " " , SN7410N                             | 6048 9100              |
| IC14     | " " , SN7400N                             | 6048 9000              |
| IC15     | " " , SN7420N                             | 6048 9110              |
| IC16     | " " , SN7400N                             | 6048 9000              |
| IC17     | " " , SN74122N                            | 6048 9140              |
| IC18     | " " , SN7410N                             | 6048 9100              |
| IC19     | " " , SN74123N                            | 6048 9150              |
| IC20     | " " , SN7400N                             | 6048 9000              |
| IC21, 22 | " " , SN7404N                             | 6048 9040              |
| IC23~26  | " " , SN7400N                             | 6048 9000              |
| Q 1~16   | Transistor, 2SC1312Y-G                    | 6048 0450              |
| Q17, 18  | " , 2SC1211D                              | 6048 0080              |
| Q19~22   | " , 2SB524D                               | 6048 0490              |
| Q23~32   | " , 2SC1312Y-G                            | 6048 0450              |
| D 1~30   | Diode, 1S953                              | 5042 2720              |
| D31~38   | " , 1N4002                                | 6048 3270              |
| D39~44   | " , 1S953                                 | 5042 2720              |
| L 1      | Transformer, oscillator                   | 6046 6070              |
| J202     | Connector (20P), PCN6-20-PA-2.5DS, Hirose | 6052 1650              |
| J203     | " (15P), PCN6-15-PA-2.5DS, "              | 6052 1640              |

PARTS LIST, PC CARD  
System control PCB ass'y  
REV. \_\_\_\_\_



| Ref. No. | Description                                  | Parts No. |
|----------|----------------------------------------------|-----------|
| J205     | Connector, PC mtg., 4 pin male, 48-0009, SMK | 6052 1700 |
| J211     | " , " , 3 " " , 48-0008; "                   | 6052 1720 |
| R 1~4    | Resistor, carbon, 1K $\Omega$                |           |
| R 5      | " , " , 220 $\Omega$                         |           |
| R 6      | " , " , 330 $\Omega$                         |           |
| R 7~18   | " , " , 1K $\Omega$                          |           |
| R19      | " , " , 22K $\Omega$                         |           |
| R20      | " , " , 150K $\Omega$                        |           |
| R21      | " , " , 4.7K $\Omega$                        |           |
| R22~26   | " , " , 1K $\Omega$                          |           |
| R27      | " , " , 4.7K $\Omega$                        |           |
| R28, 29  | " , " , 180 $\Omega$                         |           |
| R30      | " , " , 1K $\Omega$                          |           |
| R31      | " , " , 100K $\Omega$                        |           |
| R32      | " , " , 220K $\Omega$                        |           |
| R33, 34  | " , " , 47K $\Omega$                         |           |
| R35~46   | " , " , 180 $\Omega$                         |           |
| R47      | " , " , 1K $\Omega$                          |           |
| R48, 49  | " , " , 220K $\Omega$                        |           |
| R50      | " , " , 1K $\Omega$                          |           |
| R51      | " , " , 33K $\Omega$                         |           |
| R52      | " , " , 180 $\Omega$                         |           |
| R53      | " , " , 1.2K $\Omega$                        |           |
| R54      | " , " , 10K $\Omega$                         |           |
| R55      | " , " , 330 $\Omega$ , 1/2W, $\pm 5\%$       |           |
| R56      | " , " , 1.2K $\Omega$                        |           |
| R57      | " , " , 10K $\Omega$                         |           |
| R58      | " , " , 330 $\Omega$ , 1/2W, $\pm 5\%$       |           |
| R59      | " , " , 47K $\Omega$                         |           |
| R60      | " , " , 120K $\Omega$                        |           |
| R61      | " , " , 33 $\Omega$                          |           |
| R62      | " , " , 1.2K $\Omega$                        |           |
| R63      | " , " , 2.2K $\Omega$                        |           |
| R64      | " , " , 4.7K $\Omega$                        |           |
| R65      | " , " , 180K $\Omega$                        |           |

All resistors  $\frac{1}{4}$ W,  $\pm 5\%$  unless otherwise specified.

PARTS LIST, PC CARD  
System control PCB ass'y  
REV. \_\_\_\_\_

| Ref. No. | Description                     | Parts No. |
|----------|---------------------------------|-----------|
| R66      | Resistor, carbon, 470K $\Omega$ |           |
| R67, 68  | " , " , 2.2K $\Omega$           |           |
| R69      | " , " , 4.7K $\Omega$           |           |
| R70      | " , " , 68K $\Omega$            |           |
| R71      | " , " , 33 $\Omega$             |           |
| R72      | " , " , 680K $\Omega$           |           |
| R73, 74  | " , " , 2.2K $\Omega$           |           |
| R75      | " , " , 4.7K $\Omega$           |           |
| R76      | " , " , 220K $\Omega$           |           |
| R77      | " , " , 470K $\Omega$           |           |
| R78      | " , " , 3.9K $\Omega$           |           |
| R79      | " , " , 2.2K $\Omega$           |           |
| R80      | " , " , 4.7K $\Omega$           |           |
| R81      | " , " , 10K $\Omega$            |           |
| R82      | " , " , 100K $\Omega$           |           |
| R83~85   | " , " , 10K $\Omega$            |           |
| R86, 87  | " , " , 100K $\Omega$           |           |
| R88      | " , " , 33 $\Omega$             |           |
| R89      | " , " , 10 $\Omega$             |           |
| R90      | " , " , 8.2K $\Omega$           |           |
| R91      | " , " , 12K $\Omega$            |           |
| R92      | " , " , 390 $\Omega$            |           |
| R93      | " , " , 1K $\Omega$             |           |
| R94      | " , " , 68 $\Omega$             |           |
| R95      | " , " , 47K $\Omega$            |           |
| R96      | " , " , 68 $\Omega$             |           |
| R97~99   | " , " , 180 $\Omega$            |           |
| R100     | " , " , 4.7K $\Omega$           |           |
| R101     | " , " , 100 $\Omega$            |           |
| R102     | " , " , 4.7K $\Omega$           |           |
| R103     | " , " , 100 $\Omega$            |           |
| R104     | " , " , 4.7K $\Omega$           |           |
| R105     | " , " , 100 $\Omega$            |           |
| R106~108 | " , " , 1K $\Omega$             |           |
| R109~113 | " , " , 100 $\Omega$            |           |

All resistors  $\frac{1}{4}$ W,  $\pm 5\%$  unless otherwise specified.

PARTS LIST, PC CARD  
System control PCB ass'y  
REV. \_\_\_\_\_

| Ref. No.  | Description                    | Parts No. |
|-----------|--------------------------------|-----------|
| R114      | Resistor, carbon, 18K $\Omega$ |           |
| R115      | " , " , 100K $\Omega$          |           |
| R116      | " , " , 1K $\Omega$            |           |
| R117, 118 | " , " , 220K $\Omega$          |           |
| R119      | " , " , 1K $\Omega$            |           |
| R120      | " , " , 18K $\Omega$           |           |
| R121      | " , " , 100K $\Omega$          |           |
| R122      | " , " , 18K $\Omega$           |           |
| R123      | " , " , 100K $\Omega$          |           |
| R124, 125 | " , " , 180 $\Omega$           |           |
| R126, 127 | " , " , 33K $\Omega$           |           |
| R128      | " , " , 18K $\Omega$           |           |
| R129      | " , " , 100K $\Omega$          |           |
| R130      | " , " , 18K $\Omega$           |           |
| R131      | " , " , 100K $\Omega$          |           |
| R132      | " , " , 18K $\Omega$           |           |
| R133      | " , " , 100K $\Omega$          |           |
| R134      | " , " , 18K $\Omega$           |           |
| R135      | " , " , 100K $\Omega$          |           |
| R136      | " , " , 18K $\Omega$           |           |
| R137      | " , " , 100K $\Omega$          |           |
| R138      | " , " , 180 $\Omega$           |           |
| R139      | " , " , 100 $\Omega$           |           |
| R140      | " , " , 180 $\Omega$           |           |
| R141      | " , " , 100 $\Omega$           |           |
| R142      | " , " , 180 $\Omega$           |           |
| R143      | " , " , 100 $\Omega$           |           |
| R144      | " , " , 180 $\Omega$           |           |
| R145      | " , " , 100 $\Omega$           |           |
| R146      | " , " , 180 $\Omega$           |           |
| R147      | " , " , 100 $\Omega$           |           |
| R148      | " , " , 180 $\Omega$           |           |
| R149      | " , " , 100 $\Omega$           |           |
| R150      | " , " , 180 $\Omega$           |           |
| R151      | " , " , 100 $\Omega$           |           |

All resistors  $\frac{1}{4}$ W,  $\pm 5\%$  unless otherwise specified.

PARTS LIST, PC CARD  
System control PCB ass'y  
REV. \_\_\_\_\_



| Ref. No. | Description                                | Parts No. |
|----------|--------------------------------------------|-----------|
| R152     | Resistor, carbon, 180 $\Omega$             |           |
| R153     | " , " , 100 $\Omega$                       |           |
| R154     | " , " , 220K $\Omega$                      |           |
| R155     | " , " , 1K $\Omega$                        |           |
| R156     | " , " , 220K $\Omega$                      |           |
| C 1~4    | Capacitor, dipped Tantalum, 25V, 1 $\mu$ F | 6043 1700 |
| C 5      | " , Mylar, 50V, 0.01 $\mu$ F               | 6044 5370 |
| C 6, 7   | " , dipped Tantalum, 25V, 1 $\mu$ F        | 6043 1700 |
| C 8, 9   | " , Mylar, 50V, 0.01 $\mu$ F               | 6044 5370 |
| C10      | " , electrolytic, 10V, 47 $\mu$ F          | 6043 0180 |
| C11, 12  | " , Mylar, 50V, 0.022 $\mu$ F              | 6044 5390 |
| C13      | " , dipped Tantalum, 10V, 4.7 $\mu$ F      | 6043 1900 |
| C14~25   | " , Mylar, 50V, 0.0068 $\mu$ F             | 6044 5210 |
| C26, 27  | " , dipped Tantalum, 16V, 2.2 $\mu$ F      | 6043 1710 |
| C28      | " , " , 6.3V, 47 $\mu$ F                   | 6043 1920 |
| C29      | " , Mylar, 50V, 0.022 $\mu$ F              | 6044 5390 |
| C30      | " , dipped Tantalum, 10V, 10 $\mu$ F       | 6043 1750 |
| C31      | " , " , 16V, 2.2 $\mu$ F                   | 6043 1710 |
| C32      | " , " , 10V, 33 $\mu$ F                    | 6043 1740 |
| C33      | " , Mylar, 50V, 0.047 $\mu$ F              | 6044 5410 |
| C34, 35  | " , " , " , 0.01 $\mu$ F                   | 6044 5370 |
| C36      | " , " , " , 0.047 $\mu$ F                  | 6044 5410 |
| C37      | " , " , " , 0.01 $\mu$ F                   | 6044 5370 |
| C38      | " , " , " , 0.033 $\mu$ F                  | 6044 5400 |
| C39      | " , electrolytic, 10V, 100 $\mu$ F         | 5055 4570 |
| C40      | " , " , 50V, 47 $\mu$ F                    | 5055 4580 |
| C41      | " , ceramic, 50V, 0.01 $\mu$ F             | 6044 0050 |
| C42      | " , electrolytic, 16V, 100 $\mu$ F         | 5055 4200 |
| C43, 44  | " , ceramic, 50V, 0.01 $\mu$ F             | 6044 0050 |
| C45      | " , electrolytic, 16V, 100 $\mu$ F         | 5055 4200 |
| C46~48   | " , ceramic, 50V, 0.01 $\mu$ F             | 6044 0050 |
| C49~51   | " , dipped Tantalum, 10V, 3.3 $\mu$ F      | 6043 1970 |
| C52, 53  | " , " , 16V, 2.2 $\mu$ F                   | 6043 1710 |
| C54, 55  | " , Mylar, 50V, 0.022 $\mu$ F              | 6044 5390 |

All resistors  $\pm$ W,  $\pm$ 5% unless otherwise specified.

PARTS LIST, PC CARD  
System control PCB ass'y  
REV. \_\_\_\_\_

| Ref. No. | Description                           | Parts No. |
|----------|---------------------------------------|-----------|
| C56      | Capacitor, dipped Tantalum, 10V, 10uF | 6043 1750 |
| C57      | " , " , " , 22uF                      | 6043 1910 |
| C58      | " , electrolytic, 16V, 100uF          | 5055 4200 |
| C59~63   | " , ceramic, 50V, 0.01uF              | 6044 0050 |

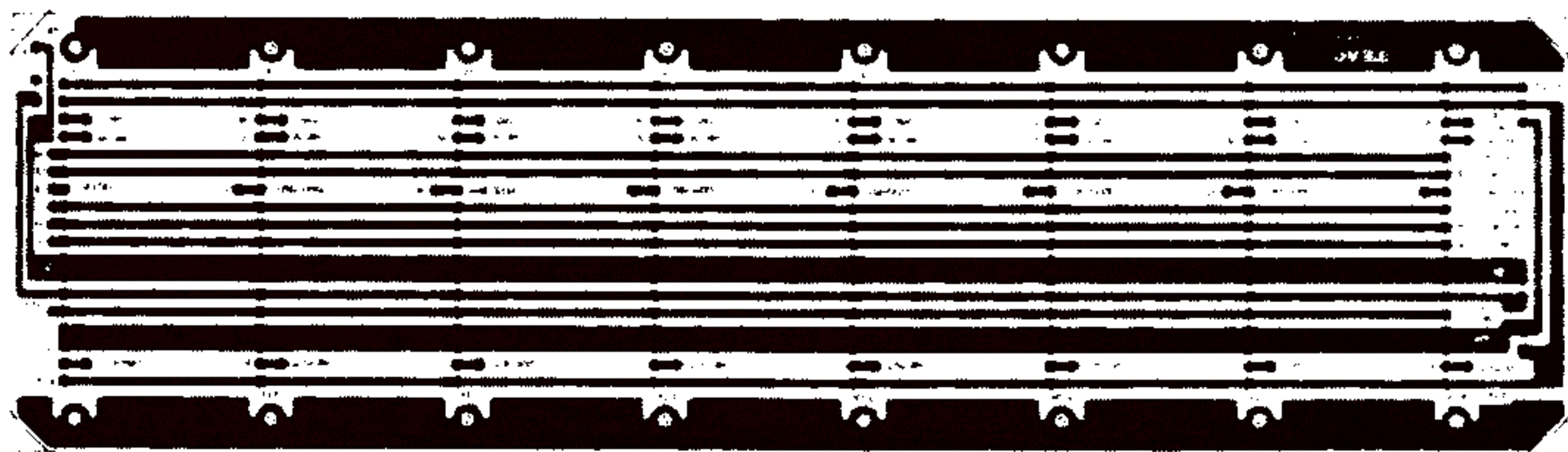
PARTS LIST, PC CARD  
System control PCB ass'y  
REV. \_\_\_\_\_



| Title                      |                         | Assembly No. |
|----------------------------|-------------------------|--------------|
| LED Indicator PCB Assembly |                         | 6085 0310    |
| Ref. No.                   | Description             | Parts No.    |
| 1                          | PCB. LED indicator      | 6050 2830    |
| D 1~11                     | LED, red, GD-4-203-SRG  | 5042 5110    |
|                            | Harness, indicator lead | 6049 1220    |

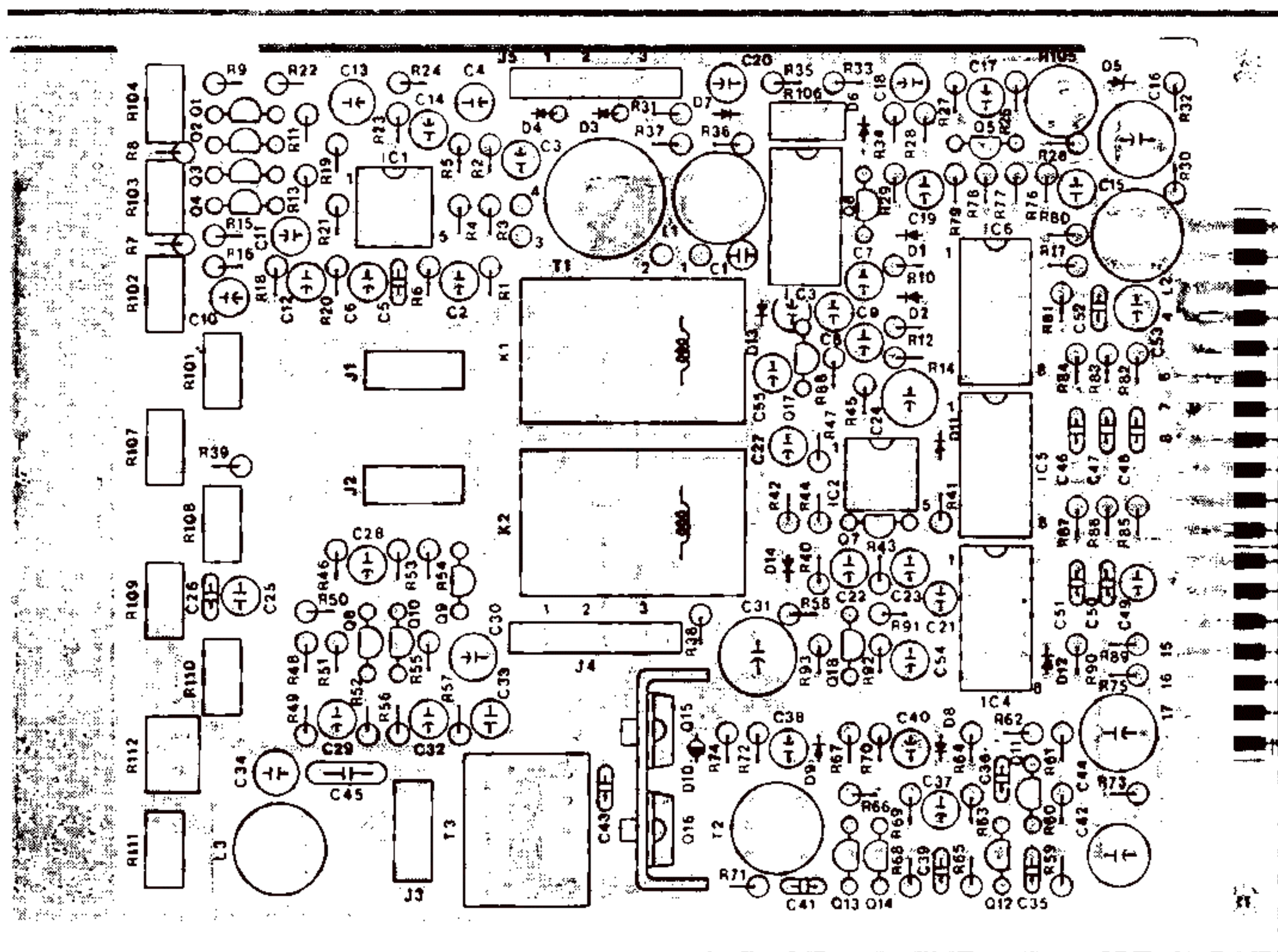
PARTS LIST, PC CARD  
LED indicator PCB assembly  
REV. \_\_\_\_\_





| Title    | Connector Board PCB Assembly                                    | Assembly No. 6085 2520 |
|----------|-----------------------------------------------------------------|------------------------|
| Ref. No. | Description                                                     | Parts No.              |
|          | PCB, connector board                                            | 6050 2682*             |
| J1~J8    | Receptacle, card-edge connector, Mitsumi M44-18-10-139M         | 6052 1730*             |
| J9       | Connector, SMK 48-0008                                          | 6052 1720*             |
|          | Harness, w/J10 connector                                        | 6049 5870              |
| J10      | Connector, Hirose PCN6-15S-2.5E                                 | 6052 1630              |
|          | Harness, w/J12 connector                                        | 6049 5860              |
| J12      | Connector (7P), SMK S-I2501                                     | 6052 1710              |
|          | Harness, wire, input/output, w/16 pin jack strip (6052 1740)    | 6049 5880              |
|          | Connector board, w/card-edge connector (Ass'y of * items above) | 6085 2510              |

PARTS LIST, PC CARD  
Connector board PCB  
REV. \_\_\_\_\_





| Title     | Record/reproduce Amplifier PCB Assembly   | Assembly No. 6085 2530 |
|-----------|-------------------------------------------|------------------------|
| Ref. No.  | Description                               | Parts No.              |
|           | Record/reproduce amplifier PCB            | 6050 2663              |
| IC1~2     | Integrated circuit, RC4558DN              | 6048 6070              |
| IC3, 5    | " " , SN7400N                             | 6048 9000              |
| IC4       | " " , SN7404N                             | 6048 9040              |
| IC6       | " " , SN7426N                             | 6048 9180              |
| Q1~4      | Transistor, FET, 2N5462                   | 6048 0710              |
| Q5~8      | " , 2SC1312Y-G                            | 6048 0450              |
| Q9~11     | " , 2SC1211-D                             | 6048 0080              |
| Q12       | " , FET, 2N5462                           | 6048 0710              |
| Q13       | " , 2SC1312Y-G                            | 6048 0450              |
| Q14       | " , 2SC1211-D                             | 6048 0080              |
| Q15, 16   | " , 2SD361-D                              | 6048 0560              |
| Q17, 18   | " , 2SC1312Y-G                            | 6048 0450              |
| D1, 2     | Diode, 1S953                              | 5042 2720              |
| D3, 4     | " , 1N60                                  | 5042 2130              |
| D5        | " , RD-11A                                | 6048 3170              |
| D6~9      | " , 1S953                                 | 5042 2720              |
| D10       | " , Varistor, M-8513AR                    | 6048 3450              |
| D11, 12   | " , 1N60                                  | 5042 2130              |
| D13, 14   | " , 1N4002                                | 6048 3270              |
|           | Heat sink                                 | 6037 1660              |
| T1        | Transformer, step-up                      | 6046 6211              |
| T2        | " , inter-stage, MC124                    | 6046 6080              |
| T3        | " , output                                | 6046 6182              |
| K1, 2     | Relay, 24V, LZ-2                          | 6047 0100              |
| L1~3      | Coil, trap                                | 5056 6560              |
| R101, 102 | Pot, trim, SR29R, 6.8K $\Omega$ , taper B | 6041 0160              |
| R103, 104 | " , " , " , 10K $\Omega$ , "              | 5053 3910              |
| R105      | " , " , SR19R, 22K $\Omega$ , "           | 5053 3560              |
| R106, 107 | " , " , SR29R, 22K $\Omega$ , "           | 5053 3920              |
| R108      | " , " , " , 3.3K $\Omega$ , "             | 6041 0150              |
| R109      | " , " , " , 470 $\Omega$ , "              | 6041 0130              |
| R110      | " , " , " , 10K $\Omega$ , "              | 5053 3910              |

PARTS LIST, PC CARD  
Rec/repro amp PCB ass'y  
REV. \_\_\_\_\_



| Ref. No. | Description                                   | Parts No. |
|----------|-----------------------------------------------|-----------|
| R111     | Pot, trim, SR29R, 1K $\Omega$ , taper B       | 5053 3950 |
| R112     | " , " , PNB04C3A-503V, 50K $\Omega$ , taper B | 6041 0070 |
| J1~3     | Jack, pin, SMK S-Q3056                        | 6052 0880 |
| J4, 5    | Plug, connector, PC mtg., SMK 48-0008         | 6052 1720 |
| R 1      | Resistor, carbon, 1K $\Omega$                 |           |
| R 2      | " , " , 47K $\Omega$                          |           |
| R 3      | " , " , 22K $\Omega$                          |           |
| R 4      | " , " , 150K $\Omega$                         |           |
| R 5      | " , " , 1K $\Omega$                           |           |
| R 6      | " , " , 820K $\Omega$                         |           |
| R 7      | " , " , 1.5K $\Omega$                         |           |
| R 8      | " , " , 1.5K $\Omega$                         |           |
| R 9      | " , " , 100K $\Omega$                         |           |
| R10      | " , " , 100K $\Omega$                         |           |
| R11      | " , " , 100K $\Omega$                         |           |
| R12      | " , " , 150K $\Omega$                         |           |
| R13      | " , " , 100K $\Omega$                         |           |
| R14      | " , " , 100K $\Omega$                         |           |
| R15      | " , " , 2.2K $\Omega$                         |           |
| R16      | " , " , 100K $\Omega$                         |           |
| R17      | " , " , 10K $\Omega$                          |           |
| R18      | " , " , 39K $\Omega$                          |           |
| R19      | " , " , 47K $\Omega$                          |           |
| R20      | " , " , 47K $\Omega$                          |           |
| R21      | " , " , 150K $\Omega$                         |           |
| R22      | " , " , 1K $\Omega$                           |           |
| R23      | " , " , 33K $\Omega$                          |           |
| R24      | " , " , 680 $\Omega$                          |           |
| R25      | " , " , 180K $\Omega$                         |           |
| R26      | " , " , 56K $\Omega$                          |           |
| R27      | " , " , 2.2K $\Omega$                         |           |
| R28      | " , " , 150 $\Omega$                          |           |
| R29      | " , " , 1K $\Omega$                           |           |
| R30      | " , " , 220 $\Omega$                          |           |

All resistors  $\frac{1}{4}$ W,  $\pm 5\%$  unless otherwise specified.

PARTS LIST, PC CARD  
 Rec/repro amp PCB ass'y  
 REV. \_\_\_\_\_

| Ref. No. | Description                     | Parts No. |
|----------|---------------------------------|-----------|
| R31      | Resistor, carbon, 2.2K $\Omega$ |           |
| R32      | " , " , 2.2K $\Omega$           |           |
| R33      | " , " , 27K $\Omega$            |           |
| R34      | " , " , 47K $\Omega$            |           |
| R35      | " , " , 1K $\Omega$             |           |
| R36      | " , " , 470 $\Omega$            |           |
| R37      | " , " , 270 $\Omega$            |           |
| R38      | " , " , 22K $\Omega$            |           |
| R39      | " , " , 82K $\Omega$            |           |
| R40      | " , " , 1K $\Omega$             |           |
| R41      | " , " , 33K $\Omega$            |           |
| R42      | " , " , 47K $\Omega$            |           |
| R43      | " , " , 47K $\Omega$            |           |
| R44      | " , " , 100K $\Omega$           |           |
| R45      | " , " , 3.3K $\Omega$           |           |
| R46      | " , " , 3.3K $\Omega$           |           |
| R47      | " , " , 47K $\Omega$            |           |
| R48      | " , " , 1K $\Omega$             |           |
| R49      | " , " , 1K $\Omega$             |           |
| R50      | " , " , 220K $\Omega$           |           |
| R51      | " , " , 33K $\Omega$            |           |
| R52      | " , " , 3.3K $\Omega$           |           |
| R53      | " , " , 39K $\Omega$            |           |
| R54      | " , " , 390K $\Omega$           |           |
| R55      | " , " , 100 $\Omega$            |           |
| R56      | " , " , 100 $\Omega$            |           |
| R57      | " , " , 10K $\Omega$            |           |
| R58      | " , " , 100 $\Omega$            |           |
| R59      | " , " , 1K $\Omega$             |           |
| R60      | " , " , 56K $\Omega$            |           |
| R61      | " , " , 12K $\Omega$            |           |
| R62      | " , " , 470 $\Omega$            |           |
| R63      | " , " , 10K $\Omega$            |           |
| R64      | " , " , 4.7K $\Omega$           |           |
| R65      | " , " , 100 $\Omega$            |           |

All resistors  $\frac{1}{4}$ W,  $\pm 5\%$  unless otherwise specified.

PARTS LIST, PC CARD  
 Rec/repro amp PCB ass'y  
 REV. \_\_\_\_\_

| Ref. No. | Description                         | Parts No. |
|----------|-------------------------------------|-----------|
| R66      | Resistor, carbon, 22K $\Omega$      |           |
| R67      | " , " , 100K $\Omega$               |           |
| R68      | " , " , 27K $\Omega$                |           |
| R69      | " , " , 2.2K $\Omega$               |           |
| R70      | " , " , 150 $\Omega$                |           |
| R71      | " , " , 4.7K $\Omega$               |           |
| R72      | (deleted)                           |           |
| R73      | " , " , 390 $\Omega$                |           |
| R74      | " , " , 10 $\Omega$                 |           |
| R75      | " , " , 10 $\Omega$                 |           |
| R76      | " , " , 6.8K $\Omega$               |           |
| R77      | " , " , 12K $\Omega$                |           |
| R78      | " , " , 12K $\Omega$                |           |
| R79      | " , " , 12K $\Omega$                |           |
| R80      | " , " , 12K $\Omega$                |           |
| R81~87   | " , " , 4.7K $\Omega$               |           |
| R88      | " , " , 33K $\Omega$                |           |
| R89      | " , " , 4.7K $\Omega$               |           |
| R90      | " , " , 2.2K $\Omega$               |           |
| R91      | " , " , 3.9K $\Omega$               |           |
| R92      | " , " , 6.8K $\Omega$               |           |
| R93      | " , " , 100K $\Omega$               |           |
| C 1      | Capacitor, Polystyrene, 50V, 1000pF | 6043 5340 |
| C 2      | " , electrolytic, 16V, 10uF*        | 6043 1770 |
| C 3, 4   | " , " , " , "                       | 5055 4050 |
| C 5      | " , Mylar, 50V, 0.012uF             | 6044 7330 |
| C 6      | " , electrolytic, 16V, 10uF         | 5055 4050 |
| C 7, 8   | " , " , 25V, 2.2uF                  | 5055 4940 |
| C 9, 10  | " , " , " , 0.47uF                  | 5055 4430 |
| C11      | " , " , 50V, 2.2uF*                 | 6043 1780 |
| C12      | " , " , 16V, 10uF                   | 5055 4050 |
| C13      | " , " , " , 22uF                    | 5055 4880 |
| C14      | " , " , " , 10uF*                   | 6043 1770 |
| C15      | " , Polystyrene, 50V, 1000pF        | 6043 5340 |

All resistors  $\frac{1}{4}$ W,  $\pm 5\%$  unless otherwise specified.

\* = Indicates low leakage capacitors.

PARTS LIST, PC CARD  
Rec/repro amp PCB ass'y  
REV. \_\_\_\_\_



| Ref. No. | Description                         | Parts No. |
|----------|-------------------------------------|-----------|
| C16      | Capacitor, electrolytic, 25V, 100uF | 5055 4170 |
| C17      | " , " , 16V, 10uF                   | 5055 4050 |
| C18      | " , " , 25V, 2.2uF                  | 5055 4940 |
| C19      | " , " , 6.3V, 47uF                  | 5055 4030 |
| C20      | " , " , 25V, 4.7uF                  | 5055 4530 |
| C21      | " , " , 25V, 2.2uF                  | 5055 4940 |
| C22      | " , " , 50V, 2.2uF*                 | 6043 1780 |
| C23      | " , " , 16V, 10uF                   | 5055 4050 |
| C24      | " , " , " , 47uF                    | 5055 4010 |
| C25      | " , Polystyrene, 50V, 330pF         | 6043 5520 |
| C26      | " , Mylar, 50V, 0.0033uF            | 6044 5190 |
| C27      | " , Dipped Tantalum, 35V, 0.47uF    | 6043 1960 |
| C28, 29  | " , electrolytic, 16V, 10uF         | 5055 4050 |
| C30      | " , " , 6.3V, 47uF                  | 5055 4030 |
| C31      | " , " , 25V, 100uF                  | 5055 4170 |
| C32      | " , " , 16V, 10uF*                  | 6043 1770 |
| C33      | " , Polystyrene, 50V, 820pF         | 6043 5020 |
| C34      | " , " , 25V, 1000pF                 | 6044 7610 |
| C35, 36  | " , Mylar, 50V, 0.01uF              | 6044 5370 |
| C37      | " , solid Tantalum, 16V, 22uF       | 6043 2070 |
| C38      | " , " , " , 10uF                    | 5055 4050 |
| C39      | " , Mylar, 50V, 0.01uF              | 6044 5370 |
| C40      | " , electrolytic, 25V, 1uF          | 5055 4670 |
| C41      | " , Mylar, 50V, 0.047uF             | 6044 5410 |
| C42      | " , electrolytic, 25V, 47uF         | 5055 4020 |
| C43      | " , Mylar, 50V, 0.0027uF            | 6044 7290 |
| C44      | " , electrolytic, 25V, 100uF        | 5055 4170 |
| C45      | " , Mylar, 250V, 0.022uF            | 6044 6550 |
| C46~48   | " , " , 50V, 0.001uF                | 6044 5160 |
| C49      | " , electrolytic, 25V, 4.7uF        | 5055 4530 |
| C50; 51  | " , Mylar, 50V, 0.001uF             | 6044 5160 |
| C52      | " , " , " , 0.01uF                  | 6044 5370 |
| C53      | " , electrolytic, 16V, 22uF         | 5055 4880 |
| C54      | " , solid Tantalum, 6.3V, 47uF      | 6043 1920 |
| C55      | " , " , 25V, 10uF                   | 5055 4040 |
| C56      | " , " , 16V, 10uF                   | 5055 4030 |

\* = Indicates low leakage capacitors.

PARTS LIST, PC CARD  
Rec/repro amp PCB ass'y  
REV. \_\_\_\_\_

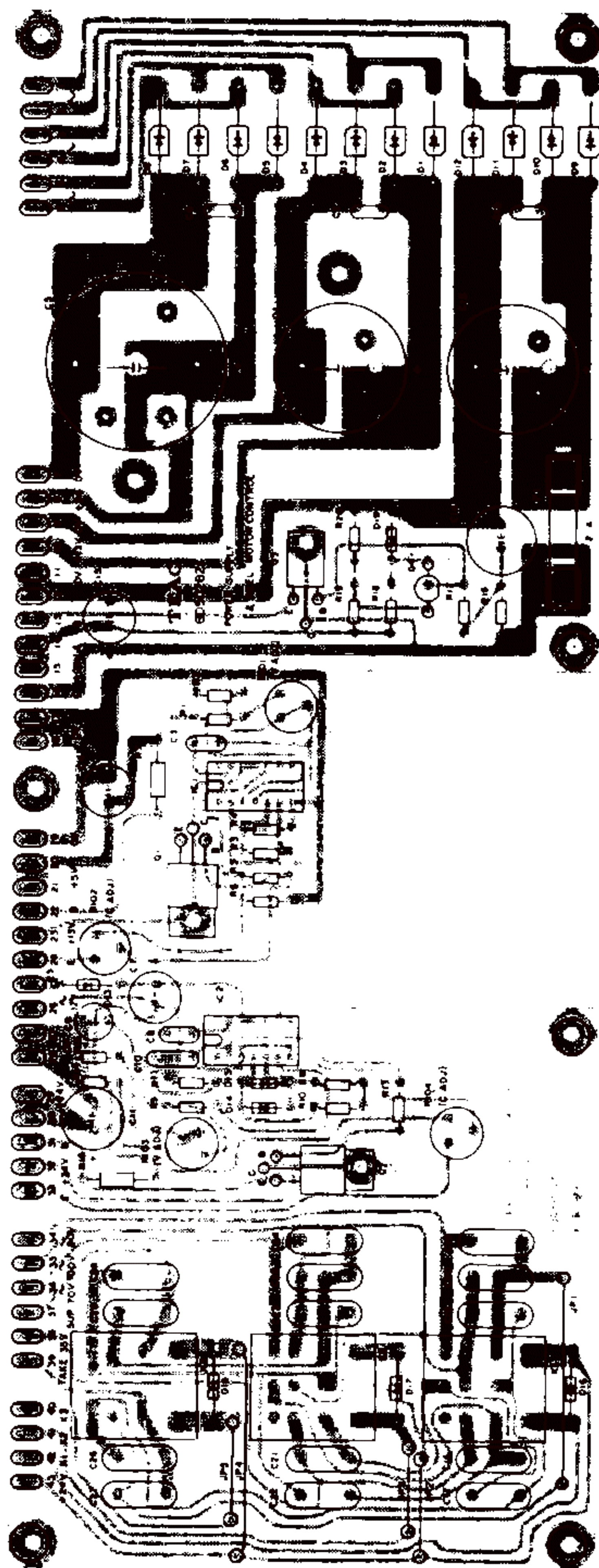
## 7.7 Peak indicator PCB assembly



| Title                       |                                           | Assembly No. |
|-----------------------------|-------------------------------------------|--------------|
| Peak Indicator PCB Assembly |                                           | 6085 2540    |
| Ref. No.                    | Description                               | Parts No.    |
|                             | PCB, peak indicator                       | 6050 3080    |
| D1~D4                       | LED, Stanley GD-4 203SRG                  | 5042 5110    |
| PL1~PL4                     | Lamp, sub-miniature incand., BQ041-23003A | 6046 8080    |
|                             | Grommet, lamp mount                       | 5083 4240    |

PARTS LIST, PC CARD  
Peak indicator PCB  
REV. \_\_\_\_\_







| Title    | Power Supply and Reel Motor Control PCB Ass'y | Assembly No. 6080 0280 |
|----------|-----------------------------------------------|------------------------|
| Ref. No. | Description                                   | Parts No.              |
|          | Power supply and reel motor control PCB       | 6050 2821              |
| K 1, 2   | Relay, w/PC mtg. socket, MY3PY-1-0, DC 24V    | 6047 0360              |
| K 3      | " , " " " , MY2PY-1-0, "                      | 5061 0950              |
|          | Fuse holder, S-N5054                          | 6052 9020              |
| F 1      | Fuse, glass tubular, 6φX30, 2A                | 5041 1140              |
| IC 1, 2  | Integrated circuit, uA723DC                   | 6048 6060              |
| Q 1, 2   | Transistor, 2SD234-(0)                        | 6048 0680              |
| Q 3      | " , 2SC495-(0)                                | 6048 0690              |
| Q 4      | " , 2SC1312Y-G                                | 6048 0450              |
| D 1~12   | Diode, P-300D4                                | 6048 3290              |
| D13      | " , 1N4002                                    | 6048 3270              |
| D14, 15  | " , 1S953                                     | 5042 2720              |
| D16~18   | " , 1N4002                                    | 6048 3270              |
| D19      | " , Zener, RD-9A                              | 6048 3350              |
| R 1      | Resistor, carbon, 750Ω                        |                        |
| R 2      | " , " , 2.7KΩ                                 |                        |
| R 3      | " , " , 1KΩ                                   |                        |
| R 4      | " , " , 1.2KΩ                                 |                        |
| R 5      | " , " , 100Ω                                  |                        |
| R 6      | " , " , 47KΩ                                  |                        |
| R 7      | " , " , 100Ω, 1/2W, ±5%                       |                        |
| R 8~11   | " , " , 3.3KΩ                                 |                        |
| R12      | " , " , 18KΩ                                  |                        |
| R13      | " , " , 100Ω                                  |                        |
| R14      | " , " , 47KΩ                                  |                        |
| R15      | " , " , 100Ω, 1/2W, ±5%                       |                        |
| R16      | " , " , 1KΩ                                   |                        |
| R17      | " , " , 202Ω                                  |                        |
| R18      | " , " , 3.6KΩ                                 |                        |
| R19      | " , " , 4.7KΩ                                 |                        |
| R20      | " , " , 2.2KΩ                                 |                        |

All resistors 1/4W, ±5% unless otherwise specified.

PARTS LIST, PC CARD  
Pwr supp. & reel motor cont. PCB  
REV. \_\_\_\_\_

| Ref. No. | Description                          | Parts No.    |
|----------|--------------------------------------|--------------|
| C 1      | Capacitor, electrolytic, 25V, 4700uF | 6043 1930    |
| C 2      | " , ceramic, 500V, 0.01uF            | 5054 2230    |
| C 3      | " , Mylar, 50V, 0.01uF               | 6044 5370    |
| C 4      | " , electrolytic, 16V, 100uF         | 5055 4200    |
| C 5      | " , " , 63V, 4700uF                  | 6043 1950    |
| C 6      | " , ceramic, 500V, 0.01uF            | 5054 2230    |
| C 7      | " , electrolytic, 25V, 100uF         | 5055 4170    |
| C 8      | " , Mylar, 50V, 0.047uF              | 6044 5410    |
| C 9      | " , electrolytic, 25V, 47uF          | 5055 4020    |
| C10      | " , Mylar, 50V, 0.1uF                | 6044 5550    |
| C11      | " , electrolytic, 35V, 100uF         | 5055 4630    |
| C12      | " , " , 50V, 2200uF                  | 6043 1940    |
| C13      | " , ceramic, 500V, 0.01uF            | 5054 2230    |
| C14      | " , electrolytic, 50V, 100uF         | 5055 4070    |
| C15      | " , " , 50V, 47uF                    | 5055 4580    |
| C16~29   | " , metallized Mylar, 400WV, 0.1uF   | 5054 9920    |
| R101     | Potentiometer, 1K $\Omega$ , taper B | 6041 0120-06 |
| R102     | " , 22K $\Omega$ , "                 | 6041 0120-14 |
| R103     | " , 10K $\Omega$ , "                 | 6041 0120-12 |
| R104     | " , 4.7K $\Omega$ , "                | 6041 0120-10 |

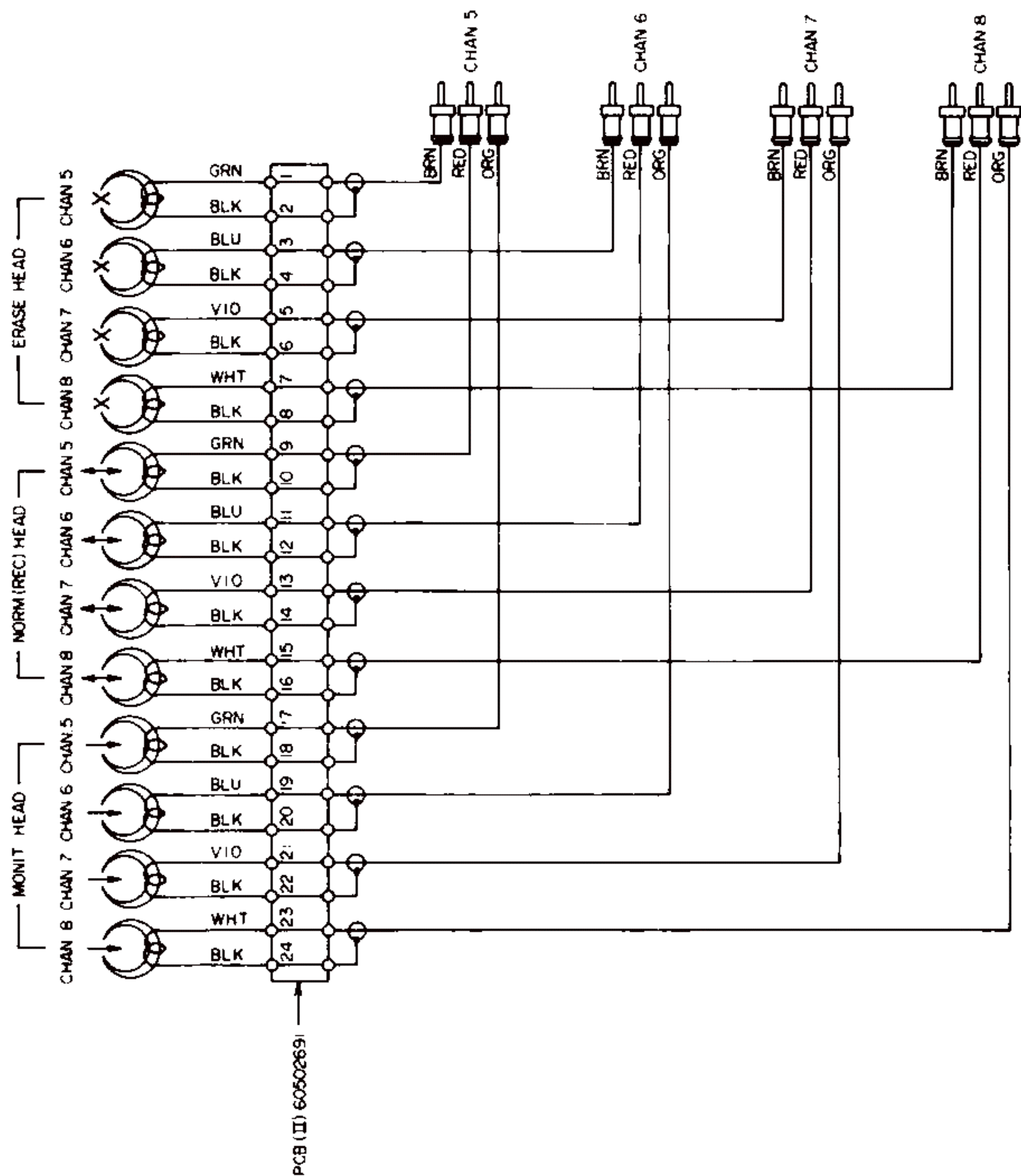
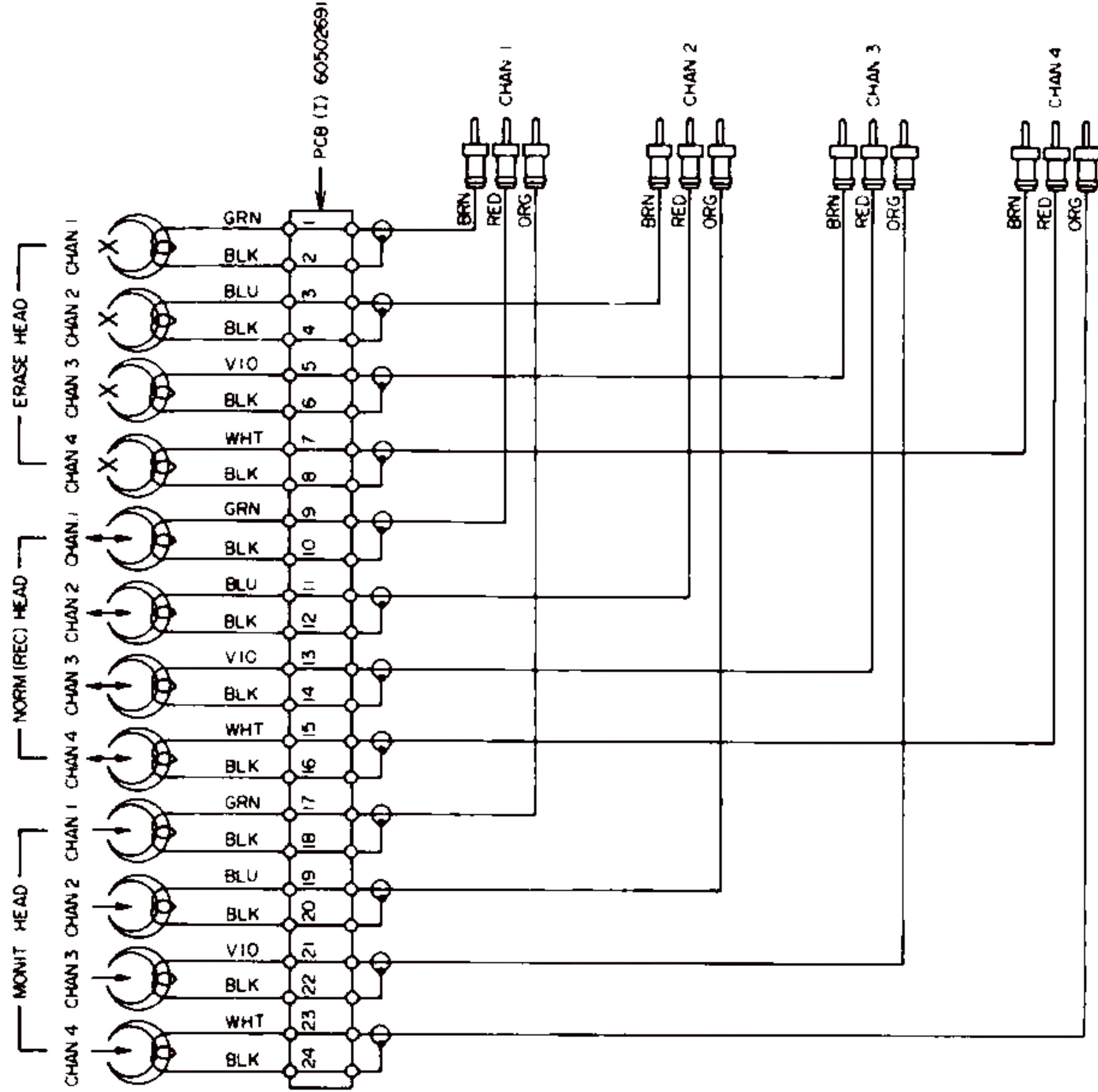
PARTS LIST, PC CARD  
Pwr supp. & reel motor cont. PCB  
REV. \_\_\_\_\_

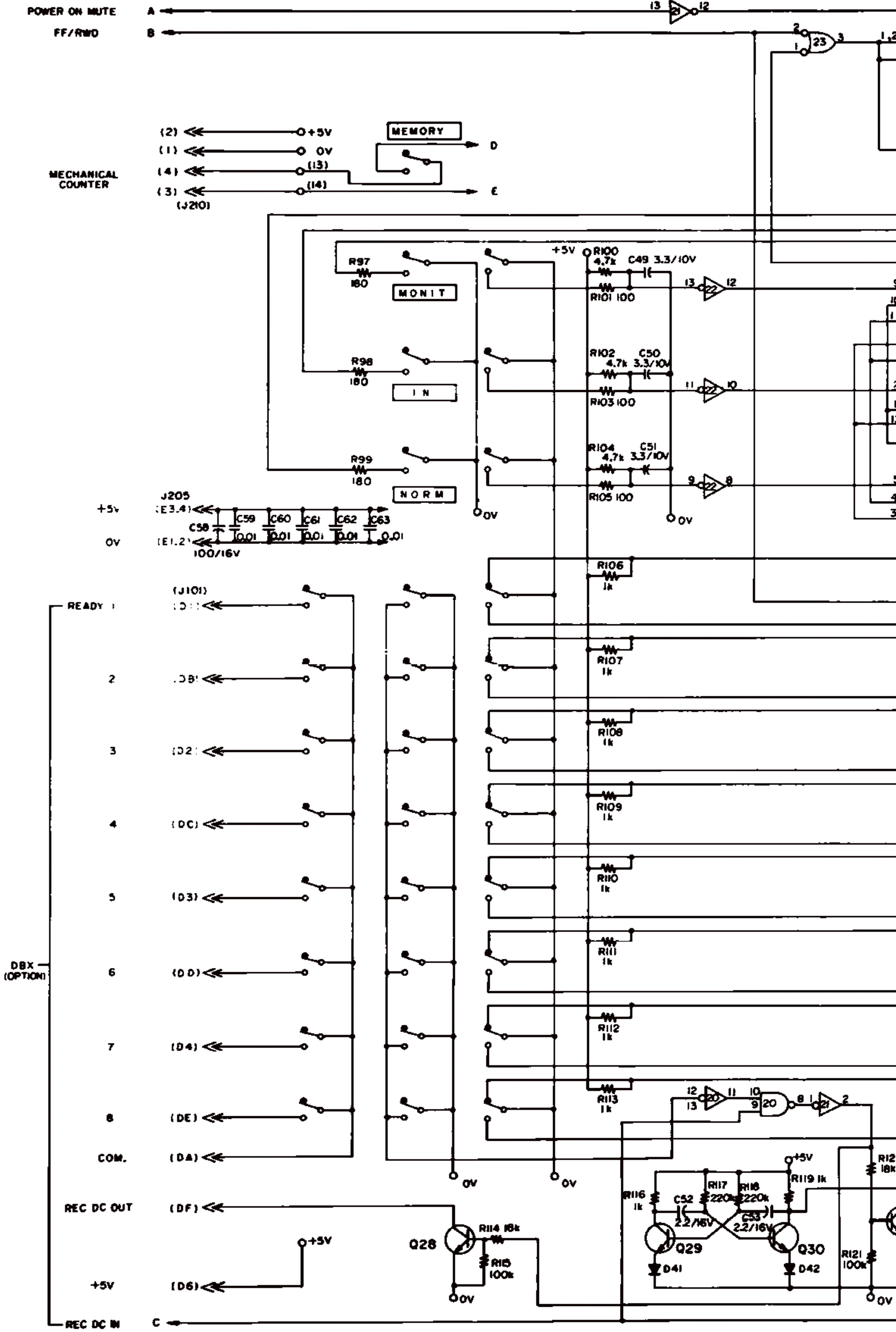
# **SCHEMATICS**

## **TEAC Tascam Series 80-8**

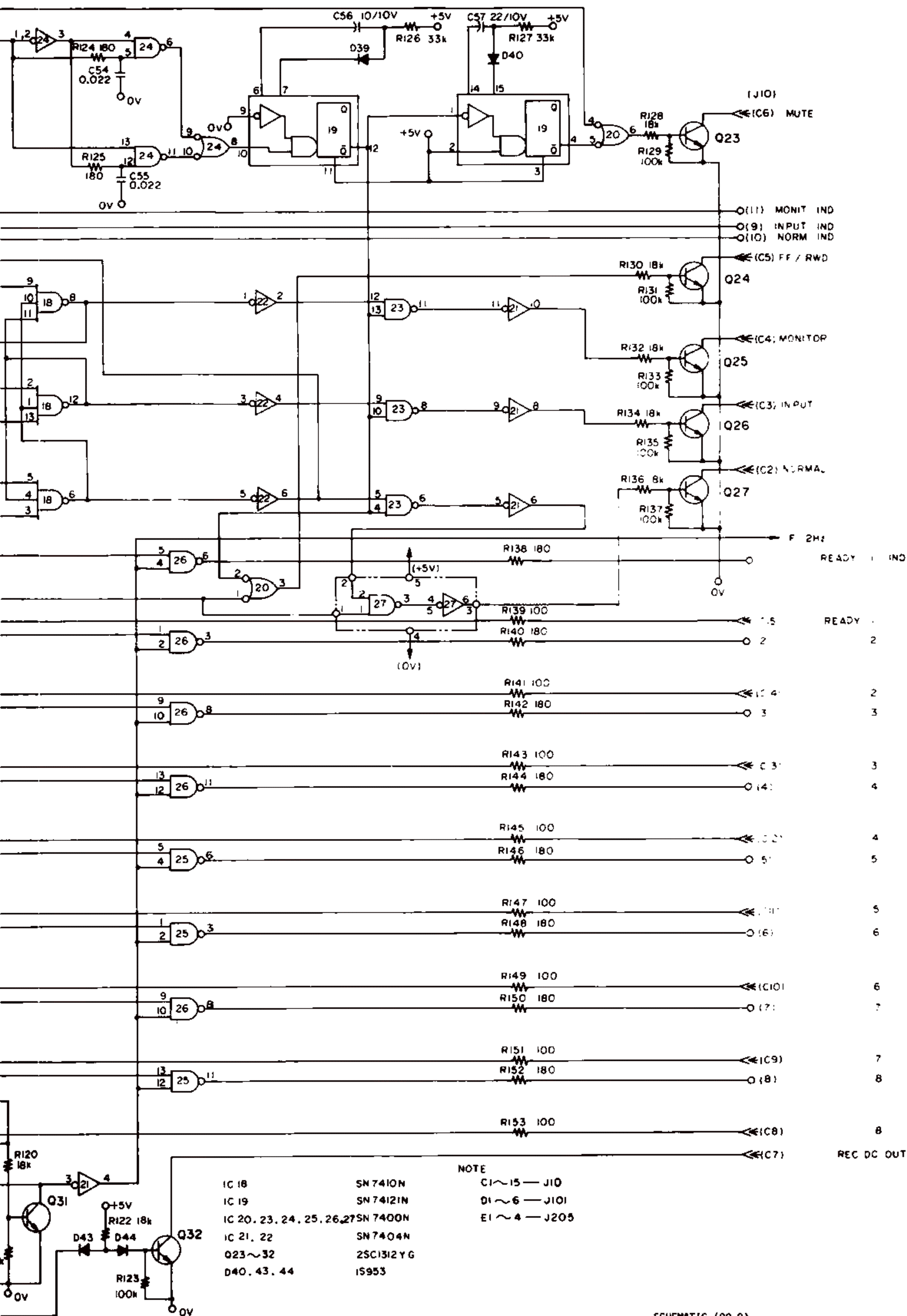
**TEAC<sup>®</sup>**











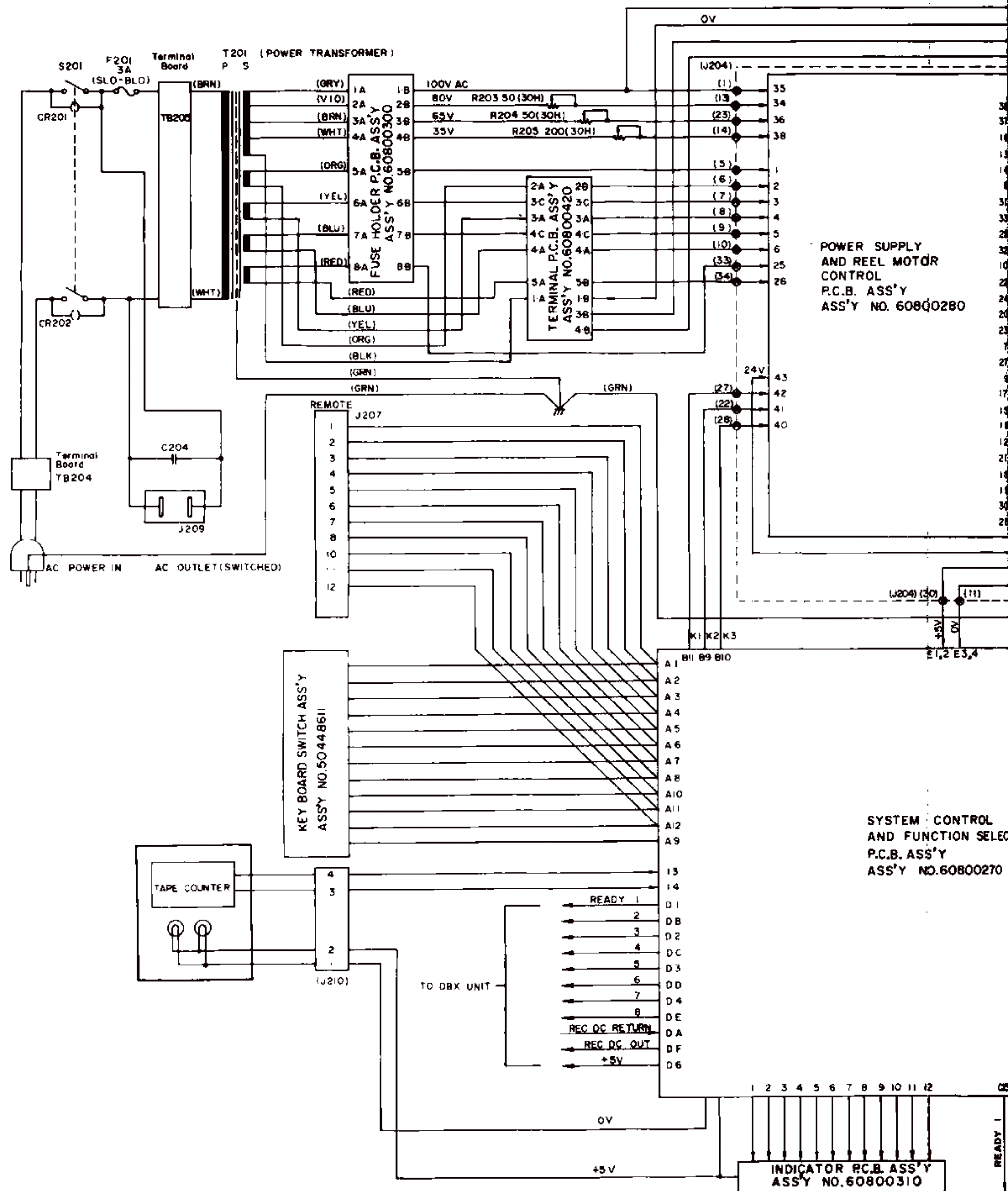
ALL RESISTORS  $\pm 1\%$  UNLESS OTHERWISE INDICATED  
 ALL CAPACITORS IN MFD. AND 50V UNLESS OTHERWISE INDICATED  
 CURVED PLATE OF CAPACITOR SYMBOLS INDICATE NEGATIVE POLARITY

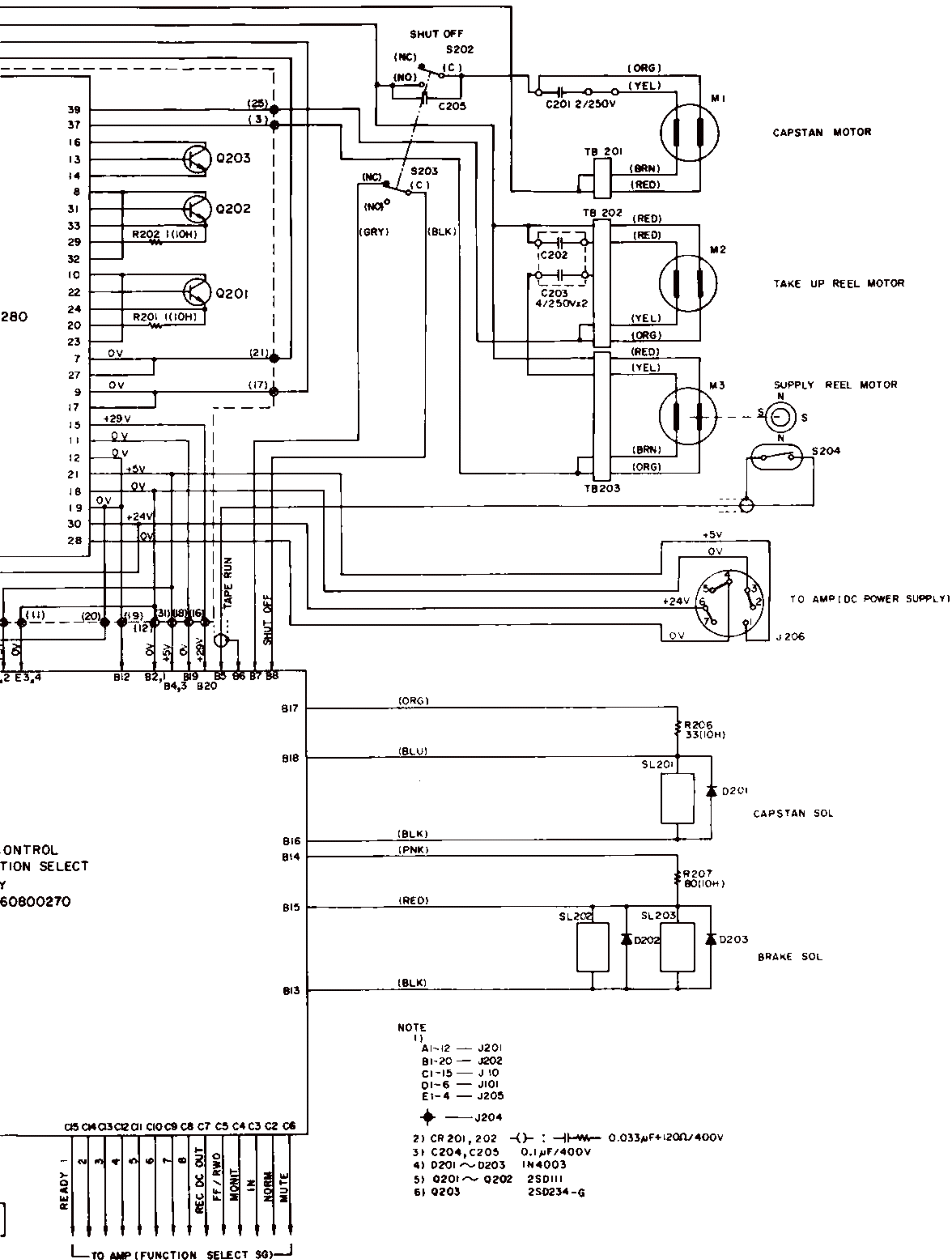


## 8.3





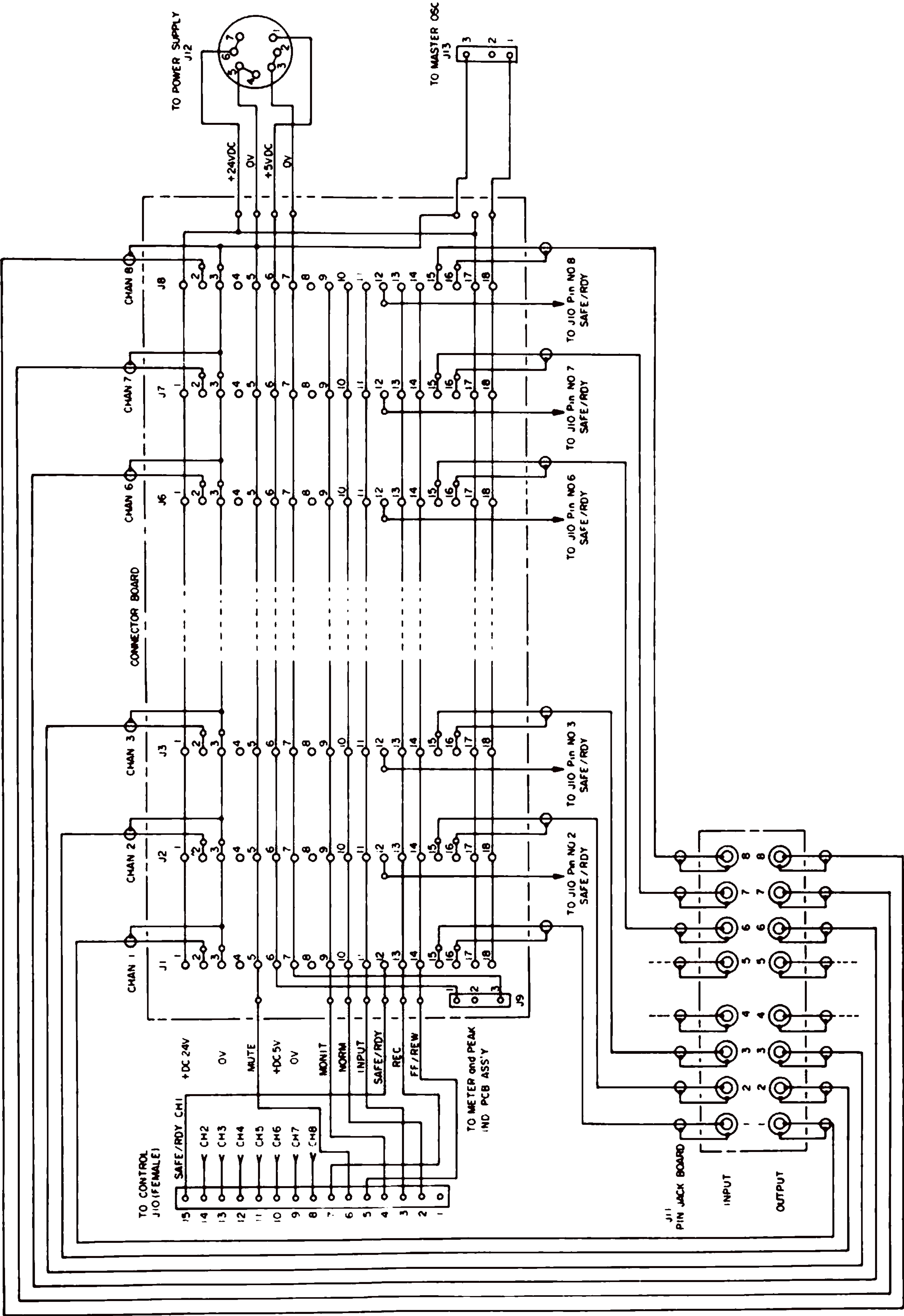




ALL RESISTORS 1W. ±5% UNLESS OTHERWISE INDICATED  
ALL CAPACITORS IN MFD. AND 50WV UNLESS OTHERWISE INDICATED  
CURVED PLATE OF CAPACITOR SYMBOLS INDICATE NEGATIVE POLARITY

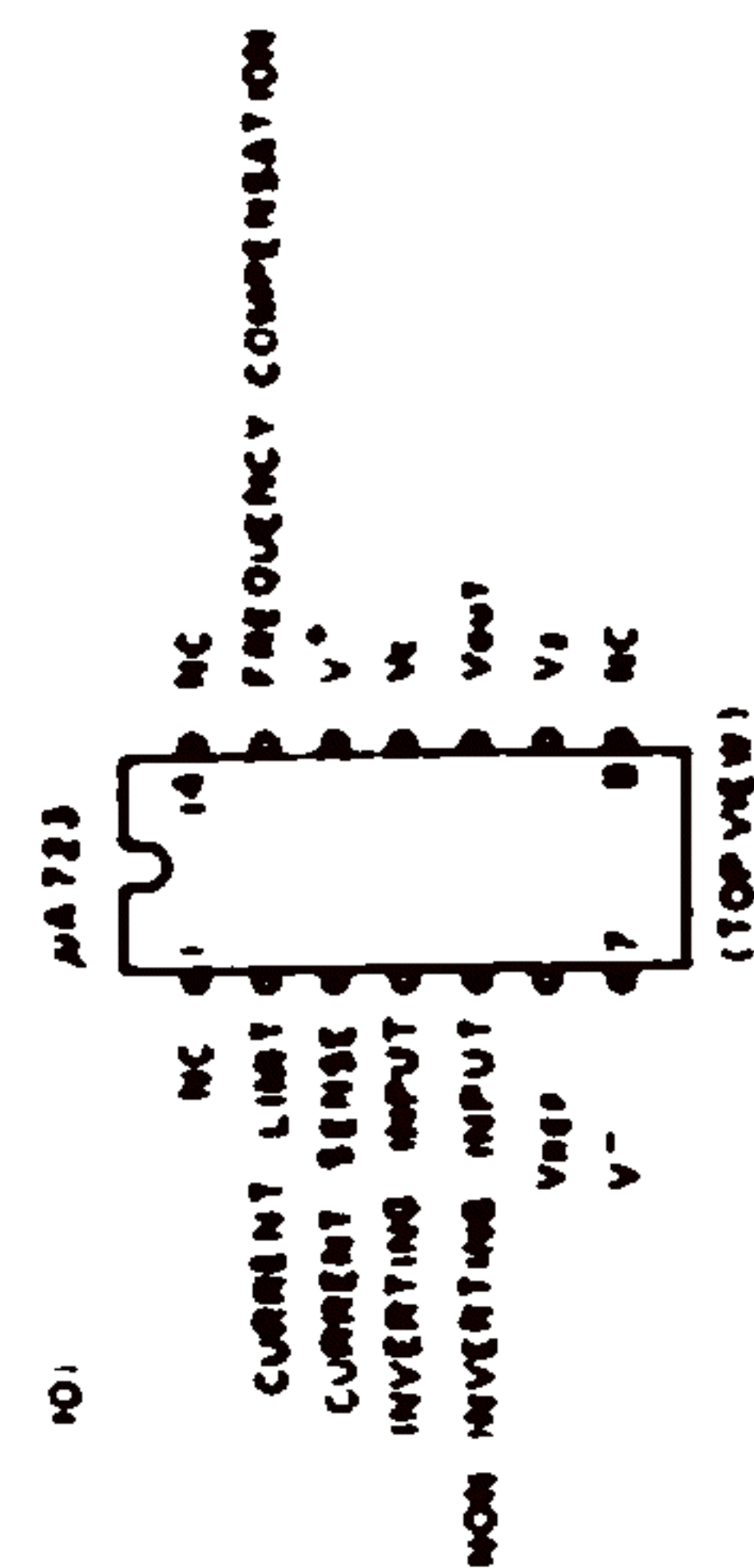
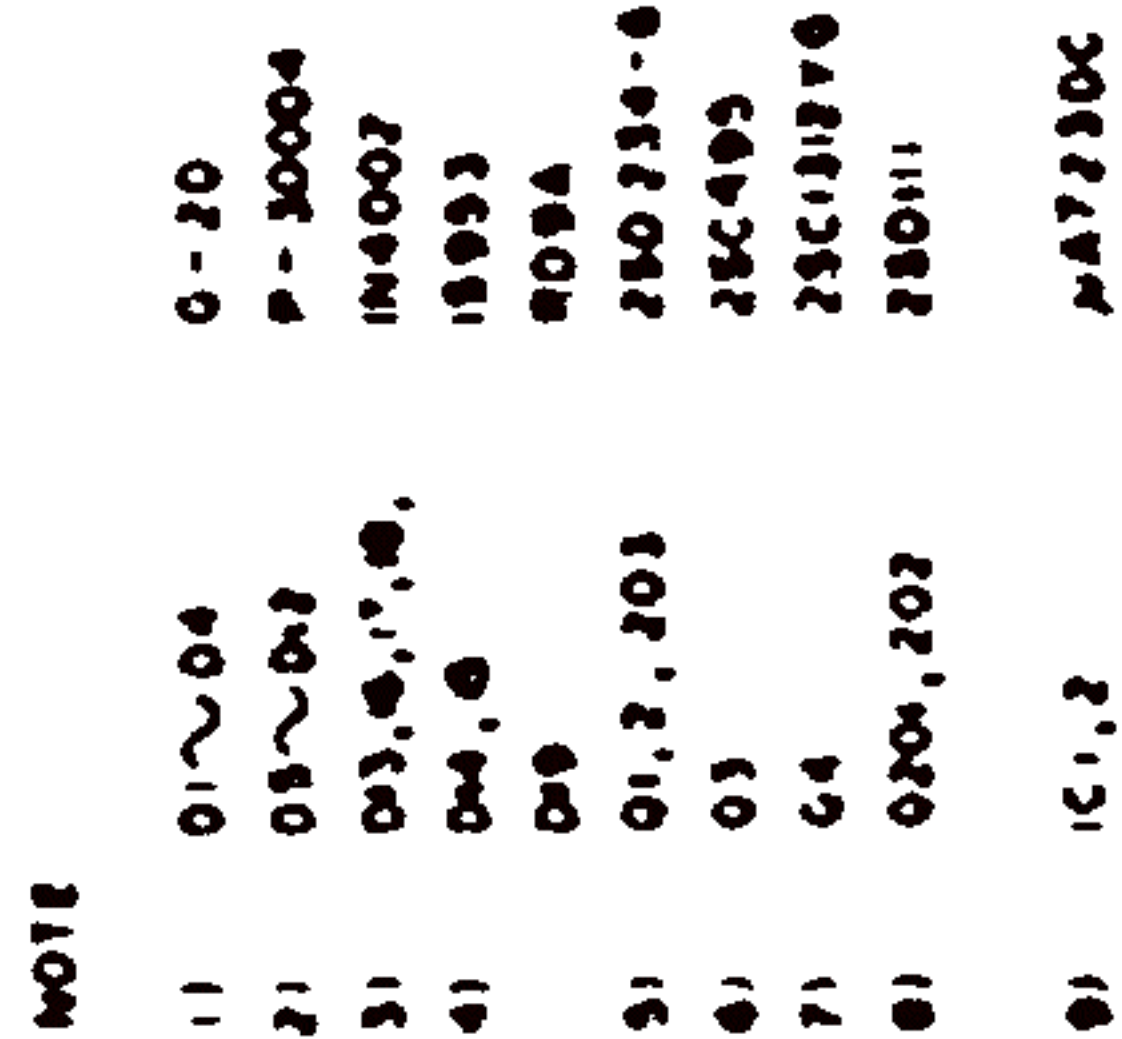
SCHEMATIC (80-8)  
Transport control electronics  
REV. \_\_\_\_\_  
**TEAC CORPORATION**





SCHEMATIC (80-8)  
Connector board ass'y  
REV. \_\_\_\_\_

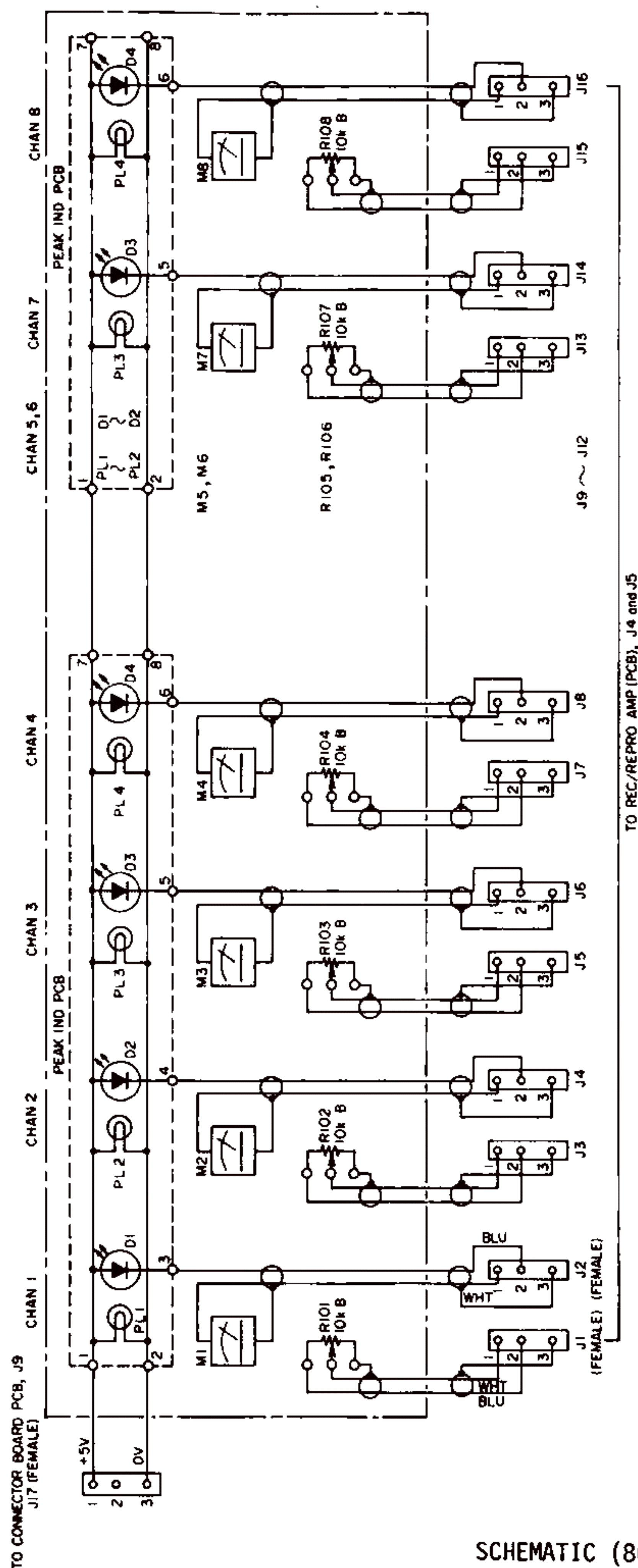




0.1 μs / 400V

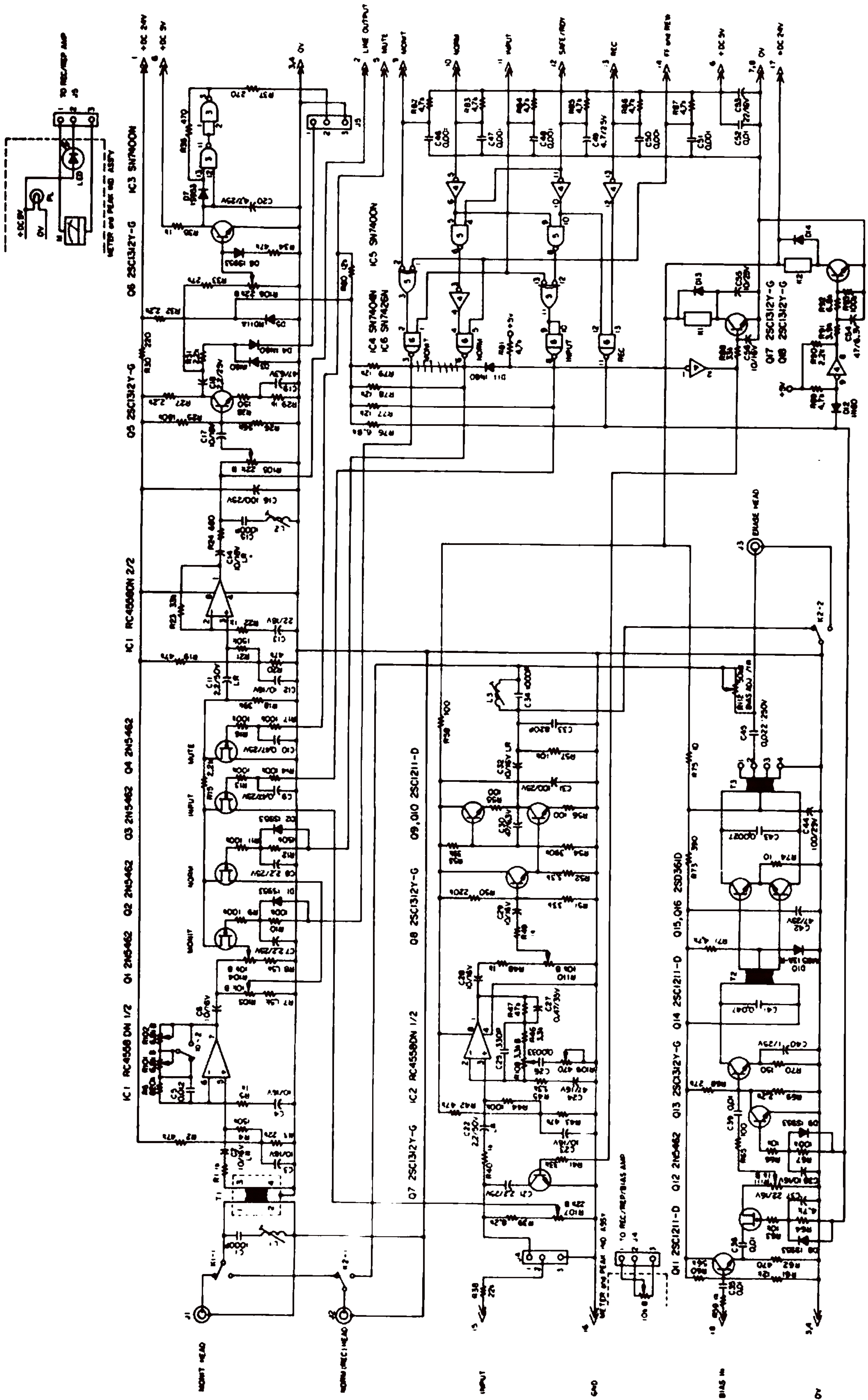
**SCHEMATIC (80-8)**  
**Power supply & reel**  
**motor control**  
**REV.**





SCHEMATIC (80-8)  
Meter & peak indicator ass'y  
REV.





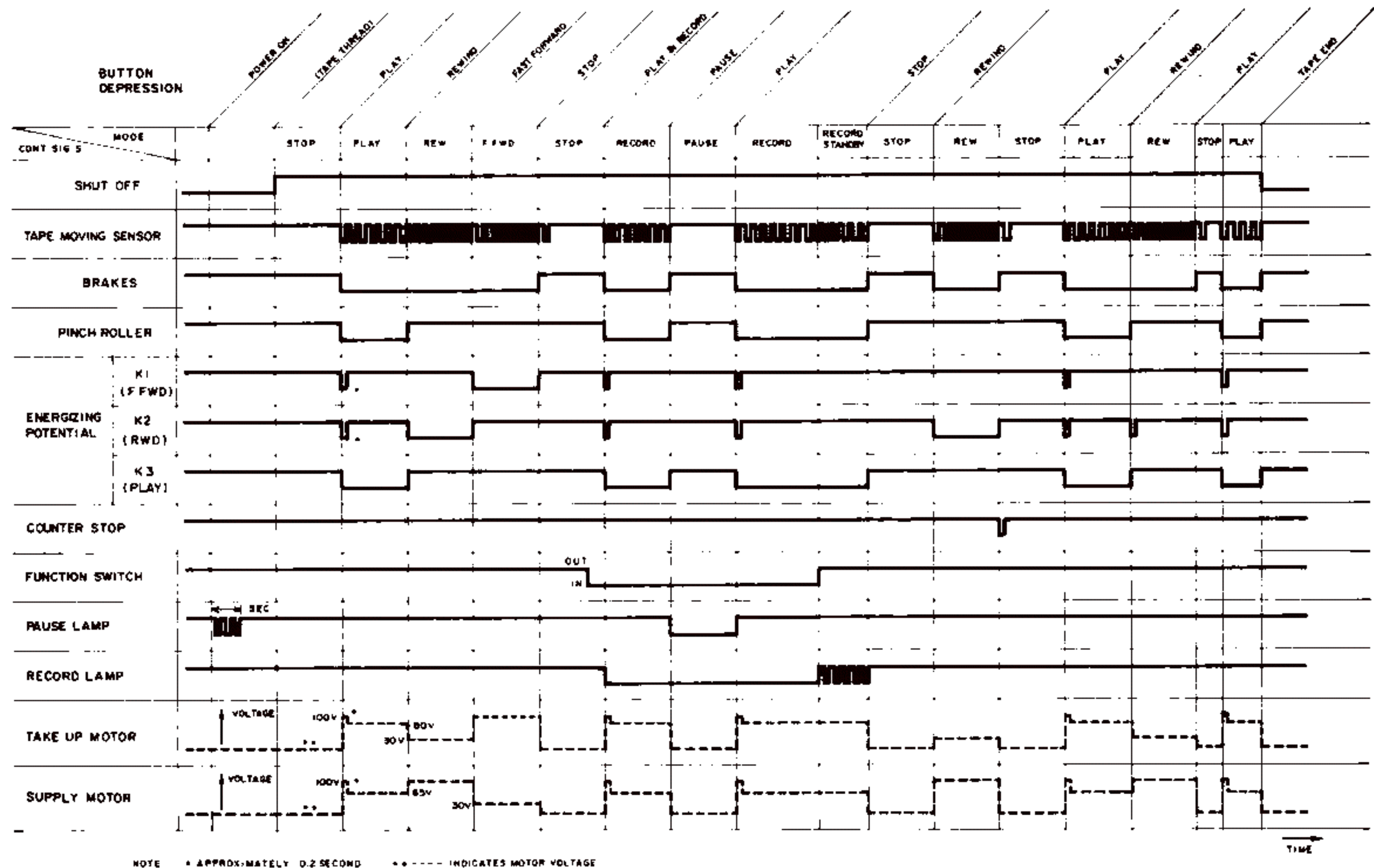
SCHEMATIC (80-8)  
Rec/Repro Amp. PCB ass'y  
REV.



# 9. SYSTEM CONTROL AND SWITCHING SIGNAL TIME CHART

## 9.1 Tape logic control signal

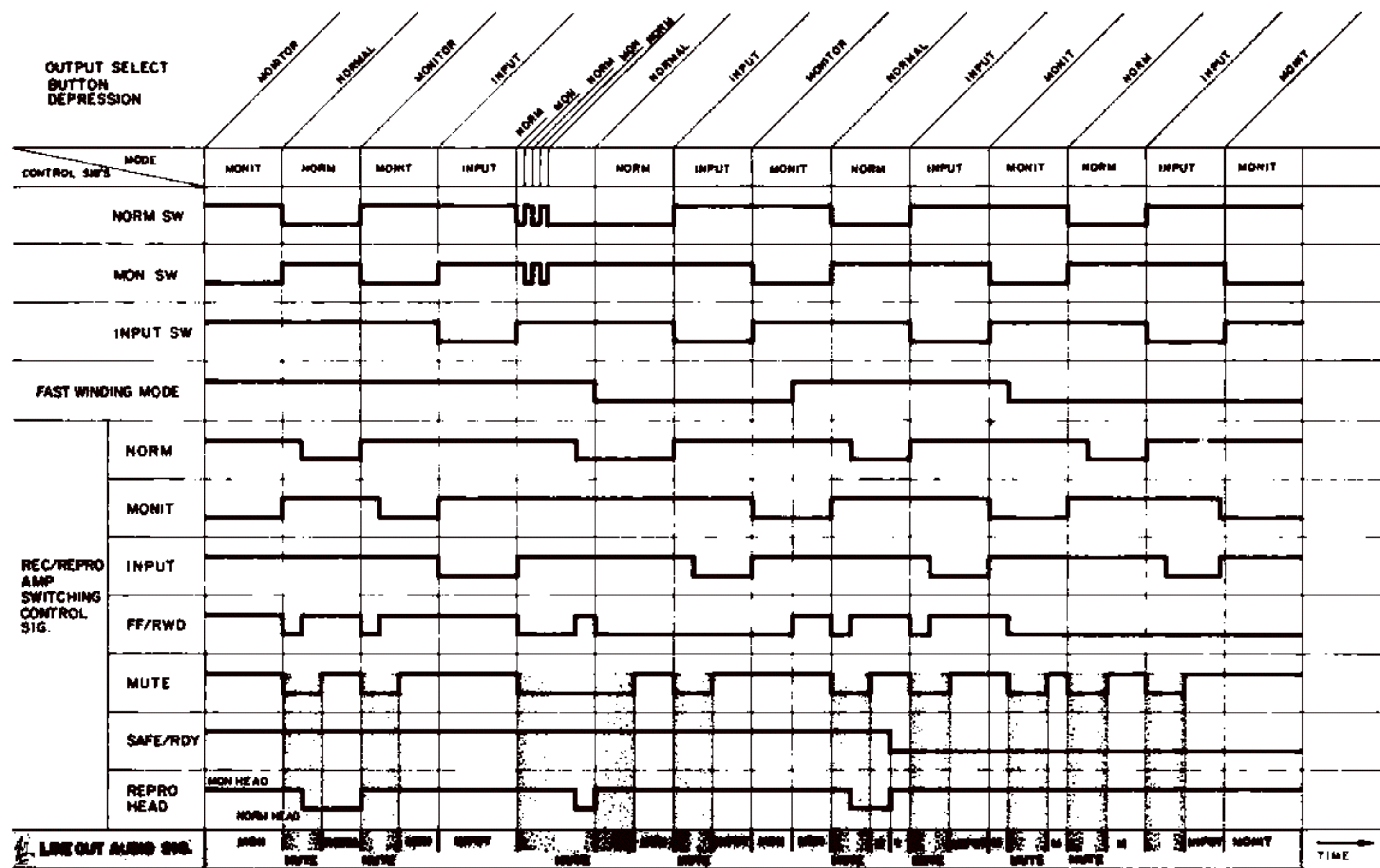
### TAPE LOGIC CONTROL SIGNAL

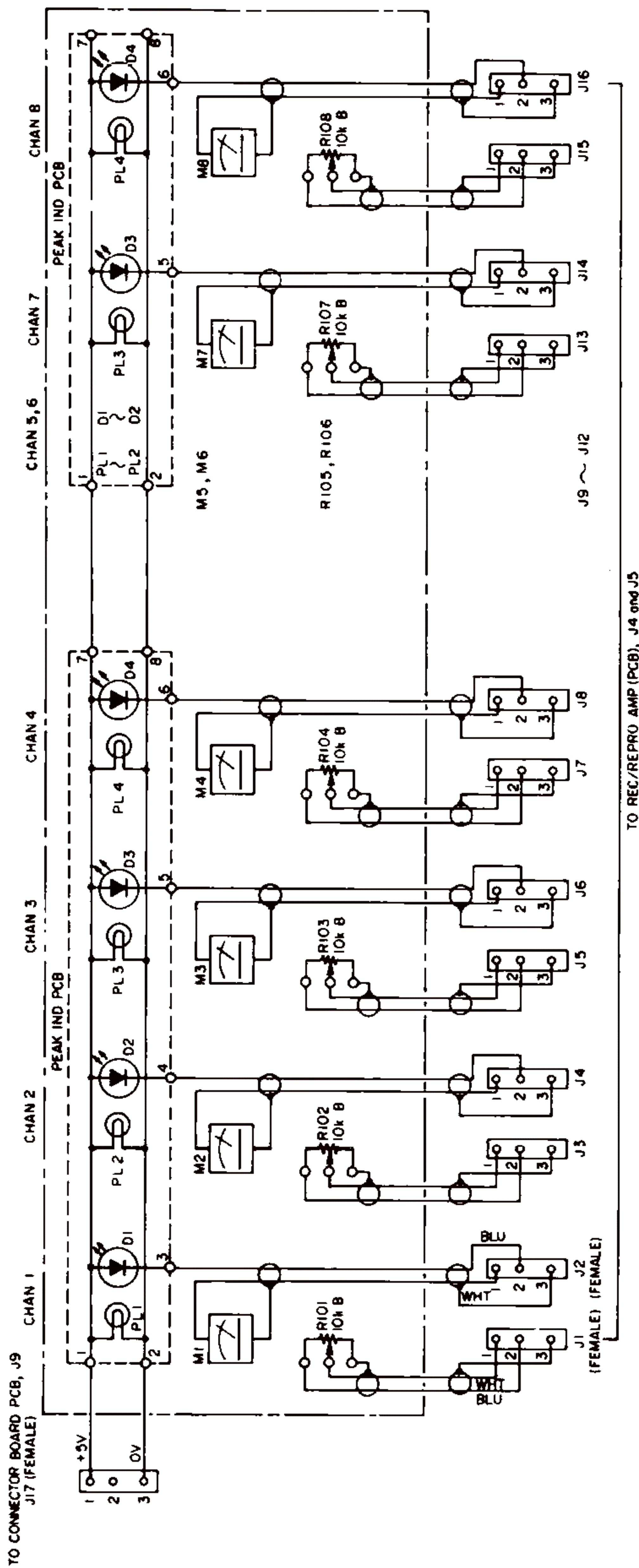




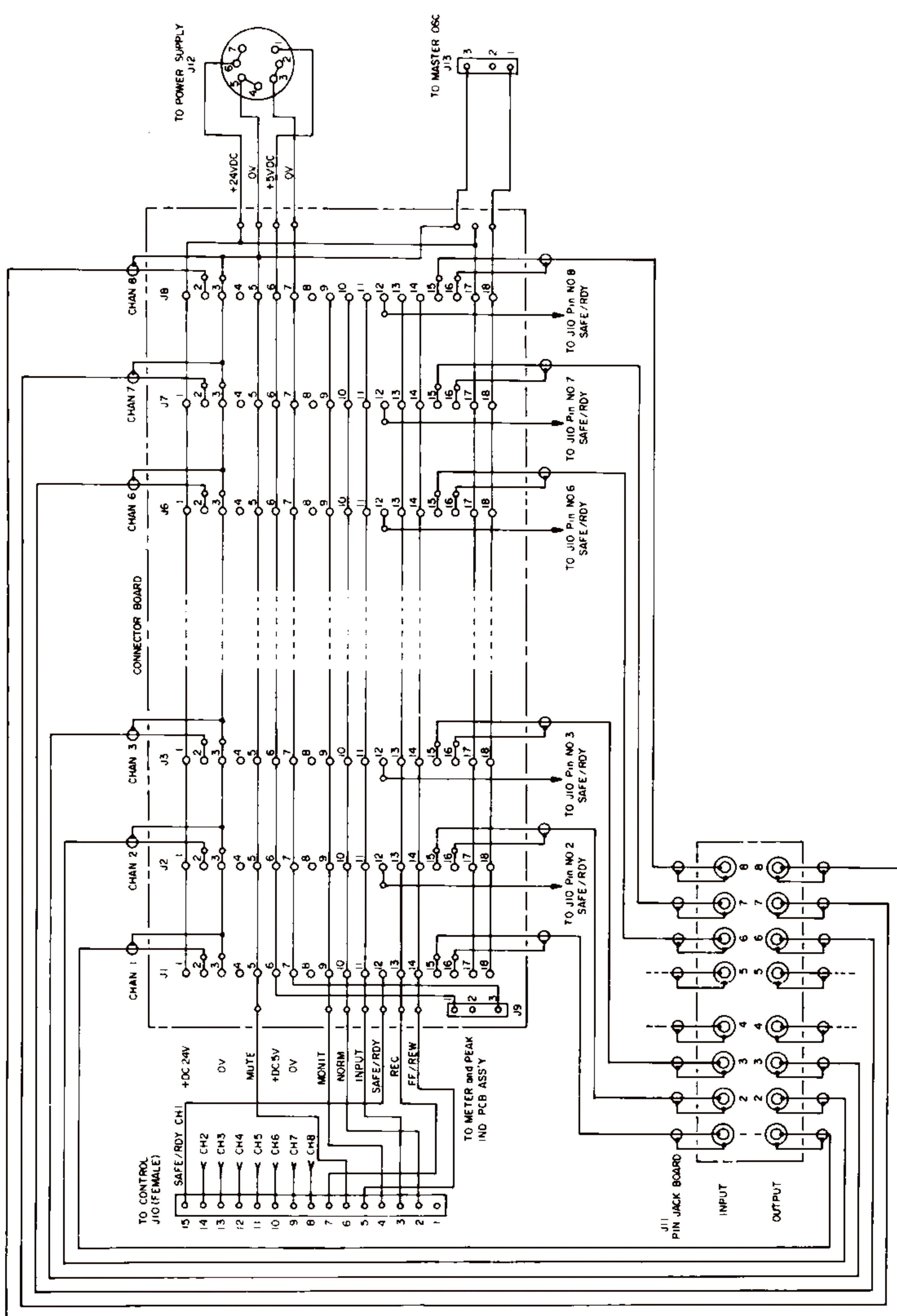
9.2 Audio switching control signal

AUDIO SWITCHING CONTROL SIGNAL



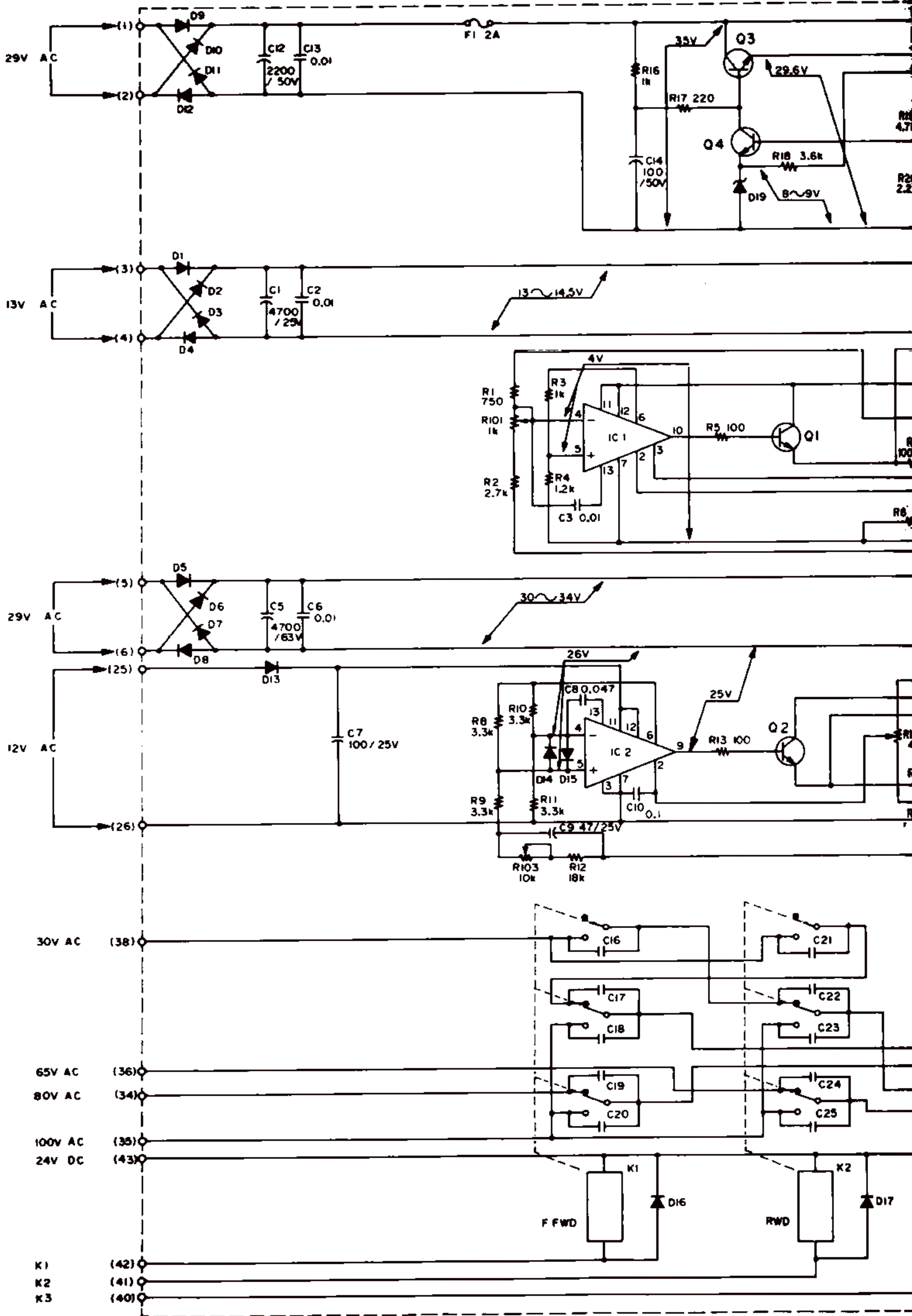






SCHEMATIC (80-8)  
Connector board ass'y  
REV. \_\_\_\_\_

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3-7-3 NAKA-CHO, MUSASHINO, TOKYO PHONE: (0422) 53-1111

**TEAC CORPORATION OF AMERICA**

7733 TELEGRAPH ROAD, MONTEBELLO, CALIFORNIA 90640

PHONE: (213) 726-

**TEAC HONGKONG LIMITED**

FLAT 78, PORTLAND HOUSE, 7TH FLOOR, BLOCK C, No. 41-D, MA TAU WEI ROAD,  
KOWLOON, HONG KONG. PHONE: 3-659