GX-260D

STEREO TONBANDGERÄT

BEDIENUNGSANLEITUNG



AKAI®



GX (Glas-Kristall-Ferrit-Tonköpfe)

AKAI hat die GX-260 D mit den bereits bekannten und bewährten AKAI-GX-Köpfen ausgestattet.

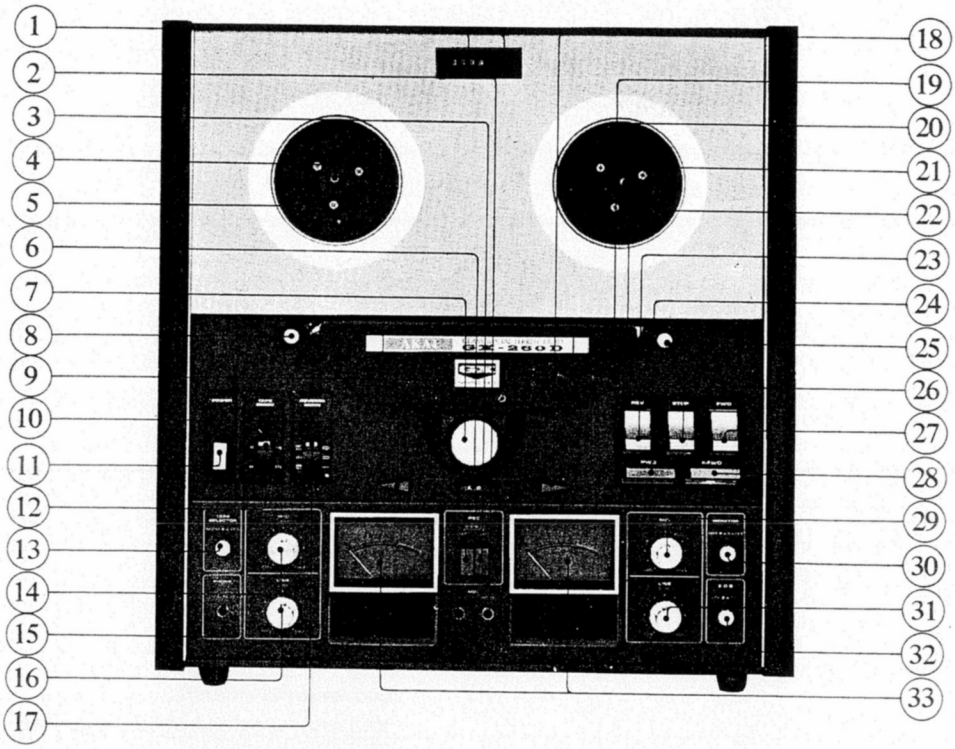
Diese GX-Köpfe bringen eine Reihe von Vorteilen, die den bisher mit starken Problemen behafteten Tonkopf zu einem problemfreien und leistungsstarken Bauteil erheben. Mit den GX-Köpfen ist es möglich, eine Betriebsdauer von ca. 150.000 Betriebsstunden zu erhalten. Während dieser Betriebsdauer ist es bei Verwendung von normalen und guten Tonbändern normalerweise nicht erforderlich, die Köpfe zu reinigen. Außerdem werden die Dynamik und der Frequenzgang hörbar und wesentlich verbessert, so daß es möglich ist, Frequenzen bis 26.000 Hz bei 4-Spur-Stereo-Technik problemlos aufzuzeichnen.

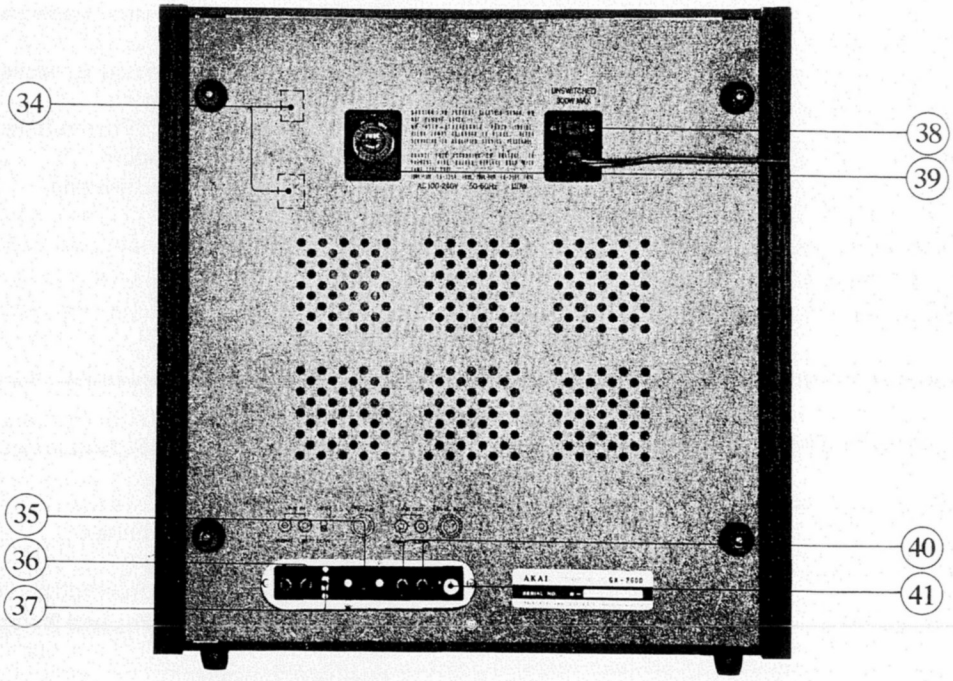
Bei der GX-260 D wurden außerdem neu entwickelte GX-Kombinationsköpfe eingebaut, bei denen die Lösch- und die Aufnahmefunktion in einem System vereint sind. Dadurch werden mit nur vier Tonköpfen sechs Kopffunktionen erzielt. Der Vorteil dieses Systems ist der verbesserte Gleichlauf durch Verringerung der Band-Kopf-Reibung.

Inhaltsverzeichnis

Bedienungselemente 2
Verbesserung der Aufnahmequalität 4
Einlegen des Bandes 4
Das 4-Spur- Aufnahme- und Wiedergabesystem für Stereobetrieb 4
Das 4-Spur Aufnahme- und Wiedergabesystem für Monobetrieb 5
Automatische und manuelle Bandendumschaltung bei Aufnahme und Wiedergabe 5
Verbesserung der Aufnahmeresultate durch Verwendung von Low Noise-Tonbändern 6
Hinweise für bessere Aufnahmen 6
Mithöreinrichtung 6
Wiedergabeanschlüsse 7
Aufnahmeanschlüsse 8
Wiedergabe 9
Aufnahme 10
Echoerzeugung 10
Multiplayback 10
Duoplay 11
Mischen 12
Löschen des Bandes 12
Bandmontagen 12
Tonköpfe bitte sauber halten 13
Kopfentmagnetisierung 13
Reinigung von Bandandruckrolle und Tonwelle 13
Umstellung von Spannung und Netzfrequenz 14
Technische Daten 16
Standard-Zubehör 15

Bedienungselemente



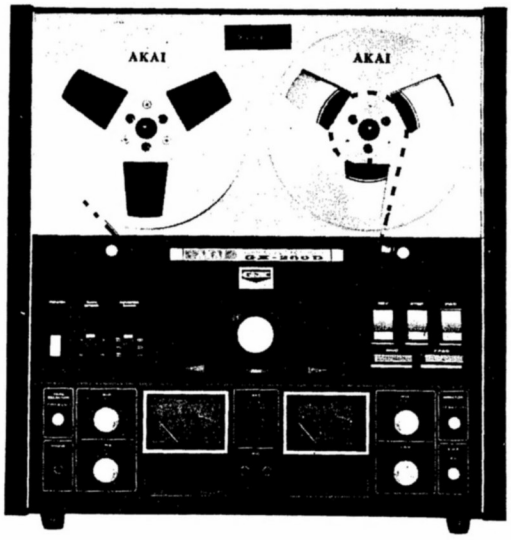


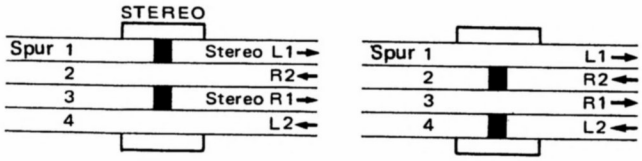
1. Bandzählwerk mit Rückstelltaste
2. Mikrofonbuchse
3. Aufnahmesperrtasten
   (bei Stereoaufnahmen beide Tasten gleichzeitig drücken)
4. Spulenhalter
   (Festhalten der Spule erfolgt durch Anziehen des Spulenhalters und leichte Drehung)
5. linker Spulenteller
6. Aufnahmekontrollampe
   (leuchtet nur im Aufnahmebetrieb)
7. Bandandruckrolle
8. Umschaltkontakt und Bandzugarm
9. Kopfabdeckung
10. Laufrichtungsanzeige
11. Netzschalter
12. Geschwindigkeitsumschalter
    (7 1/2 = 19 cm/sek)
    (3 3/4 = 9,5 cm/sek)
13. Bandwahlschalter
    (S.R.T. = Low Noise)
14. Mikrofonaufnahmekontrollregler
15. Kopfhörerbuchse
    (zum Anschluß eines Kopfhörers mit 8 Ohm Anpassung)
16. Line-Eingangsregler
17. Umschalter der Bandlaufrichtung
18. Laufrichtungsanzeige
19. Fühlhebel für automatische Endabschaltung
20. Spulenhalter
21. rechter Spulenteller
22. Umschaltkontakt für Bandrücklauf
23. Umschalter der Bandlaufrichtung (Reverse)
24. Schneller Bandrücklauf
25. Bandzugarm
26. Stoptaste
27. Vorlauftaste
28. Schneller Vorlauf
29. Mikrofonaufnahmeregler
30. Vorderband-Hinterband-Kontrollschalter
31. Line-Eingangsregler
32. Multiplaybackschalter
33. Anzeigeinstrumente
34. Netzfrequenzumschalter
35. DIN-Buchse
36. Line-Eingangsbuchse
37. Umschalter für die Eingangsempfindlichkeit der DIN-Buchse. Bitte beachten Sie den Hinweis auf der letzten Seite
38. Zusatzsteckdose (nur für USA-Stecker)
39. Spannungsumschalter mit Sicherungshalter
40. Line-Ausgangsbuchsen
41. Ausgangspegelregler

Zur Erzielung bester Resultate beachten Sie bitte die folgenden Hinweise

* Ihr Gerät benötigt eine konstante Netzspannung, um einwandfrei arbeiten zu können. Die GX-260 D ist mit einem Spannungswahlschalter und der Möglichkeit der Netzfrequenzumschaltung ausgestattet, die es ermöglichen, das Gerät an alle Wechselspannungsnetze anzupassen. Ihr Gerät ist werksseitig auf 220 V 50 Hz eingestellt, es benötigt also normalerweise keine Umschaltung innerhalb der BRD.
* Normalerweise ist zwar keine Kopfreinigung erforderlich. Es kann jedoch bei klebrigem Bandmaterial vorkommen, daß Eisenoxydreste den Kopf verschmutzen und die Aufnahme- und Wiedergabequalität beeinflussen. Beachten Sie deshalb die Anweisungen für Kopfreinigung und Kopfentmagnetisierung.
* Bitte stellen Sie nichts auf dem Gerät ab, da sonst die Luftventilation und dadurch die Kühlung des Gerätes gestört ist.
* Bitte betreiben Sie Ihr Gerät ausschließlich auf einer waagerechten Oberfläche entweder vertikal oder horizontal.
* Bei Aufnahmen von schwachen Tonquellen mit einem Mikrofon kann es erforderlich sein, den Aufnahmepegel voll aufzudrehen. Dadurch können störende Nebengeräusche auftreten. Es empfiehlt sich daher, vor der Aufnahme eine Kontrolle zu machen.
* Bitte verwenden Sie ausschließlich gutes Bandmaterial.
* Lagern Sie bitte Ihre Tonbänder kühl und trocken.

Bei technischen Schwierigkeiten mit Ihrem Gerät wenden Sie sich bitte an die nächste AKAI Kundendienstzentrale oder direkt an AKAI International GmbH, 6079 Buchschlag, Am Siebenstein 4.





Einlegen des Bandes

Beim Einlegen des Tonbandes verfahren Sie bitte wie folgt:

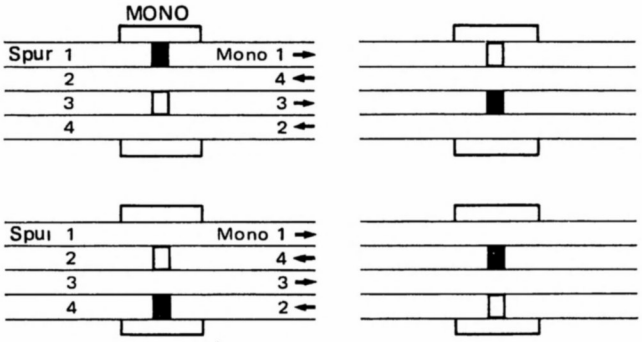
1. Legen Sie die volle Spule auf den linken Spulenteller und die leere Spule auf den rechten Spulenteller.
2. Befestigen Sie die Spulen durch Ziehen des Spulenhalters und anschließende Drehung nach links oder rechts.
3. Ziehen Sie etwa 75 cm Band von der vollen Spule ab und legen Sie das Band, wie auf der punktierten Linie angezeigt, ein.
4. Fädeln Sie das Band in den Schlitz der Leerspule ein und wickeln Sie das Band einige Umdrehungen auf.
5. Wickeln Sie das Band soweit auf, bis das Band fest an den Tonköpfen anliegt.

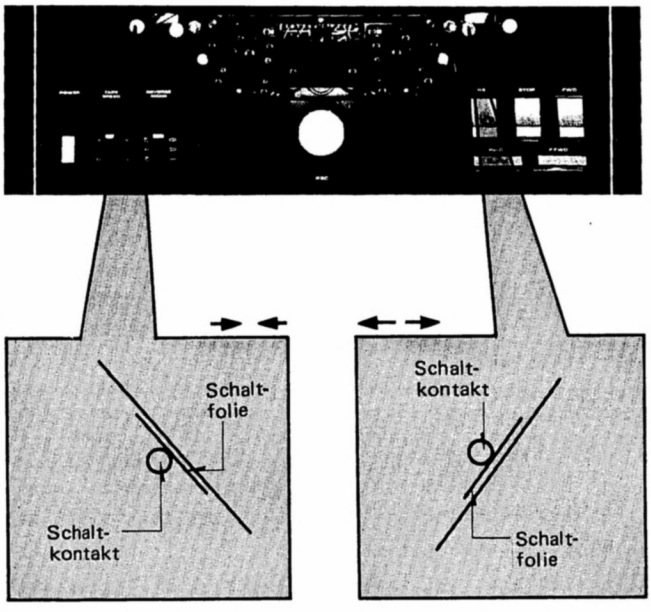
4-Spur-Aufnahme- und Wiedergabesystem

Die GX-260 D arbeitet mit Hilfe des 4-Spur-Stereo Aufnahme- und Wiedergabesystems. Es ist hierbei ebenfalls möglich, das Gerät auf Monobetrieb umzuschalten. Die Umschaltung erfolgt am Spurwahlschalter.

Stereo-Aufnahme und -Wiedergabe

Stereo-Aufnahmen und -Wiedergaben erfordern die Benutzung von jeweils zwei Spuren. Der Spurwahlschalter wird hierzu in Stellung Stereo gebracht, d.h. die Aufnahmesperrtasten für beide Aufnahmespulen müssen gleichzeitig betätigt werden. Die Aufnahme auf der Bandseite A erfolgt hierbei auf Spur 1 und 3. Die Aufnahme und Wiedergabe der Bandseite B erfolgt auf den Spuren 2 und 4, wenn das Band zurückläuft.





4-Spur Mono-Aufnahme und -Wiedergabe

Bei Monobetrieb ist die Reihenfolge der Aufnahmespuren 1-4-3-2. Die erste Aufnahme erfolgt durch Drücken der linken Aufnahmesperrtaste. Nach dem Reversieren des Bandes erfolgt Aufnahme auf der Spur 4. Beim zweiten Durchlauf drücken Sie die rechte Aufnahmesperrtaste. Danach erfolgt Aufnahme der Spur 3 im Vorlauf und der Spur 2 im Rücklauf.

Die Mono-Wiedergabe erfolgt ohne Betätigung der Aufnahmesperrtasten.

Automatische und manuelle Umschaltung der Bandlaufrichtung bei Aufnahme und Wiedergabe

Die automatische Umschaltung der Bandlaufrichtung (Automatic Reverse) erfolgt durch Anbringen von ca. 2,5 cm Schaltfolie am Bandanfang bzw. Bandende. Die Schaltfolie am Bandanfang muß auf der den Tonköpfen zugewandten Seite erfolgen. Am Bandende muß die Schaltfolie auf der Außenseite des Bandes angebracht werden. Die Umschaltung erfolgt dann automatisch, wenn die Schaltfolie den Schaltkontakt berührt.

Dauerbetrieb
Dauerbetrieb erfolgt, wenn der Reverse Wahlschalter in Pos. CONT REV geschaltet ist und die Schaltfolie an beiden Bandenden angebracht ist.

Einmaliger Bandrücklauf
Der einmalige Bandrücklauf erfolgt, wenn der Reverse Wahlschalter in Stellung REV geschaltet ist. In dieser Stellung läuft bei Aufnahme und Wiedergabe das Band einmal vor und zurück.

Normalbetrieb
In Stellung NON REV sind beide Umschaltkontakte abgeschaltet, d.h. das Band läuft in der eingeschalteten Laufrichtung bis zum Schaltkontakt bzw. Bandende und bewirkt die Endabschaltung.

Verbesserung der Aufnahmequalität durch Verwendung von Low Noise-Band

Ihr Gerät ist mit einem Bandselektor ausgestattet. In Stellung SRT ist die Aufnahmecharakteristik des Gerätes auf die handelsüblichen LOW NOISE-Bänder abgestimmt, das heißt, die Kopfvormagnetisierung und der Kopfstrom wird speziell auf dieses Bandmaterial abgestimmt.

In Stellung Normal werden Aufnahmen auf Normalbändern gemacht. Es ist jedoch empfehlenswert, bei allen Aufnahmen LOW NOISE-Tonbänder zu benutzen und den (Super Range Type, das LOW NOISE-Band von Akai) Bandselektor auf SRT zu belassen, da die Aufnahmen wesentlich verbessert werden (d.h. besserer Frequenzgang und bessere Dynamik).

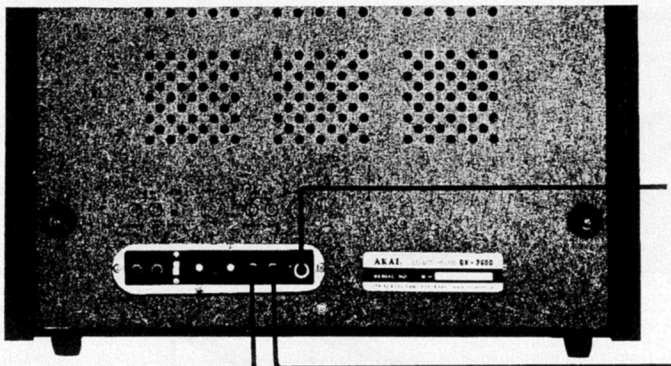
Einstellung des Aufnahmepegels

In Stellung Aufnahme wird der Aufnahmepegel in den Anzeigeinstrumenten ersichtlich. Gleichzeitig kann über einen Stereokopfhörer das aufzunehmende Signal über Vorderband- und Hinterbandkontrolle mitgehört werden. Um eine optimale Dynamik bei der Aufnahme zu erzielen, sollte darauf geachtet werden, daß die Anzeige innerhalb des gelben Feldes erfolgt.

Mithören

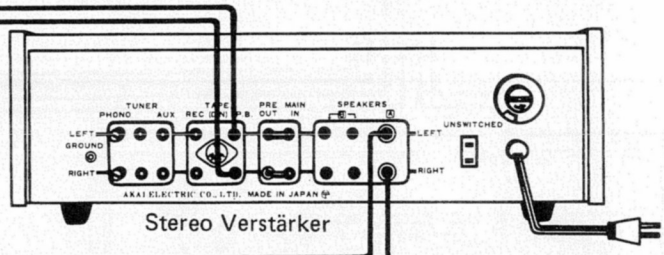
Während der Aufnahme und während der Wiedergabe kann das Signal über einen Stereokopfhörer mitgehört werden. Der Kopfhöreranschluß ist für einen Kopfhörer mit 8 Ohm Anpassung vorgesehen.

Wiedergabeanschlüsse

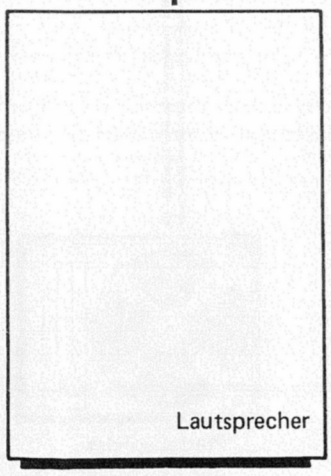


Dieser Regler ermöglicht die Anpassung des Wiedergabepegels an Ihr Steuergerät.

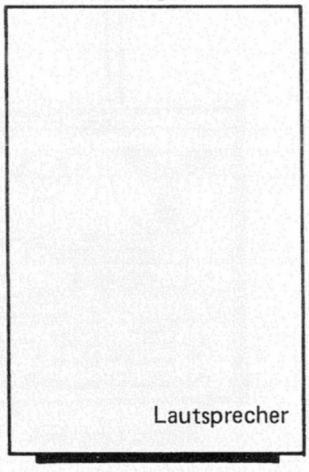
Die DIN-Buchse ermöglicht die Verbindung aller Aufnahme- und Wiedergabefunktionen mit einem einzigen DIN-Kabel.



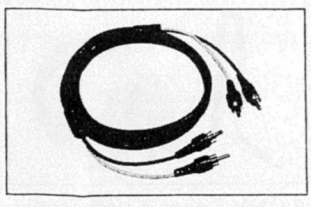
Stereo Verstärker



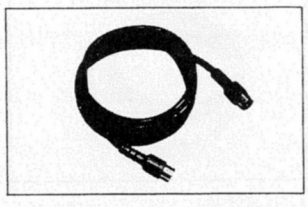
Lautsprecher



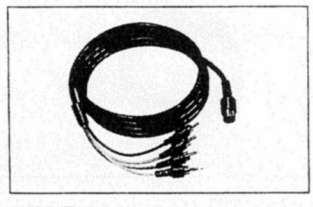
Lautsprecher



RCA/RCA
Anschlußkabel



DIN/DIN
Anschlußkabel

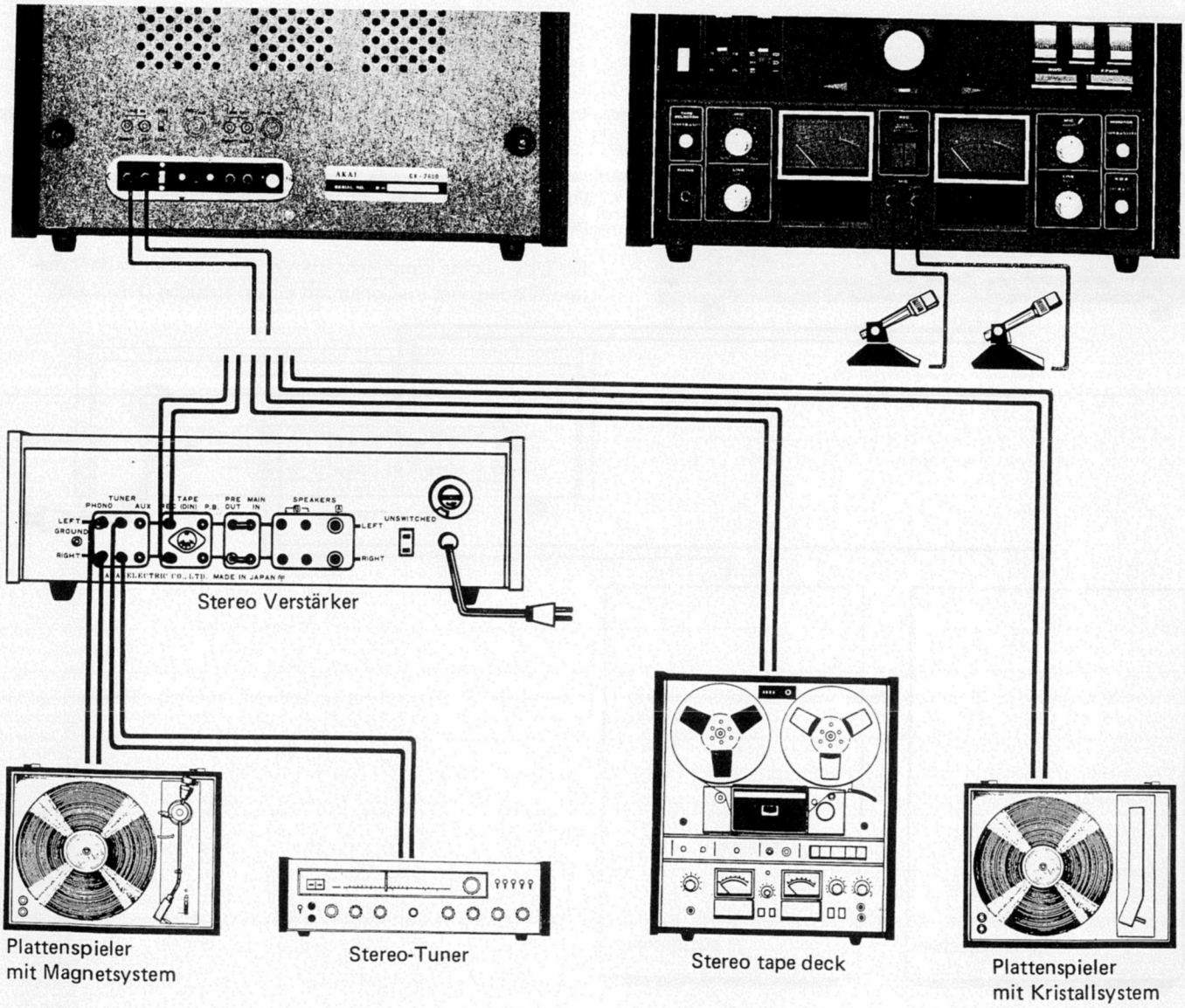


DIN/RCA
Anschlußkabel



8 OHM Stereo-Kopfhörer

Aufnahmeanschlüsse



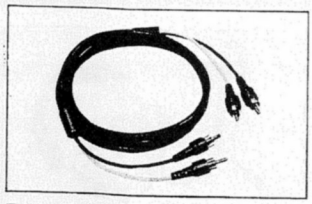
Stereo Verstärker

Plattenspieler
mit Magnetsystem

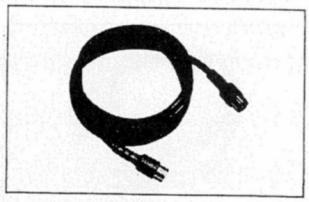
Stereo-Tuner

Stereo tape deck

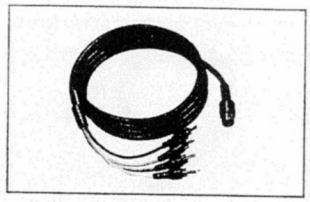
Plattenspieler
mit Kristallsystem



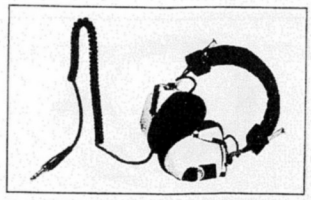
RCA/RCA
Anschlußkabel



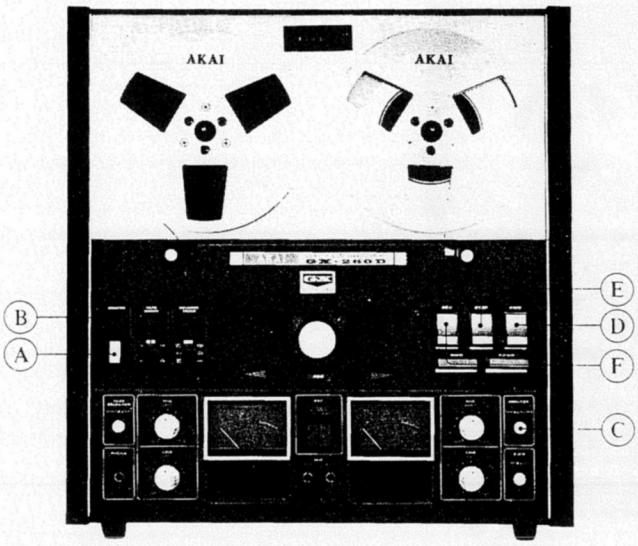
DIN/DIN
Anschlußkabel



DIN/RCA
Anschlußkabel



8 OHM Stereo-Kopfhörer



Wiedergabe

Stellen Sie bitte die Wiedergabeanschlüsse, wie auf der Übersicht angezeigt, her und lesen Sie die Punkte zur Beachtung auf Seite 4. Legen Sie das Band, wie auf Seite 4 beschrieben, ein.

Stereo-Wiedergabe

1. Netzkabel anschließen und Einschalter betätigen (A).
2. Gewünschte Bandgeschwindigkeit einstellen (B).
3. Vorderband- und Hinterbandkontrollschalter (C) in Pos. TAPE bringen.
4. Wiedergabe durch Drücken der Taste (D) Vorlauf einschalten.
5. Wiedergabepegel mit Hilfe des Reglers neben der DIN–Buchse auf Ihr Steuergerät einstellen.
6. Der Bandtransport wird auf Wunsch durch Betätigen der Stop-Taste (E) gestoppt.
7. Die Wiedergabe in rückwärtiger Bandrichtung erfolgt durch Drücken der Taste REV (F).

Mono-Wiedergabe

Die Mono-Wiedergabe erfolgt in gleicher Weise wie die Stereo-Wiedergabe. Bei Monoaufnahmen auf beiden Spuren einer Laufrichtung erfolgt die Ausblendung einer Spur mit Hilfe des Balancereglers des Steuergerätes.

Aufnahme



Stellen Sie alle notwendigen Aufnahmenaschlüsse her (siehe Übersicht). Beachten Sie die Bedienungshinweise und die Anweisungen für das Einlegen des Bandes auf Seite 4.

Stereo-Aufnahmen

1. Netzkabel anschließen und Einschalter betätigen (A).
2. Gewünschte Bandgeschwindigkeit einstellen (B).
3. Bandzählwerk mit Hilfe der Rückstelltaste auf „0000" stellen. Dies ermöglicht bei Überwachung das Auffinden von bestimmten Bandstellen.
4. Bandwahlschalter (D) dem aufgelegten Bandmaterial anpassen (S.R.T. = Low Noise-Band).
5. Monitorschalter (E) in Stellung Source bringen (Vorderbandkontrolle).
6. Aufnahmepegel mit Hilfe der Aufnahmepegelregler (F) einstellen und an den Anzeigeinstrumenten überwachen. Normalaufnahmen sollten den Pegel „0" dB nicht überschreiten.
7. Nachdem der optimale Aufnahmepegel eingestellt ist, gleichzeitig beide Aufnahmesperrtasten (G) und die Taste FWD (für Vorlauf) bzw. REV (für Rücklauf) drücken. Die Aufnahme beginnt und die Aufnahmekontrollampe leuchtet auf.
8. Die Unterbrechung der Aufnahme erfolgt durch Drücken der Taste „STOP" (H).

Mono-Aufnahme

Bei Monoaufnahmen ersetzen Sie bitte bei den Anweisungen für Stereo-Aufnahmen die Pos. 6 und 7 durch die nachfolgenden.

Spur 1 und 4

Lediglich der linke Aufnahmeteil des Gerätes wird für Aufnahme der Spur 1–4 benutzt.

6. Aufnahmepegel am linken Aufnahmepegelregler einstellen und am linken Anzeigeinstrument überwachen. Normalaufnahmen sollten einen Pegel von „0" dB nicht überschreiten.
7. Nachdem der optimale Aufnahmepegel eingestellt ist, Aufnahmesperrtaste für den linken Kanal zusammen mit der Taste FWD drücken. Die Anzeigekontrollampe für den linken Kanal leuchtet auf. Aufnahme der Spur 4 erfolgt durch gleichzeitiges Drücken der linken Aufnahmesperrtaste und der Taste REV.

Spur 3–2

Lediglich der rechte Aufnahmeteil des Gerätes wird für Aufnahme der Spur 3–2 benutzt.

6. Aufnahmepegel am rechten Aufnahmepegelregler einstellen und am rechten Anzeigeinstrument überwachen. Normalaufnahmen sollten einen Pegel von „0" dB nicht überschreiten.
7. Nachdem der optimale Aufnahmepegel eingestellt ist, Aufnahmesperrtaste für den rechten Kanal zusammen mit der Taste FWD drücken. Die Anzeigekontrollampe für den rechten Kanal leuchtet auf. Aufnahme der Spur 2 erfolgt durch gleichzeitiges Drücken der rechten Aufnahmesperrtaste und der Taste REV.

Echo-Aufnahmen

Bei Echoaufnahmen ersetzen Sie den Schritt 6 der Stereoaufnahmeanweisungen durch den nachfolgenden Schritt 6:

6. Aufnahmepegel mit Hilfe der Aufnahmepegelregler einstellen und an den Anzeigeinstrumenten überwachen (F). Beachten Sie, daß für den Mikrofoneingang und für den Line-Eingang eines jeden Kanals ein separater Eingangspegelregler vorhanden ist. Drücken Sie die Taste SOS.

Multiplayback

Beim Multiplayback werden Aufnahmen von einem Kanal auf den anderen transferiert. Dies ist besonders für musikalische Trickaufnahmen geeignet.

Erste Aufnahme

1. Entfernen Sie alle Anschlüsse an den Aufnahmebuchsen und drehen Sie die Aufnahmepegelregler auf min.
2. Mikrofon an der linken Mikrofonbuchse anschließen.
3. Monitor-Schalter in POS. SOURCE bringen (Vorderbandkontrolle).
4. Linken Aufnahmepegel einstellen und am Anzeigeinstrument überwachen.
5. Bandzählwerk mit Hilfe der Rückstelltaste auf „0000" stellen.
6. Zum Beginn der ersten Aufnahme linke Aufnahmesperrtaste und die Taste FWD gleichzeitig drücken.
7. Nach beendeter Aufnahme Stop-Taste drücken und das Band in Stellung „0000" zurückspulen.

Zweite Aufnahme

8. Überprüfen Sie, daß der Monitor-Schalter in Stellung SOURCE ist und drücken Sie die SOS-Taste.
9. Mikrofon an der rechten Mikrofonbuchse anschließen.
10. Stereokopfhörer an der Kopfhörerbuchse anschließen und die erste Aufnahme überwachen.
11. Rechten Aufnahmepegel einstellen und am Anzeigeinstrument überwachen.
12. Den rechten Line-Eingangspegelregler in die gleiche Stellung bringen wie der rechte Mikrofoneingangspegelregler.
13. Rechte Aufnahmesperrtaste gleichzeitig mit der Taste FWD zum Beginn der zweiten Aufnahme drücken.

Während die zweite Aufnahme gemacht wird, wird die erste Aufnahme über den Kopfhörer abgehört. Die erste und die zweite Aufnahme vereinen sich nun auf dem rechten Kanal.

Alle weiteren Aufnahmen können wie die zweite Aufnahme gemacht werden, wobei sich die Summe aller Aufnahmen jeweils auf dem rechten Kanal vereint. Beachten Sie dabei, daß die nicht benötigten Aufnahmepegelregler auf min. gestellt werden müssen. Schritt 12 muß dabei unbedingt eingehalten werden.

Die Wiedergabe erfolgt durch Umschalten des Monitor-Schalters in Position TAPE. Der Balanceregler des Wiedergabeverstärkers muß dabei so eingestellt werden, daß lediglich der rechte Kanal abgehört werden kann.

Duoplay

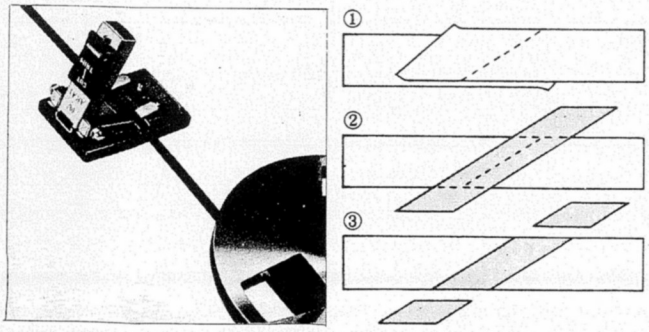
Beim Duoplay verfahren Sie grundsätzlich wie beim Multiplayback. Es fehlt lediglich das Übertragen der zweiten Aufnahme von dem linken auf den rechten Kanal, da hierbei die Taste SOS nicht gedrückt werden darf. Diese Trickmöglichkeit ist besonders hilfreich bei Sprachstudien, wobei die Stimme des Lehrers auf der Spur 1 aufgenommen wird und die Stimme des Schülers auf Spur 3. Nachdem das Band zurückgespult ist, lassen sich beide Stimmen vergleichen. Folgen Sie hierfür den Multiplaybackanweisungen bis zum Schritt 7 und verfahren Sie danach wie folgt:

8. Mikrofon in die rechte Mikrofonbuchse einstecken.
9. Stereokopfhörer an der Kopfhörerbuchse anschließen, um die erste Aufnahme abzuhören.
10. Rechten Aufnahmepegel einstellen und am rechten Anzeigeinstrument überwachen.
11. Monitorschalter in Pos. TAPE bringen (Hinterbandkontrolle).
12. Rechte Aufnahmeperrstaste gleichzeitig mit der Taste FWD drücken.
13. Nach beendeter Aufnahme Band zurückspulen, und die Aufnahmen in Stellung Wiedergabe abhören. Dieser Aufnahmeschritt der zweiten Aufnahme kann beliebig wiederholt werden. Die erste Aufnahme bleibt davon unbeeinträchtigt.

Mischen von 2 bzw. 4 verschiedenen Eingangssignalen

Eine der Besonderheiten dieses Gerätes ist die Möglichkeit, verschiedene Eingangssignale zu mischen. Zu diesem Zweck sind getrennte Aufnahmepegelregler für die Line- und Mikrofoneingänge eingebaut.
Schließen Sie die Mikrofone an den Mikrofonbuchsen an. Die weiteren Signale werden über die Line-Eingangsbuchsen eingespeist.

1. Netzkabel anschließen und Einschalter betätigen.
2. Gewünschte Bandgeschwindigkeit einschalten.
3. Bandzählwerk mit Hilfe der Rückstelltaste in Pos. ‚0000' bringen. Dies erleichtert das Auffinden gewünschter Musikstücke bei der Wiedergabe, oder bei Aufnahmeunterbrechungen.
4. Bandwahlschalter dem verwendeten Bandmaterial anpassen (Stellung S.R.T. für Low Noise-Bänder).
5. Monitorschalter in Position SOURCE schalten (Vorderbandkontrolle).
6. Alle vier Eingänge mit Hilfe der Eingangspegelregler auf die gewünschten Pegel einstellen. Normalaufnahmen sollten „0" dB nicht überschreiten.
7. Nachdem der richtige Aufnahmepegel eingestellt ist, beide Aufnahmesperrtasten zusammen mit der Taste FWD (Bandvorlauf) oder REV (Bandrücklauf) drücken. Die Aufnahmekontrollampen leuchten auf.
8. Nach beendeter Aufnahme Stoptaste drücken.



Löschen des Bandes

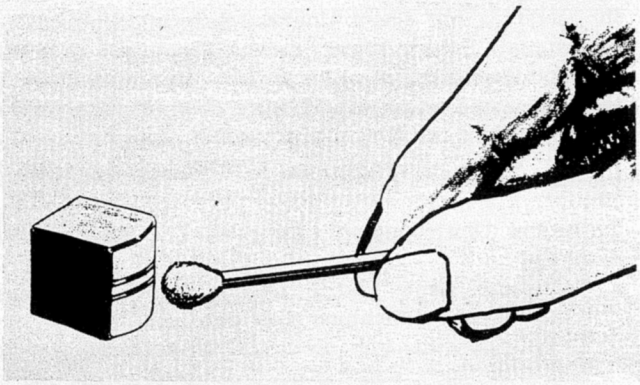
Normalerweise wird bei einer Neuaufnahme das Band automatisch durch den eingebauten Löschkopf gelöscht. Bei einem Löschvorgang ohne Neuaufnahme wird das Gerät auf Aufnahme geschaltet, nachdem die Pegelregler zurückgedreht sind und alle Anschlüsse entfernt sind. Bessere Löschresultate werden mit dem Akai Bandlöschgerät ATE-7 erzielt. Mit diesem Gerät ist es möglich, das ganze Band in wenigen Sekunden zu löschen. Es empfiehlt sich außerdem, zur Verbesserung einer Neuaufnahme das komplette Band vor der Aufnahme mit Hilfe des ATE-7 zu löschen.

Bandmontagen

Bei Bandmontagen erfolgt das Schneiden des Tonbandes wie auf der Skizze angezeigt diagonal, da bei einem vertikalen Schnitt der Bandübergang hörbar wird. Zum Kleben verwendet man spezielles Klebeband. Überstehendes Klebeband sollte sorgfältig abgeschnitten werden, um Verschmutzungen zu vermeiden.

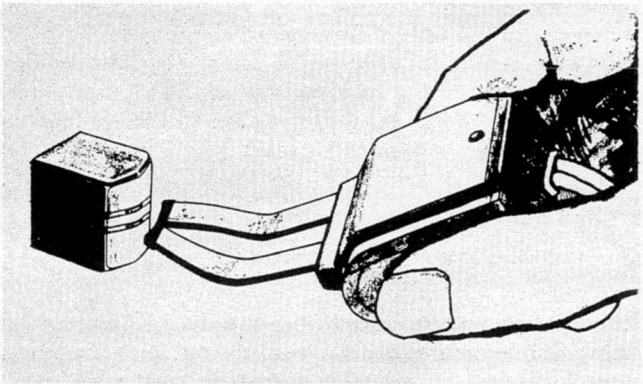
Für einwandfreie Klebeverbindungen empfehlen wir ganz besonders das Akai Bandklebegerät AS-3.

Wartungsarbeiten



Die Tonköpfe sollten stets sauber gehalten werden

Normalerweise ist zwar eine Tonkopfreinigung nicht erforderlich, da die glatte Oberfläche der GX-Tonköpfe kein Eisenoxyd anhaften läßt. Jedoch bei Verwendung von alten Bändern und Bändern mit viel Klebestellen kann eine Reinigung von Zeit zu Zeit unerläßlich werden, da sonst die Aufnahme- und Wiedergabequalität beeinträchtigt wird. Zur Kopfreinigung empfehlen wir reinen Alkohol oder Kopfreinigungslösung.



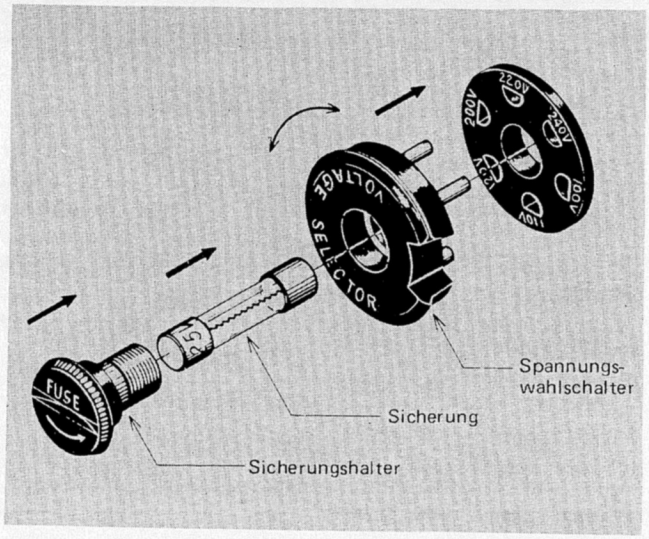
Kopfentmagnetisierung

Nach längerer Betriebsdauer können die metallischen Teile, die mit dem Band in Berührung kommen, Magnetismus aufbauen. Dieser Magnetismus kann störende Effekte auf dem Band hervorrufen, die zum größten Teil durch Höhenverlust bemerkbar werden. Es ist deshalb erforderlich, in regelmäßigen Abständen diese Metallteile mit Hilfe einer Entmagnetisierdrossel zu entmagnetisieren. Wir empfehlen hierfür die Akai Entmagnetisierdrossel AH-8. Zu diesem Zweck wird die Entmagnetisierdrossel mit kreisenden Bewegungen an den Metallteilen vorbeigeführt.

* Bitte beachten Sie, daß die Spannungsversorgung bei diesem Vorgang unterbrochen ist.
* Die Spitzen der Entmagnetisierdrossel sollten mit einer Plastikhaube geschützt werden, um Kratzer auf den Tonköpfen zu vermeiden.
* Bitte benutzen Sie keine magnetischen Werkzeuge in der Nähe der Tonköpfe.
* Bitte beachten Sie die Anweisungen, die der Engmagnetisierdrossel beigefügt sind, genau.

Reinigen von Tonwelle und Bandandruckrolle

Während des normalen Betriebes setzt sich immer ein gewisser Teil von Eisenoxyd, speziell an der Andruckrolle und der Tonwelle ab. Dadurch kann der Bandtransport negativ beeinflußt werden. Es ist deshalb erforderlich, diese beiden Teile von Zeit zu Zeit mit Alkohol oder einer Kopfreinigungsflüssigkeit zu reinigen. Bitte, benutzen Sie keine chemischen Flüssigkeiten wie Chlor oder Aceton.



Umstellung von Spannung und Netzfrequenz

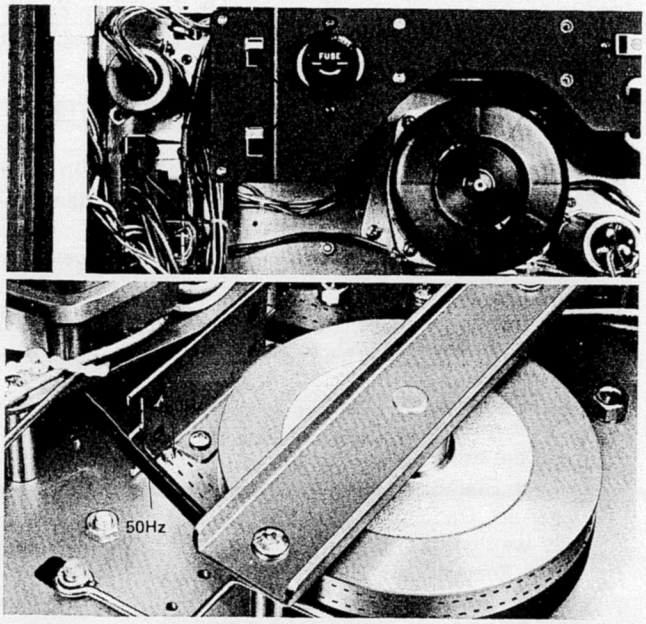
Spannungsumstellung

Ihr Gerät ist mit einem Universal-Spannungswahlschalter ausgestattet. Er ermöglicht, sechs Spannungen zwischen 100 Volt Wechselspannung einzustellen. Ihr Gerät ist werksseitig auf 220 Volt eingestellt. Bitte, überprüfen Sie vor der Inbetriebnahme, ob die entsprechende Netzspannung eingestellt ist und in der Aussparung des Wahlschalters ersichtlich ist.

Sollte eine Umstellung erforderlich sein, so verfahren Sie wie folgt:

a. Netzstecker ziehen und Sicherungshalter durch Herausschrauben in Pfeilrichtung entfernen
b. Spannungswahlschalter durch Ziehen entfernen und so wieder einfügen, daß die gewünschte Netzspannung in der Aussparung ersichtlich ist
c. Sicherungswert überprüfen, ob folgende Werte eingehalten werden:
   Netzspannung 100 V bis 120 V = 1,5 Amp.
   200 V bis 240 V = 1 Amp.

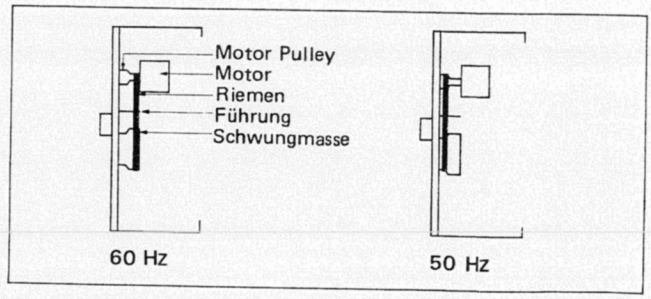
* Um eine optimale Funktion zu garantieren, ist es erforderlich, die Netzspannung innerhalb 10% des eingestellten Wertes zu halten.



Umstellung der Netzfrequenz

Die Umdrehungsgeschwindigkeit der Antriebsmotore ist von der Netzfrequenz abhängig. Es ist daher erforderlich, die Netzfrequenzeinstellung dem entsprechenden Lichtnetz anzupassen. In der BRD sind 50 Hz üblich, in USA 60 Hz. Die Anpassung geschieht wie folgt: Netzkabel ziehen, Rückwand des Gerätes entfernen und den Netzfrequenzumschalter in die gewünschte Pos. bringen. Der Antriebsriemen für die Hauptschwungmasse muß bei 60 Hz Betrieb auf dem größeren Außendurchmesser laufen, bei 50 Hz Betrieb auf dem kleineren Durchmesser (siehe Skizze).

Ihr Gerät ist werksseitig auf die in der BRD üblichen 50 Hz eingestellt, so daß keine Umstellung nötig ist.



Technische Daten GX-260 D

Spurlage (intern. Norm)	4-Spur-Stereo
Max. Spulengröße	18 cm
Bandgeschwindigkeit	19 cm/sek. (± 1 %) 9,5 cm/sek. (± 1 %)
Tonhöhenschwankungen	≦0,06 % RMS 19 cm/sek ≦0,08 % DIN 19 cm/sek ≦0,1 % RMS 9,5 cm/sek ≦0,13 % DIN 9,5 cm/sek
Höhenkompensation	innerhalb der NAB-Kennlinie
Frequenzbereich (Hz)	Mit Low Noise-Band 30 – 26.000 (± 3 dB) 19 cm/sek 30 – 20.000 (DIN) 19 cm/sek 30 – 20.000 (± 3 dB) 9,5 cm/sek 30 – 15.000 (DIN) 9,5 cm/sek Mit Normalband 30 – 23.000 (± 3 dB) 19 cm/sek 30 – 17.500 (DIN) 19 cm/sek 30 – 18.000 (± 3 dB) 9,5 cm/sek 30 – 13.800 (DIN) 9,5 cm/sek
Klirrfaktor	≦1,2 % 1.000 Hz bei 0 dB
Ruhegeräuschspannungsabstand	≧60 dB RMS bei 19 cm/sek ≧54 dB DIN bei 19 cm/sek ≧58 dB RMS bei 9,5 cm/sek ≧52 dB DIN bei 9,5 cm/sek
Übersprechdämpfung	besser als 60 dB (Mono), besser als 45 dB (Stereo)
Löschfrequenz	100 kHZ
Tonköpfe	(4) 2 GX-Aufnahme-Löschköpfe 2 GX-Wiedergabeköpfe
Motore	(3) Ein 4/8 Hysteresis Synchronmotor mit direktem Tonwellenantrieb Zwei Außenläufer-Spulen-Motore
Schnelle Vor- und Rücklaufzeit	innerhalb 75 Sek. bei 340 m-Band
Max. Aufnahmekapazität	2 Stunden bei Verwendung eines 340 m-Bandes bei 3,75 cm/sek.
Ausgangsbuchse	Line (2): 1,23 V (0 dB), 100 Ohm, Mindestmessung 20 Ohm
Kopfhörerbuchse	(1) : 30 mV/8 Ohm
Eingangsbuchse	Mikrofon (2) 0,3 mV, 4,7 kOhm, Line (2) 50 mV
DIN-Buchse	0,5 mV, 25 mV
Halbleiter	30 Transistoren, 22 Dioden
Spannungsversorgung	100 V – 240 V bei Wechselspannung, 50/60 Hz
Leistungsaufnahme	110 Watt maximal
Abmessungen	Breite 446 mm, Höhe 473 mm, Tiefe 226 mm
Gewicht	20,8 kg

Besonderer Hinweis

Bei Tonbandgeräten und Steuergeräten verschiedener Hersteller können unterschiedliche Eingangs- und Ausgangsspannungen verwendet werden. Sollte bei der ersten Aufnahme mit Ihrem Tonbandgerät kein ausreichender Aufnahmepegel erzielt werden können, betätigen Sie bitte den HIGH LOW-Umschalter,der neben der DIN-Buchse Ihres Gerätes angebracht ist. Durch Betätigung dieses Schalters wird die Eingangsempfindlichkeit der DIN-Buchse verändert. Sollte nach Umschaltung dieses Schalters immer noch keine ausreichende Eingangsempfindlichkeit erzielt werden können, kann durch einen kleinen Eingriff im Gerät die gewünschte Anpassung erreicht werden. Dieser Eingriff wird im Rahmen der Garantiebestimmungen bei der nächsten Akai Kundendienststelle ausgeführt. Es handelt sich hierbei jedoch nicht um einen Defekt Ihres Gerätes.

Im Sinne einer kontinuierlichen technischen Verbesserung des Produktes behalten wir uns das Recht vor, technische Veränderungen ohne vorherige Ankündigungen vorzunehmen, ohne daß daraus Regreßansprüche entstehen können.

GX-260D

STEREO TAPE DECK

OPERATOR'S MANUAL



WARNING

To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

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GX (glass & crystal ferrite) HEADS

Akai has equipped this model with its new and amazing GX Recording and Playback Heads to bring you unequalled open reel high fidelity sound. With the stable Center Capstan System, two combination Recording/Erase GX Heads, and two Playback GX Heads, this model displays an undistorted wide frequency response to 26,000 Hz.

With the GX Heads, a wider dynamic range and excellent signal to noise ratio are also attained. These accomplishments are due to head materials, superior processing technique and a "focused-field" recording system. The cores of these extraordinary heads are made of single crystal ferrite and are mounted and set in glass. The superior high range characteristics are contributable to the head gap which focuses the magnetic field into a sharp oblong radius. This focused-field recording system minimizes high frequency loss and eliminates undue equalization for perfect recording results.

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CEE, CSA, UL and LA Standard models are not equipped with a Voltage Selector and cycle conversion apparatus. Therefore, voltage and cycle conversion is not necessary. If your machine corresponds to any of these standards, please disregard all references to voltage and cycle adjustment throughout this manual.

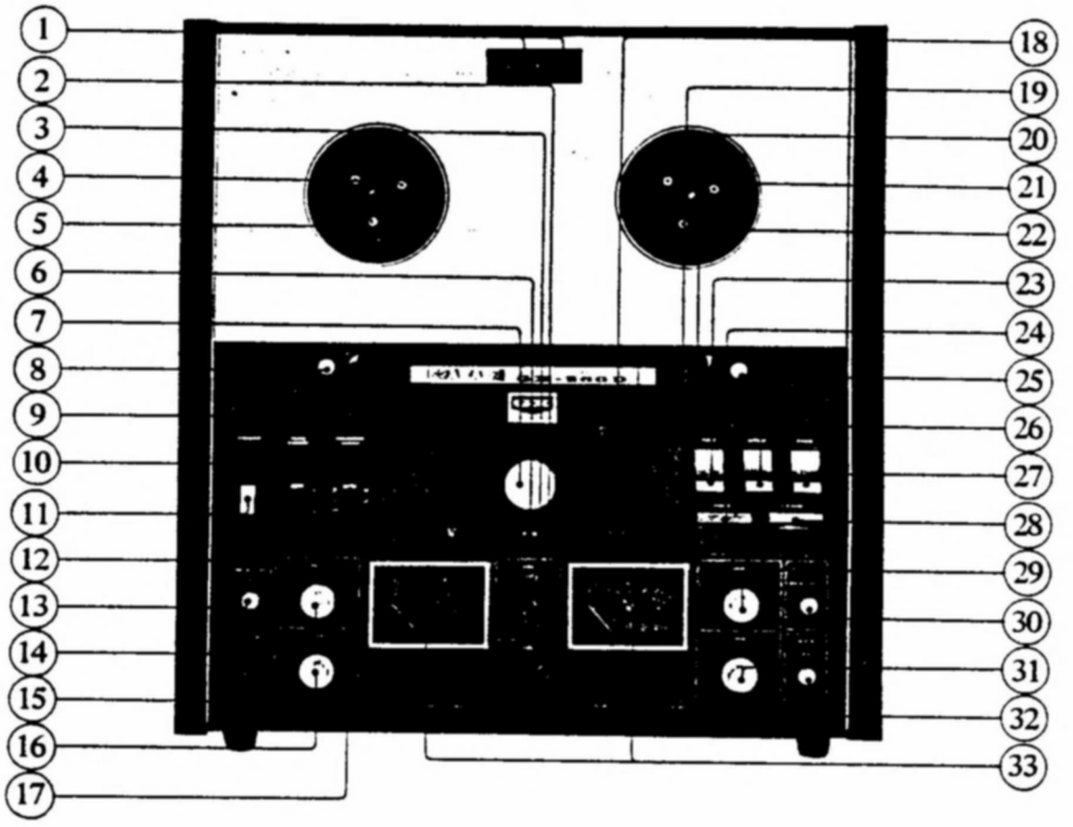
CEE Models: 220V, 50Hz
CSA Models: 120V, 60Hz
UL, LA Models: 120V, 60Hz

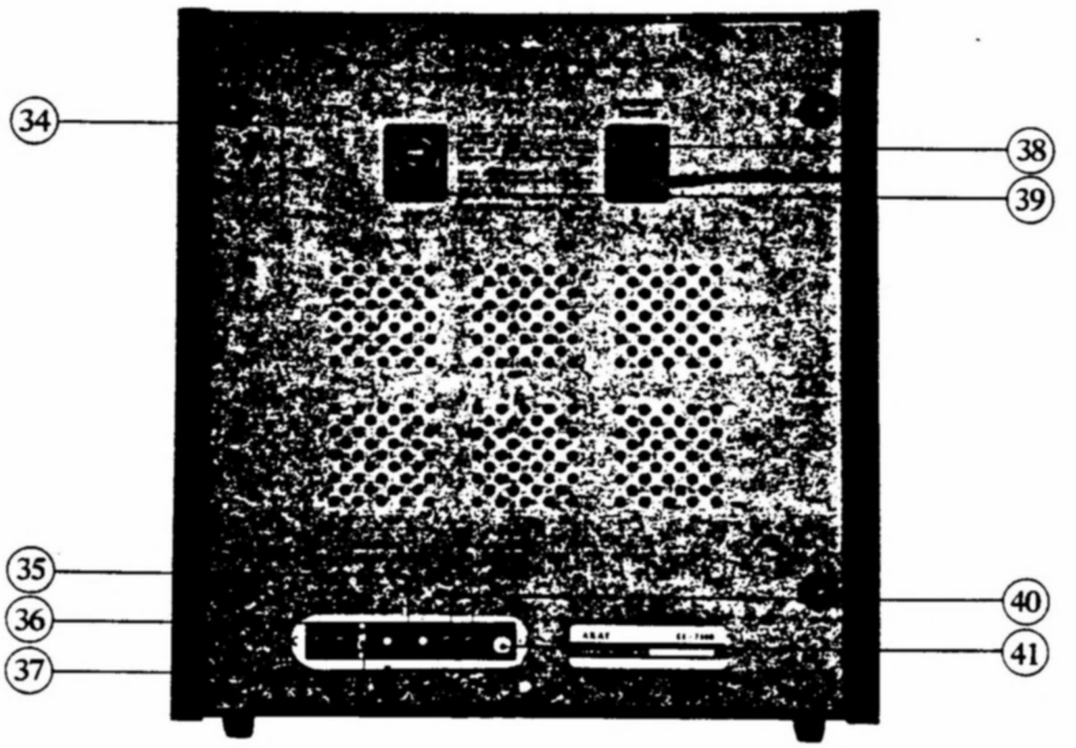
INDEX

Controls 2
For better results please read the following precautions 4
How to load a magnetic tape 4
4-track stereo recording (playback) system 4
4-track monaural recording (playback) system 5
Automatic & manual reverse recording (playback) 5
Use low noise tape for better recording 6
For better recording results 6
Sound monitoring 6
Connections for playback 7
Connections for recording 8
Playback 9
Recording 10
Echo effect to double your pleasure 10
Sound-on-sound recording 11
Sound-with-sound recording 11
Sound mixing 12
Tape erasing 12
Tape splicing & editing 12
Heads should always be kept clean 13
Head demagnetizing 13
Pinch wheel & capstan cleaning 13
Voltage & cycle conversion 14
Technical data 16
Standard accessories 15
Trouble shooting chart 15

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CONTROLS





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1. INDEX COUNTER & RESET BUTTON
2. MICROPHONE JACKS
3. RECORDING SAFETY BUTTONS
   Depress both buttons simultaneously for stereo recording, or individually for monaural recording.
4. REEL RETAINER
   To lock reel firmly into place pull tip of retainer on reel shaft outward and turn to left or right.
5. SUPPLY REEL TABLE
6. RECORDING INDICATOR LAMP
   Lights when Recording Safety Button(s) is depressed.
7. PINCH WHEEL
   Presses against Capstan to transport tape.
8. SENSING POLE/TENSION ARM
   Sensing Pole for reversing the direction of the tape automatically from normal to reverse direction.
9. HEAD COVER
   Houses from left, normal Recording/Erase and Playback, reverse Playback and Recording/Erase Heads.
10. DIRECTION INDICATOR LAMP
    Lights to indicate direction of motor rotation.
11. POWER SWITCH
12. SPEED SELECTOR SWITCH
    Set to 7-1/2 or 3-3/4(ips) according to desired tape speed. For high fidelity recording, the faster tape speed is recommended. The recording time using a 1800 ft. tape is as follows: STEREO: 3hrs at 3-3/4 ips; 1.5 hrs. at 7-1/2 ips. MONAURAL: 6 hrs. at 3-3/4 ips; 3 hrs. at 7-1/2 ips.
13. TAPE SELECTOR SWITCH
    Set to S.R.T. position when using Akai Super Range Tape or other make low noise tape, and to NORMAL position when using regular tape.
14. MICROPHONE RECORDING LEVEL CONTROL
    Controls microphone input level. Also use to adjust the input level when using the Din Jack for connection with an external amplifier.
15. HEADPHONE JACK
    Connect an 8 Ω impedance stereo headphones for monitoring or private headphone listening.
16. LINE RECORDING LEVEL CONTROL
17. REVERSE MODE SELECTOR SWITCH
    Please refer to AUTOMATIC / MANUAL REVERSE RECORDING (PLAYBACK) procedure.
18. DIRECTION INDICATOR LAMP
    Lights to indicate direction of motor rotation.
19. AUTOMATIC STOP LEVER
    Works to automatically stop tape travel at end of tape. When automatic stop is desired, be sure to thread tape under this lever. The machine will not operate if this lever is not at lifted position.
20. REEL RETAINER
    To lock reel firmly into place pull tip of retainer on reel shaft outward and turn to left or right.
21. TAKE-UP REEL TABLE
22. SENSING POLE
    For changing the direction of the tape from reverse to normal.
23. REVERSE BUTTON
    For effecting manual reverse playback.
24. REWIND BUTTON
    Rewinds tape at high speed.
25. TENSION ARM
26. STOP BUTTON
    Depress to stop tape travel.
27. FORWARD BUTTON
    Advances tape for recording or playback.
28. FAST FORWARD BUTTON
    Advances tape at high speed.
29. MICROPHONE RECORDING LEVEL CONTROL
    Controls microphone input level. Also use to adjust the input level when using the Din Jack for connection with an external amplifier.
30. MONITOR SELECTOR SWITCH
    To monitor program source, depress to SOURCE position. To monitor recorded signals or for playback, set to TAPE position.
31. LINE RECORDING LEVEL CONTROL
32. SOUND-ON-SOUND SWITCH
    Please refer to SOUND-ON-SOUND RECORDING procedure.
33. VU METERS
    Indicates recording or playback levels.
34. CYCLE CONVERSION SWITCHES (CEE, CSA, UL and LA models are not equipped with this facility).
    Set to 50 Hz or 60 Hz to correspond with area power source.
35. DIN JACK
    Enables inter-connection with external amplifier by use of a single Din connection cord. When using this jack for recording, the input level is adjusted with the Microphone Recording Level Control.
36. LINE INPUT JACKS
    Connects to outputs of external source.
37. DIN JACK INPUT SELECTOR SWITCH
    When using Din jack connection, if output level of external amplifier is high, set to HIGH position, and if low, set to LOW position.
38. A.C. OUTLET
    This unswitched A.C. Outlet is provided for extra convenience. It is not interlocked with the front panel power switch so that power is applied even with the unit turned off. 300 W maximum power input.
39. UNIVERSAL VOLTAGE SELECTOR & FUSE POST (CEE, CSA, UL and LA models are not equipped with this facility).
    Please refer to VOLTAGE & CYCLE CONVERSION procedure.
40. LINE OUTPUT JACKS
    Connects to inputs of external source.
41. LINE OUTPUT LEVEL CONTROL
    Adjust according to the input level of your amplifier.

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FOR BETTER RESULTS PLEASE READ THE FOLLOWING PRECAUTIONS

* Your machine requires constant voltage for optimum performance. The GX-260D is equipped with a Universal Voltage Selector and cycle conversion apparatuses. Voltage and cycles are preset at the factory according to destination. However, you are requested to confirm setting before attempting operation and if necessary, readjust as indicated on page 14 of this manual. If your local power source is unkonwn, please inquire at your nearest electric company for correct voltage and cycles.
* As dirty heads and magnetized heads become the source of loss of sound, distortion, sound drop-out, and other recording and playback failures, the heads must be kept clean and demagnetized at all times.
* Do not place anything on top of your machine which will obstruct the ventilator.
* Place machine on a flat horizontal surface and operate either horizontally or vertically.
* If the sound sources are so far away from the microphones that the input level controls must be turned up to maximum, some hum or noise will inevitably be recorded. A test recording is recommended before attempting a final recording.
* Use good quality tapes. New tape gives best results.
* As tapes which have not been used for a period of time may have become sticky, run once before using.
* Always store tapes in a cool, dry place.

Should there be a problem with your machine, write down the model and serial numbers and all pertinent data regarding warranty coverage as well as a clear description of the existing trouble and contact your nearest authorized Akai Service Station or the Service Department of Akai Company, Tokyo, Japan.

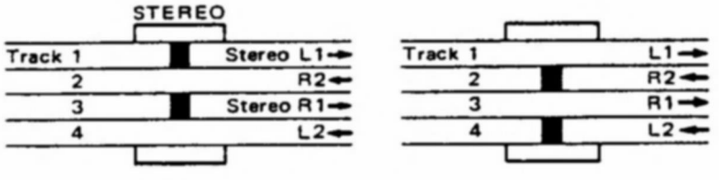


HOW TO LOAD A MAGNETIC TAPE

For loading a magnetic tape, please proceed as follows:

1. Place a full reel of tape on the Supply Reel Table and an empty reel on the Take-Up Reel Table.
2. Lock reel into place pulling tip of retainer on reel shaft outward and turning to left or right.
3. Unwind about a 75 cm length of tape from the supply reel and then thread tape properly as shown by the dotted lines in the figure.
4. Insert end of tape in slot of empty reel and wind tape around the reel hub two or three times.
5. Continue winding tape onto take-up reel until all tape slack has been taken up.

* Be sure to thread the tape under the Automatic Stop Lever located at the right side of the head block. The machine will not operate if this lever is not at lifted position.

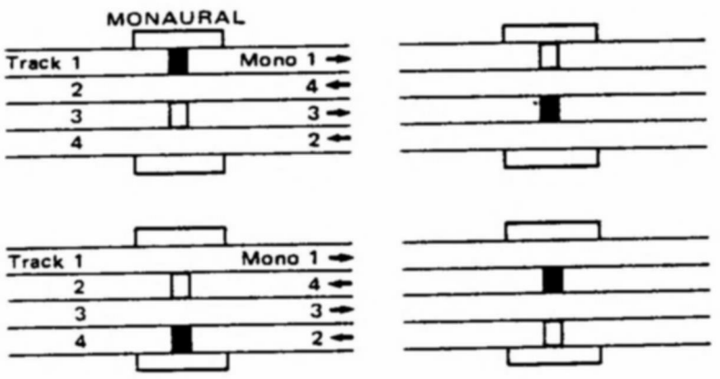


4-TRACK STEREO RECORDING (PLAYBACK) SYSTEM

Stereo recording requires the simultaneous use of two tracks. For stereo operation, depress both Recording Safety Buttons. The first stereo recording takes place on tracks 1 and 3, and the second on tracks 2 and 4 after the machine has been set to reverse recording mode.

Stereo playback also requires the simultaneous use of two tracks. The first stereo playback takes place on tracks 1 and 3, and the second on tracks 2 and 4 after the machine has been set to reverse playback mode.

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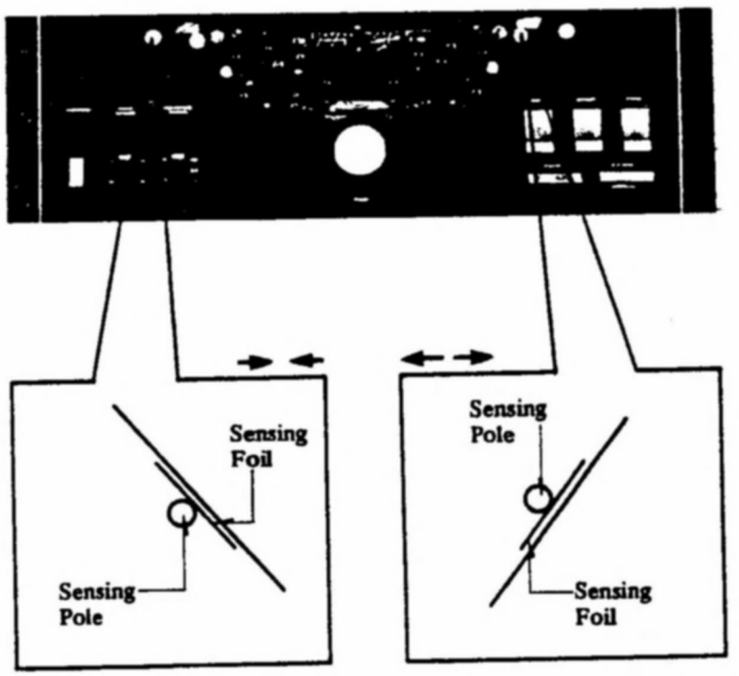


4-TRACK MONAURAL RECORDING (PLAYBACK) SYSTEM

4-track monaural recording sequence is 1-4-3-2. For monaural operation, depress LEFT Recording Safety Button. The first recording takes place on track 1 and the second on track 4 after the machine has been set to reverse recording mode. For recording on tracks 3 and 2, depress RIGHT Recording Safety Button. The third recording takes place on track 3 and the fourth on track 2 after the recorder has been set to reverse recording mode.

4-track monaural playback sequence is 1-4-3-2 and is effected without depressing the Recording Safety Buttons.

* As the model records in reverse direction, it is not necessary to invert reels.



AUTOMATIC & MANUAL REVERSE RECORDING (PLAYBACK)

For automatic reverse recording or playback (from normal to reverse direction), affix about a 2.5 cm (1") long piece of metallic sensing foil to the outside of the magnetic tape at desired reversing point. If continuous reverse between two points is desired, affix another piece of sensing foil to the inside of the magnetic tape at desired reversing point. As the sensing foil passes the sensing poles, reverse is effected depending upon position of the Reverse Mode Selector Switch.

CONTINUOUS REVERSE

Set Reverse Mode Selector Switch to CONT REV position. Recording (playback) will continue in both directions until the Stop Button is depressed. Recommended for effecting continuous playback.

ONE CYCLE REVERSE

Set Reverse Mode Selector Switch to REV position. The tape will record (playback) one forward and reverse cycle and then automatically stop.

NON-REVERSE

Set Reverse Mode Selector Switch to NON REV position. Recording (playback) will be effected in one direction only. At this setting, one-way recording (playback) will be effected whether or not sensing foil is applied to the magnetic tape.

* When manual operation of any of these functions is desired, operate the Manual Reverse Button.

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USE LOW NOISE TAPE FOR BETTER RECORDING

Depress the Tape Selector Switch located on front panel when using Akai Super Range Tape or other make low noise tape for recording. This will bring out the maximum response of low noise tape and work to change the recording equalization according to the tape. Although this model exhibits excellent frequency response with regular tape, this is further extended with the use of low noise tape.

* Set to S.R.T. position only when using low noise tapes.

FOR BETTER RECORDING RESULTS

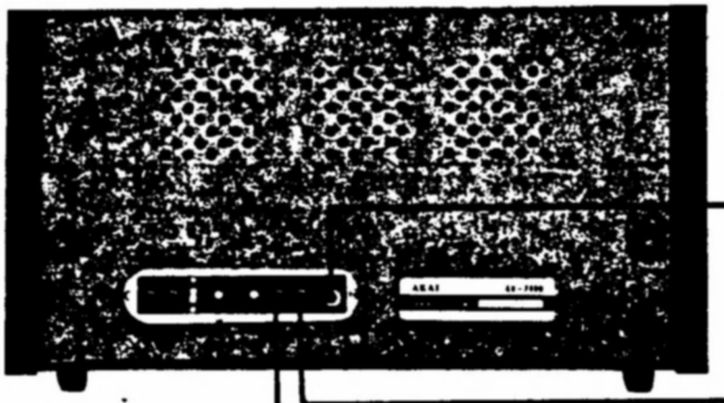
With the machine set to recording mode, the input level is registered on the VU Meters, but the recording level can be more precisely set by adjusting the input level controls while monitoring the input signals through stereo headphones. Set Monitor Selector Switch to SOURCE position and adjust input level. For recording with the least possible distortion, keep the recording level as high as possible within the black part of the VU Meter upper scale.

SOUND MONITORING

For monitoring sound source during recording, set Monitor Selector Switch to SOURCE position. If this switch is set to TAPE position, the recorded signals can be monitored as the tape passes the playback head. Therefore, dual monitoring can be accomplished for a more professional recording. When headphones are used for private listening, this switch must be set to TAPE position.

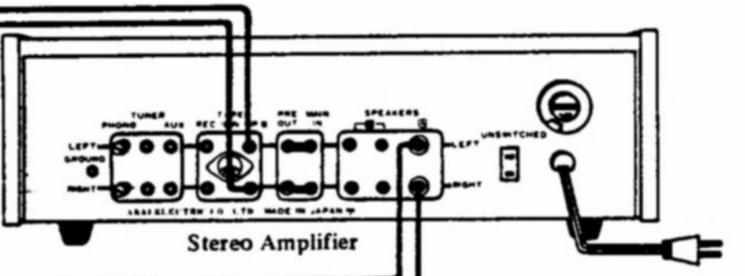
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CONNECTIONS FOR PLAYBACK

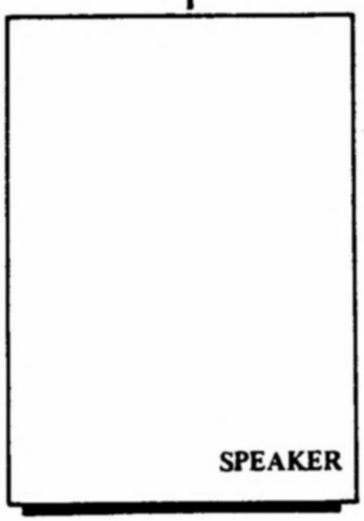


Adjust this control according to the input level of the amplifier.

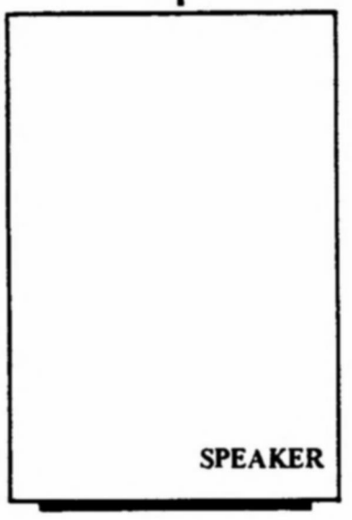
The Din Jack can be used instead of the Line Output Jacks for connection with the external amplifier. This enables playback or recording with a single connection cord.



Stereo Amplifier



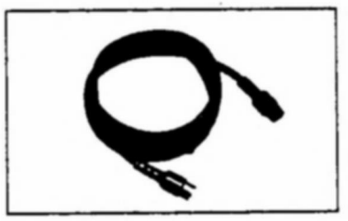
SPEAKER



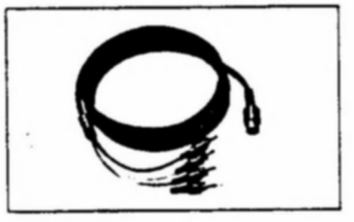
SPEAKER



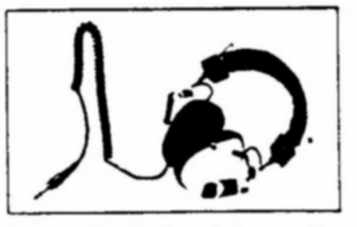
RCA/RCA
Connection Cord



DIN/DIN
Connection Cord



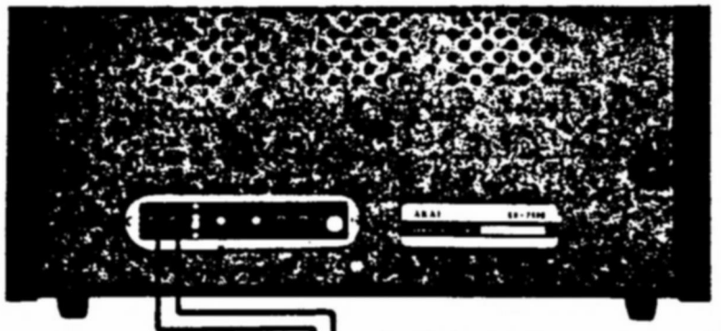
DIN/RCA
Connection Cord

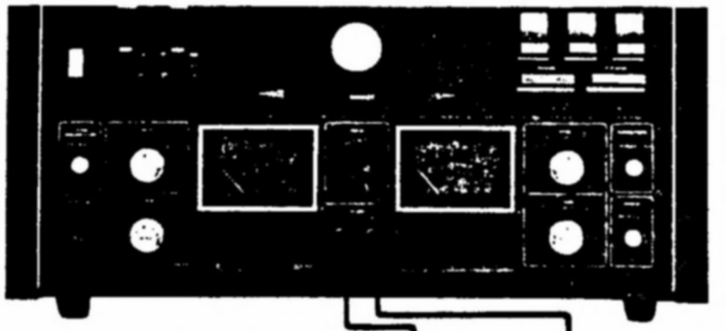


For private headphone listening, use stereo headphones of 8 Ω impedance.

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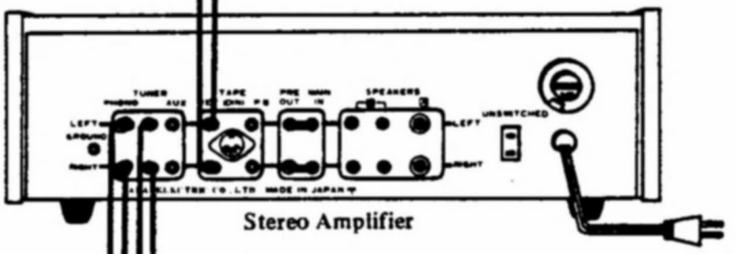
CONNECTIONS FOR RECORDING



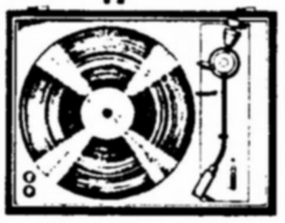


The Din Jack can be used instead of the Line Input Jacks for connection with the external amplifier. This enables playback or recording with a single connection cord. In this case, the input level is adjusted with the Microphone Recording Level Controls.

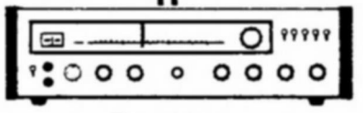




Stereo Amplifier



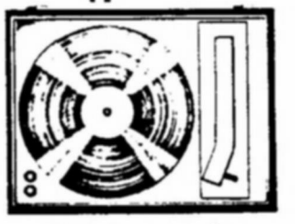
Magnetic cartridge turntable



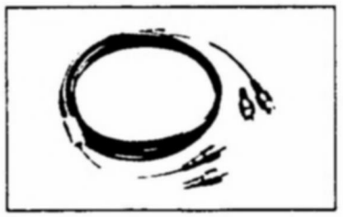
Stereo tuner



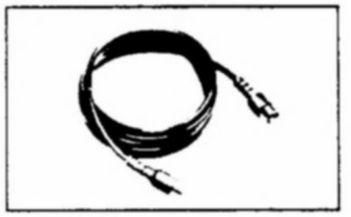
Stereo tape deck or recorder. Do not make Din-Din connection.



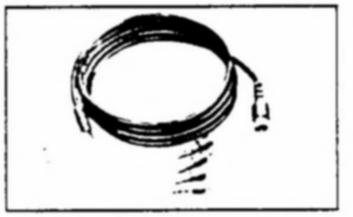
Crystal or ceramic cartridge turntable



RCA/RCA
Connection Cord



DIN/DIN
Connection Cord



DIN/RCA
Connection Cord



For monitoring use stereo headphones of 8 Ω impedance.

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PLAYBACK

Make necessary connections as shown in CONNECTIONS FOR PLAYBACK, and read the operating precautions on page 4 before beginning operation. Then, load a pre-recorded tape following the instructions on page 4.

STEREO PLAYBACK

1. Connect power cord and turn on Power Switch (A).
2. Select desired speed with Speed Selector Switch (B).
3. Set Monitor Selector Switch (C) to TAPE position.
4. Depress Forward Button (D) to begin playback.
5. Adjust external amplifier controls. The rear panel Line Output Level Control must be adjusted according to the input level of the external amplifier.
6. To stop tape travel during playback, depress Stop Button (E).
7. For reverse playback depress Reverse Button (F).

MONAURAL PLAYBACK

Monaural playback is effected in the same way as stereo playback. However, if recordings have been made on both channels of the tape, for monaural playback adjust balance control of the external amplifier so that only the sound of the desired channel is audible.

* Monaural headphone listening cannot be accomplished if different monaural recordings have been made on both the left and right channels of the tape.

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RECORDING



Make necessary program source connection to the appropriate inputs of this model as shown in CONNECTIONS FOR RECORDING, and read the operating instruction on page 4 before beginning operation. Then, load a tape following the instructions on page 4.

STEREO RECORDING

1. Connect power cord and turn on Power Switch (A).
2. Select desired speed with Speed Selector Switch (B).
3. With Reset Button (C), set Index Counter to "0000". This Index Counter provides an easy reference for locating positions on the tape.
4. Set Tape Selector Switch (D) to proper position. S.R.T. position is for Akai Super Range Tape or other make low noise tape.
5. Set Monitor Selector Switch (E) to SOURCE position.
6. Adjust and balance input level with corresponding Recording Level Controls (F) while observing VU Meters. Normal recording should not exceed zero VU level on either meter.
7. When an optimum recording level has been determined, while holding both left and right Recording Safety Buttons (G) at depressed position, depress Forward Button to begin recording. The Recording Indicator Lamp will light to indicate recording mode.
8. Depress Stop Button (H) to stop recording.

* For recording on reverse side, while holding Recording Safety Buttons at depressed position, depress Reverse Button (I).

MONAURAL RECORDING

For monaural recording, substitute the following steps for steps 6 and 7 of stereo recording procedure.

Tracks 1 & 4

Only the left channel is used for monaural recording on tracks 1 and 4.

6. Adjust and balance input level with corresponding left Recording Level Control while observing left VU Meter. Normal recording should not exceed zero VU.
7. When an optimum recording level has been determined, while holding the left Recording Safety Button at depressed position, depress Forward Button to begin recording. The Recording Indicator Lamp will light to indicate recording mode.

Track 3 & 2

Only the right channel is used for monaural recording on tracks 3 and 2.

6. Adjust and balance input level with corresponding right Recording Level Control while observing right VU Meter. Normal recording should not exceed zero VU.
7. When an optimum recording level has been determined, while holding the right Recording Safety Button at depressed position, depress Forward Button to begin recording. The Recording Indicator Lamp will light to indicate recording mode.

* The same monaural source can also be recorded simultaneously on both left and right channels by depressing the left and right Recording Safety Buttons simultaneously.

ECHO EFFECT TO DOUBLE YOUR PLEASURE

When echo effect is desired, substitute the following step for step 6 of Stereo Recording procedure.

6. Adjust and balance input level with corresponding Recording Level Controls (F) (if microphones are used for recording adjust Microphone and Line Recording Level Controls; if line connections are used, adjust Line Recording Level Controls) while observing VU Meters. Normal recording should not exceed zero VU level on either meter. Depress Sound-On-Sound Switch.

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SOUND-ON-SOUND RECORDING

For transfer of previously recorded material from one track to another, accumulating as many individual recordings on a single track as is desired. Use for fun or professional compilations.

First Recording

1. Confirm that there are no connections to the Input Jacks and turn all input level controls to minimum.
2. Plug in microphone to left Microphone Jack.
3. Depress Monitor Selector Switch to SOURCE position.
4. Adjust left Microphone Recording Level Control while observing the left VU Meter.
5. Depress Reset Button and set Index Counter to "0000".
6. While holding left Recording Safety Button at depressed position, depress Forward Button to begin first recording.
7. When the recording is completed, rewind tape to starting point.

Second Recording

8. Confirm that the Monitor Selector Switch is at SOURCE position and set Sound-On-Sound Switch to ON position.
9. Plug in microphone to right Microphone Jack.
10. Connect stereo headphones to Stereo Headphone Jack for monitoring the first recording.
11. Adjust right Microphone Recording Level Control while observing the right VU Meter.
12. Turn up right Line Recording Level Control to same position as right Microphone Recording Level Control.
13. While holding right Recording Safety Button at depressed position, depress Forward Button to begin second recording.

- As the second recording is being made, the first recording is monitored through the stereo headphones. The two recordings will be completely merged on the right channel tracks.
- Third and subsequent recordings are made in the same manner as the second by switching the Recording Safety Buttons. Note that the Line Recording Level Control not in immediate use must be set to minimum during recording. For instance, when making the second recording, the left Line Recording Level Control must be set to minimum and the right control to maximum or to the same level as the microphone input. When effecting the third recording, the right Line Recording Level Control must be set to minimum and the left Line Recording Level Control to desired level, and so on.
- For playback, set Monitor Selector Switch to TAPE position and adjust amplifier balance control so that only the sound from the last recorded channel is heard.

SOUND-WITH-SOUND RECORDING

Sound-with-sound recording is accomplished in the same way as Sound-On-Sound except that instead of transferring from one track to another, the sound on track 1-4 is monitored through headphones while the second recording is made on track 3-2. This feature is especially convenient for teacher/student repetition and comparison (teacher's voice on track 1, and student's voice on track 3). For sound-with-sound recording, follow Sound-On-Sound Recording through step 7 and proceed as follows:

8. Plug in microphone to right Microphone Jack.
9. Connect stereo headphones to Stereo Headphone Jack for monitoring the first recording.
10. Adjust right Microphone Recording Level Control while observing the right VU Meter.
11. Set Monitor Selector Switch to TAPE position.
12. While holding right Recording Safety Button at depressed position, depress Forward Button to begin second recording.
13. When recording is completed, rewind tape, playback and compare. The second recording can be re-recorded as many times as is necessary until perfection is attained.

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SOUND MIXING

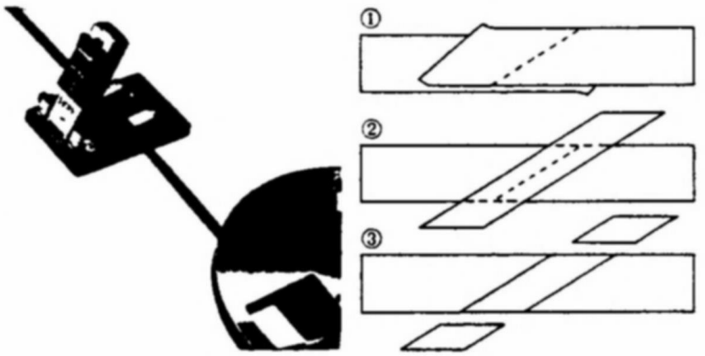
Another important feature of this model is the built-in microphone-line mixing circuit. Independent line and microphone recording level controls and input jacks enable signals from microphones and from line sources to be blended and recorded simultaneously on the tape.
Connect microphones to the Microphone Jacks and connect desired source to the Line Input Jacks, and follow the procedure outlined below.

1. Connect power cord and turn on Power Switch.
2. Select desired speed with Speed Selector Switch.
3. With Reset Button, set Index Counter to "0000". This Index Counter provides an easy reference for locating positions on the tape.
4. Set Tape Selector Switch to proper position. S.R.T. position is for Akai Super Range Tape or other make low noise tape.
5. Set Monitor Selector Switch to SOURCE position.
6. Adjust and balance microphone input level with Microphone Recording Level Controls and line input level with Line Recording Level Controls while observing VU Meters. Normal recording should not exceed zero VU level on either meter.
7. When an optimum recording level has been determined, while holding both left and right Recording Safety Buttons at depressed position, depress Forward Button to begin recording. The Recording Indicator Lamp will light to indicate recording mode.
8. Depress Stop Button to stop recording.

TAPE ERASING

Any signals previously recorded on the tape will be automatically erased as a new recording is made. For erasing only, thread tape and set machine to recording mode. No plugs should be connected to the input jacks and the input level controls should be kept at minimum. For quick and complete erasure, a bulk tape eraser is recommended.

* Be sure to depress the proper Track Selector Switch(es). If both switches are depressed together, both the left and right channels will be erased.



TAPE SPLICING & EDITING

Cut tape diagonally with an overlap so that the ends are lined up. Cutting tape in the diagonal eliminates detection of the splice in recording. Cover aligned ends with splicing tape, exerting pressure to secure ends evenly. Trim off excess splicing tape. Cutting into magnetic tape very slightly will eliminate the possibility of a sticky splice. Splicing using scissors requires skillful work. For smooth and easy splicing, Akai Tape Splicer AS-3 is highly recommended.

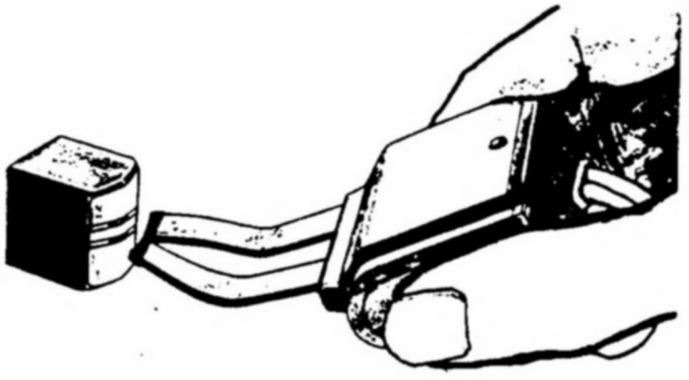
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MAINTENANCE



HEADS SHOULD ALWAYS BE KEPT CLEAN

The GX Heads do not normally require cleaning. However, if old tapes or tapes which have been spliced are used, head cleaning is recommended. Clean by rubbing the entire head surface (do not scratch) with a swab stick which has been dipped in Akai cleaning fluid from Akai Head Cleaning Kit HC-500.



HEAD DEMAGNETIZING

The prolonged use of the machine will gradually build up residual magnetism on the heads. The effect of magnetization is that it causes considerable drop in the highs and introduces noise into the recordings. It is, therefore, recommended that head demagnetizing be performed periodically. This can be accomplished with a bulk head demagnetizer by bringing it close to the heads and making several circulating motions over all head surface areas as well as the head housing.

- Be sure to turn off the power of the entire unit prior to demagnetizing the heads.
- Do not use magnetized tools in the vicinity of the heads and VU Meters.
- Please read the demagnetizer handling instructions carefully.

PINCH WHEEL & CAPSTAN CLEANING

If foreign matter is allowed to accumulate on the Pinch Wheel and Capstan, these particles will come off on the tape, causing deterioration of sound quality. Oil adhering to the capstan also causes irregularity in tape transport. It is, therefore, recommended that these parts be wiped clean occasionally. For Pinch Wheel and Capstan cleaning use Akai Head Cleaning Kit HC-500, or, if this is not available, use alcohol.

- Do not use chemicals such as chlorothane, etc., as the rubber parts will deteriorate.

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TECHNICAL DATA

Track System	4-track 2-channel stereo/monaural system
Reel Capacity	Up to 7″ reel
Tape Speed	7-1/2 and 3-3/4 ips (±1%)
Wow & Flutter	Less than 0.06% WRMS at 7-1/2 ips Less than 0.1% WRMS at 3-3/4 ips
Equalization	Correct equalization for playback of tapes recorded to the NAB curve
Frequency Response	Using low noise tape 30 Hz to 26,000 Hz (±3 dB) at 7-1/2 ips 30 Hz to 20,000 Hz (±3 dB) at 3-3/4 ips Using regular tape 30 Hz to 23,000 Hz (±3 dB) at 7-1/2 ips 30 Hz to 18,000 Hz (±3 dB) at 3-3/4 ips
Distortion	Less than 1.2% (1,000 Hz 0 VU)
Signal-To-Noise Ratio	Better than 57 dB (Tape Selector Circuit activated) Better than 54 dB (Tape Selector Circuit inactivated)
Cross-Talk	Better than 60 dB (monaural) Better than 45 dB (stereo)
Bias Frequency	100 kHz
Heads	(4): Two GX recording/erase combination heads, two GX playback heads.
Motors	(3): One 4/8-pole self-lubricating hysteresis synchronous capstan drive motor; two eddy-current outer-rotor reel drive motors
Fast Forward & Rewind Time	Within 75 secs. using a 1,200 ft tape
Recording Capacity	Two hours stereo recording using a 1,200 ft tape at 3-3/4 ips
Output Jacks	Line(2): 1.23 V (0 VU)/100 Ω (Required load impedance: more than 20 kΩ) Phone(1): 30 mV/8 Ω
Input Jacks	Microphone(2): 0.3 mV/4.7 kΩ Line(2): 50 mV
Din Jack	0.5 V/25 mV
Semi-Conductors	Transistors: 30 Diodes: 22
Power Requirements	100 V to 240 V, A.C., 50/60 Hz
Power Consumption	110 W max.
Dimensions	446(W) x 473(H) x 226(D)mm (17.5 x 18.6 x 8.9″)
Weight	20.8 kg (45.8 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

STANDARD ACCESSORIES

Dust Cover(1) Empty Reel(1) Connection Cord(2) Sensing Foil(1) Spare Fuse(1 set) Operator's Manual(1)

* Spare fuses are not included with CEE, CSA, UL, and LA Standard models.

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TROUBLE SHOOTING CHART

The conditions listed below do not indicate mechanical failure of your unit. If your machine exhibits any of these conditions, check for trouble as indicated.

SYMPTOM	TROUBLE	REMEDY
Loss of sensitivity and tone quality.	* Dirty Erase Head.	* See HEADS SHOULD ALWAYS BE KEPT CLEAN.
	* Wrong side of tape facing the heads.	
	* A.C. power lower than the voltage to which your machine is adjusted.	* See VOLTAGE & CYCLE CONVERSION.
	* Magnetized head.	* See HEAD DEMAGNETIZING.
	*Tape Selector Switch is set incorrectly.	
Machine will not record or playback.	* Check positions of controls and input/output.	
	* Check position of the Recording Safety Button.	
	* Check position of the Automatic Stop Lever.	
Irregularity in tape transport.	* Oil or magnetic particles adhering to the Capstan or Pinch Wheel.	* See PINCH WHEEL & CAPSTAN CLEANING.
	* Sticky or dirty tape surface.	
	* Improperly loaded tape.	* See HOW TO LOAD A MAGNETIC TAPE.
	* A.C. power lower than the voltage to which your machine is adjusted.	* See VOLTAGE & CYCLE CONVERSION.
	* Sensing foil is affixed improperly.	* See AUTOMATIC & MANUAL REVERSE PLAYBACK.
Tape will not run.	* Blown fuse.	
	* Power is not being supplied.	* Check power cord, Power Switch, and Automatic Stop Lever.
	* Twisted or sticky tape.	
Previously recorded program will not erase.	* Erase head is dirty.	* See HEAD SHOULD ALWAYS BE KEPT CLEAN.
Distorted or noisy sound.	* Recording level is too high.	* Normal recording level is zero VU.
	* Check external source controls and connections.	

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STEREO TAPE DECK

MODEL GX-260D

SECTION 1 SERVICE MANUAL 3
SECTION 2 PARTS LIST 29
SECTION 3 SCHEMATIC DIAGRAM 55

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. SPECIFICATIONS 4
II. MEASURING METHOD 5
1. TAPE SPEED DEVIATION 5
2. WOW AND FLUTTER 5
3. FREQUENCY RESPONSE 5
4. SIGNAL TO NOISE RATIO 5
5. TOTAL HARMONIC DISTORTION 6
6. CROSS TALK 6
7. ERASE RATIO 6
III. DISMANTLING OF UNIT 7
IV. MECHANISM ADJUSTMENTS 10
1. BRAKE TENSION ADJUSTMENT 10
2. REEL HEIGHT ADJUSTMENT 10
3. SUPPLY VOLTAGE TO BOTH TORQUE MOTORS AND TENSION AT EACH MODE 12
4. ADJUSTMENT OF PINCH ROLLER MECHANISM 12
V. HEAD ADJUSTMENTS 13
1. HEAD HEIGHT ADJUSTMENT 13
2. HEAD AZIMUTH ALIGNMENT ADJUSTMENT 14
VI. AMPLIFIER ADJUSTMENTS 15
1. PLAYBACK LEVEL ADJUSTMENT 15
2. VU METER SENSITIVITY ADJUSTMENT 15
3. RECORDING LEVEL ADJUSTMENT 16
4. RECORDING BIAS FREQUENCY MEASURING METHOD AND ADJUSTMENT 16
5. FREQUENCY RESPONSE ADJUSTMENT 17
6. ERASE VOLTAGE 17
VII. MECHANICAL OPERATING PRINCIPLES 18
1. DIRECTION CHANGE OF MAIN MOTOR REVOLUTIONS 18
2. TORQUE MOTOR SUPPLY VOLTAGE 18
3. FORWARD MODE 18
4. REV MODE 18
5. FAST FORWARD MODE 18
6. RWD MODE 18
7. STOP MODE 18
VIII. COMPOSITE VIEWS OF COMPONENTS 23

I. SPECIFICATIONS

An asterisk next to a figure indicates the minimum guaranteed performance.

TRACK SYSTEM		4-track 2-channel stereo/monaural system
REEL CAPACITY		Up to 7" reel
TAPE SPEED		7-1/2 ips (19 cm/sec.) ±0.8% 3-3/4 ips (9.5 cm/sec.) ±1%
WOW AND FLUTTER		Less than 0.06% (*0.12%) RMS at 7-1/2 ips Less than 0.1% (*0.2%) RMS at 3-3/4 ips
FREQUENCY RESPONSE	Low Noise Tape	30 to 26,000 Hz (*30 to 23,000 Hz) ±3 dB at 7-1/2 ips 30 to 20,000 Hz (*40 to 17,000 Hz) ±3 dB at 3-3/4 ips
	Normal Tape	30 to 23,000 Hz (*30 to 22,000 Hz) ±3 dB at 7-1/2 ips 30 to 18,000 Hz (*40 to 16,000 Hz) ±3 dB at 3-3/4 ips
DISTORTION		Less than 1.2% (*2%) at 7-1/2 ips (1,000 Hz O VU) Less than 3% at 3-3/4 ips (1,000 Hz O VU)
SIGNAL TO NOISE RATIO		Better than 57 dB (*50 dB) (Tape selector circuit activated) Better than 54 dB (Tape selector circuit inactivated)
CROSS TALK		Better than 60 dB (*55 dB) monaural Better than 45 dB (*40 dB) stereo
BIAS FREQUENCY		100 kHz ±5%
ERASE RATIO		Better than 65 dB
BIAS LEAK		Less than −30 VU
HIGH FREQUENCY DEVIATION		
	Between Channels	Within 3 dB, using a 8,000 Hz 3-3/4 ips recorded tape at 7-1/2 ips
	Between FWD/REV	Within 3.5 dB, using a 8,000 Hz 3-3/4 ips recorded tape at 7-1/2 ips
INPUTS	Mic Input	0.3 mV Impedance: 10 kΩ
	Line Input	60 mV Impedance: 150 kΩ
	Din Input	3 mV (Low) Impedance: 24 kΩ 60 mV (High) Impedance: 22 kΩ
OUTPUTS	Line Output	1.23V (+4 dB) Impedance: 100Ω (Required load impedance more than 20 kΩ)
	Din Output	0.614V
RECORDING CAPACITY		60 min. stereo recording, using 1,200 ft tape at 7-1/2 ips
F. FWD AND RWD TIME		About 82 sec. (50 Hz) About 66 sec. (60 Hz), using a 1,200 ft tape
MOTORS	Capstan Motor	4/8-pole self-lubricating hysteresis synchronous 2-speed motor Type: HM2-16ND (Winterized) Condenser Capacity: 1 μF 50 Hz 2 μF 60 Hz (GX-260D UL) Revolutions: 1,500/750 r.p.m. at 50 Hz 1,800/900 r.p.m. at 60 Hz
	Reel Motor	Two 6-pole eddy current outer rotor motors Type: 24XO-MR Revolutions: 930 r.p.m. at 50 Hz 1,120 r.p.m. at 60 Hz
HEADS	Comb. Rec/Erase Head	Type: RE4-5 Gap: 3.5 to 5.5μ Impedance: REC. HEAD 1,400Ω ±25% at 100 kHz ERASE HEAD 130Ω ±7% at 100 kHz D.C. Resistance: REC. HEAD 5.5Ω ERASE HEAD 1.8Ω
	Playback Head	Type: P4-202 Gap: 1.7μ ±0.5μ Impedance: 1.4 kΩ at 1 kC D.C. Resistance: 268Ω
TRANSISTORS		2SC1312(G) (H) . . . 10 2SC711(D) (E) . . . 14 2SC711(E) (F) . . . 5 2SC1013(D) (E) . . . 1
DIODES		WG599 . . . 6 10D05 . . . 4 1N34A . . . 3 10D6 . . . 3 10D1 . . . 1 WZ240 . . . 1 10D4 . . . 2
POWER SUPPLY		100 to 240VAC 50/60 Hz
POWER CONSUMPTION		110W max.
DIMENSIONS		446(W) x 473(H) x 226(D) mm (17.5" x 18.6" x 8.9")
WEIGHT		20.8 kg (45.8 lbs.)

NOTE: Specifications subject to change without notice.

II. MEASURING METHOD

1. TAPE SPEED DEVIATION

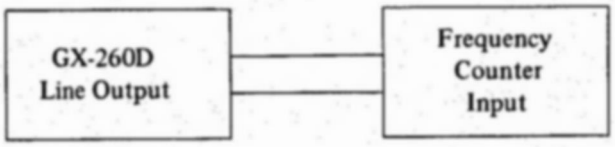


Fig. 1

As shown in Fig. 1, connect a Frequency Counter to the Line Output of Model GX-260D. Playback a 1,000 Hz pre-recorded test tape. Take a Frequency Counter reading at the beginning, middle, and end of tape winding during playback. The maximum value of these respective readings will represent tape speed deviation.

2. WOW AND FLUTTER

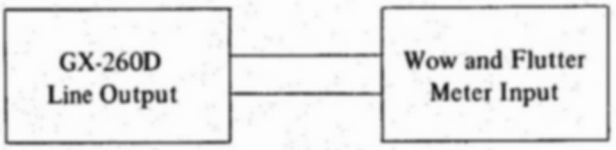


Fig. 2

METHOD A

As shown in Fig. 2, connect the Line Output of Model GX-260D to the Input of a Wow and Flutter Meter. Playback a 3,000 Hz pre-recorded test tape and take a Wow and Flutter Meter reading at the beginning, middle, and end of tape winding. The maximum value of these respective readings will represent the Wow and Flutter.

METHOD B

Supply a 3,000 Hz sine wave signal from an Audio Frequency Oscillator and make a recording on a blank tape at the beginning, middle, and end of tape winding. Rewind and playback the resultant signal. Measure Wow and Flutter with a Wow and Flutter Meter. (The Wow and Flutter value of Method B will be close to $\sqrt{2}$ times of value of Method A.)

3. FREQUENCY RESPONSE

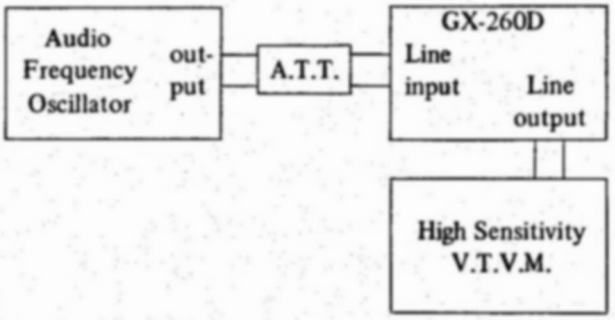


Fig. 3

For measuring Frequency Response, connect instruments as shown in Fig. 3 and proceed as follows:

1) Supply a 1,000 Hz sine wave signal to the Line Input of Model GX-260D from an Aduio Frequency Oscillator through an Attenuator.
2) Set recorder to recording mode and turn recording level control volume to maximum. Adjust attenuator to obtain a +4 dB V.T.V.M. reading.
3) Under conditions described in 2) above, readjust attenuator so that the Line Output is −16 dB, and record 30 to 24,000 Hz spot frequencies.
4) Rewind tape and playback from the beginning. Take V.T.V.M. spot frequency readings and plot values on a graph.

NOTE: When measuring Frequency Response, new tape should be used.

4. SIGNAL TO NOISE RATIO

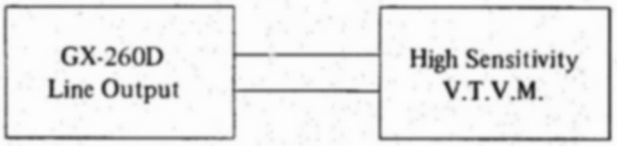


Fig. 4

As shown in Fig. 4, connect a High Sensitivity V.T.V.M. to the Line Output of Model GX-260D. Playback a 250 Hz "O" VU pre-recorded test tape and measure the output. Then remove the tape and measure the noise level under the same condition. Convert each of the measured values into decibels.

5. TOTAL HARMONIC DISTORTION

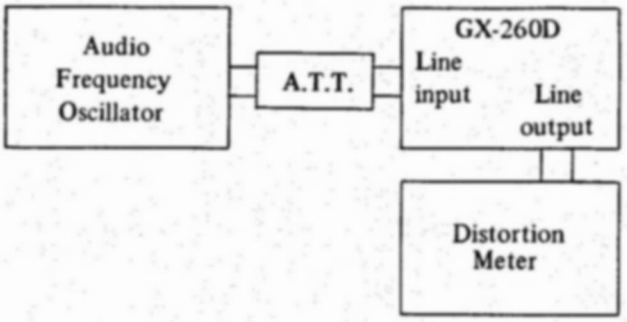


Fig. 5

Connect the measuring instruments as shown in Fig. 5 and record a 1,000 Hz sine wave signal at "O" VU. Playback the resultant signal and measure the overall distortion factor.

NOTE 1) At this time, Distortion of the Audio Frequency Oscillator must be sufficiently small.
2) When measuring the distortion factor, new tape should be used.

6. CROSS TALK (Cross talk between the tracks)

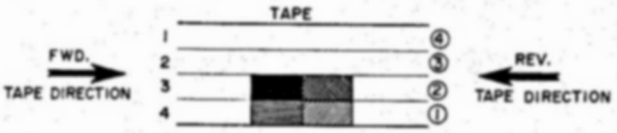


Fig. 6

As shown in Fig. 6, first record a 1,000 Hz sinewave signal on track No. 3 at +3 VU level.
Next, record under a non-input condition. Then playback the tape on track No. 3 and (1) (reversed condition of tape) through the B.P.F. (1,000 Hz Band Pass Filter, sensitivity 1,000 Hz, ratio 1:1) and obtain the ratio from the following formula.

$$C = 20 \log \frac{E_0}{E_2 - E_1} \text{ (dB)}$$

where, C = Desired cross talk ratio (dB)
E_0 = 1,000 Hz signal output level (V)
E_2 = 1,000 Hz cross talk level (V)
E_1 = Non-input cross talk level (V)

7. ERASE RATIO

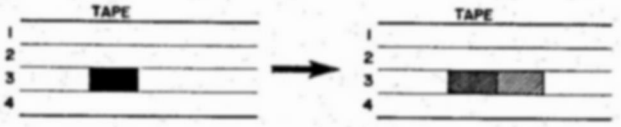


Fig. 7

As shown in Fig. 7, using a virgin tape, first record a 1,000 Hz sinewave signal at +3 VU level, then playback this recorded signal and take a V.T.V.M. reading at the output level.
Next, erase this recorded portion and playback the erased part through the B.P.F. (1,000 Hz sensitivity 1:1) and take readings of the erased signal. Obtain a ratio between the two from the following formula:

$$Er = 20 \log \frac{E_0}{E_2 - E_1} \text{ (dB)}$$

where, Er = Desired erase ratio
E_0 = 1,000 Hz signal output level (V)
E_2 = Erased 1,000 Hz signal and noise level (V)
E_1 = Erased noise level (V)

NOTE: When measuring cross talk and erase ratio virgin tape should be used.

III. DISMANTLING OF UNIT

In case of trouble, etc. necessitating disassembly, please disassemble in the order shown in photographs. Reassemble in reverse order.

1



2



3



4



5



6



7



8


FRONT PANEL

9


UPPER COVER

10


MECH PANEL

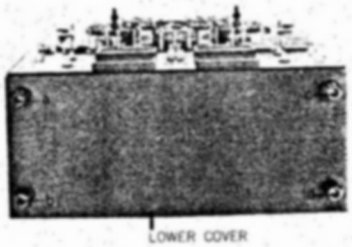
11


BACK PLATE

12


CONTROL KNOBS

13



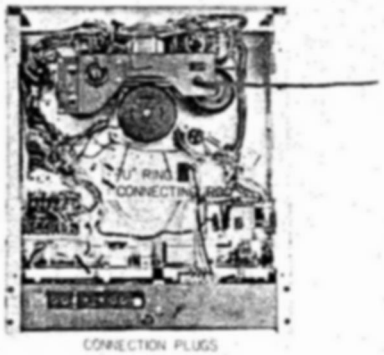
14



15



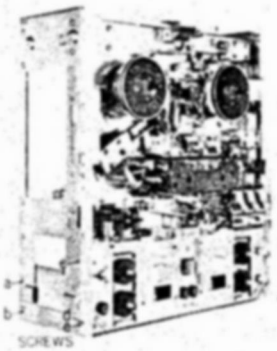
16



17



18



19



20



IV. MECHANISM ADJUSTMENTS

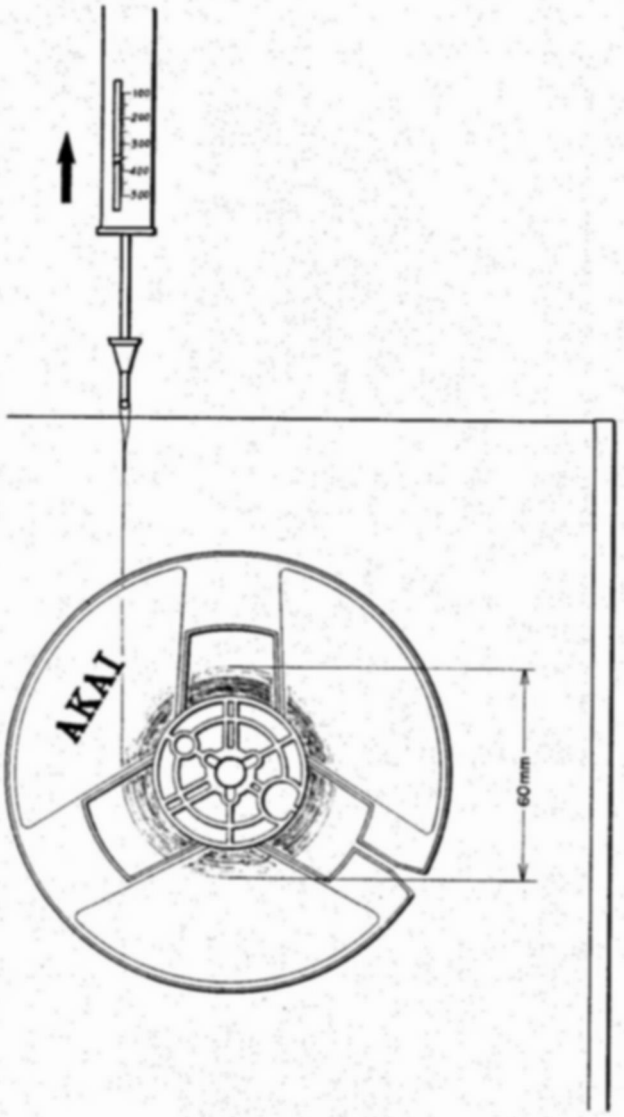


Fig. 8

1. BRAKE TENSION ADJUSTMENT

Use a 60 mm diameter tape wound on a 5" reel and measure the brake tension with a tension gauge. (See Fig. 8) Ideal tape tension is 380 grams.

Brake Tension Adjustment can be made as follows:

1) Adjust position of suspended springs (d) (d').
2) Loosen screws (a) (b) and (a') (b'), and adjust the vertical (upper/lower) position of spring suspension metal (c) (c').
3) Loosen screws (e) (f) and (e') (f'), and adjust the horizontal (left/right) position of brake band suspension metal (g) (g').

Adjust as described above until proper brake tension is attained (Refer to Fig. 9).

NOTE: In making Brake Tension Adjustment, when the machine is set to other than stop mode, confirm that the brake band definitely does not touch the cloth tape on the brake drum. (See Fig. 10)

2. REEL HEIGHT ADJUSTMENT

Loosen the reel table height adjustment screws own in Fig. 11 and adjust by moving the reel ble in the direction of arrow and positioning so at the tape winds in the center of the reel.

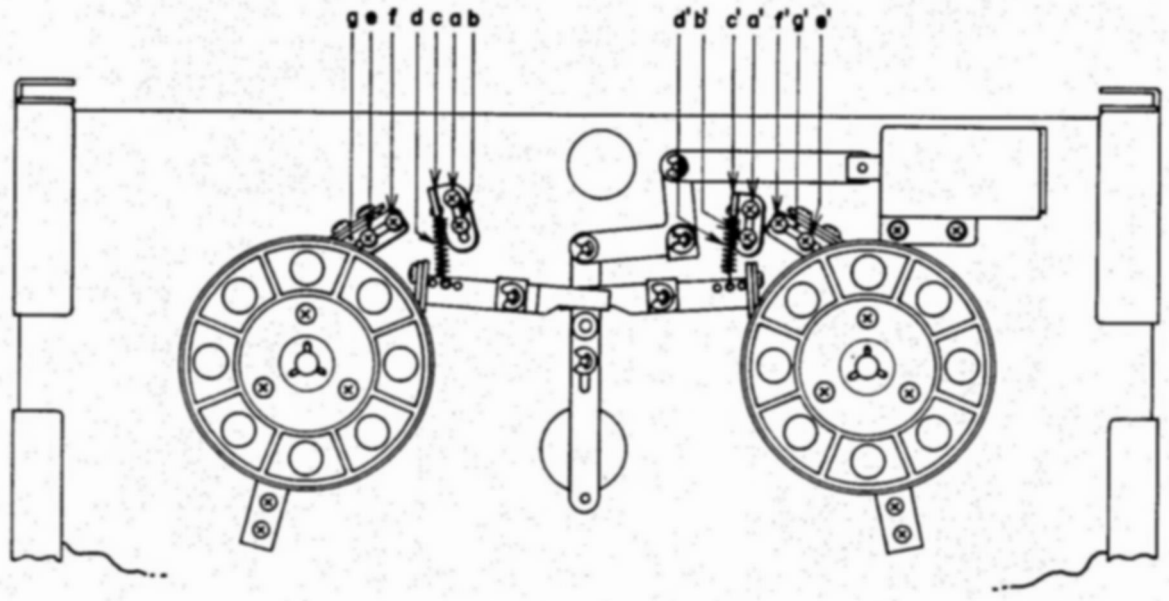


Fig. 9

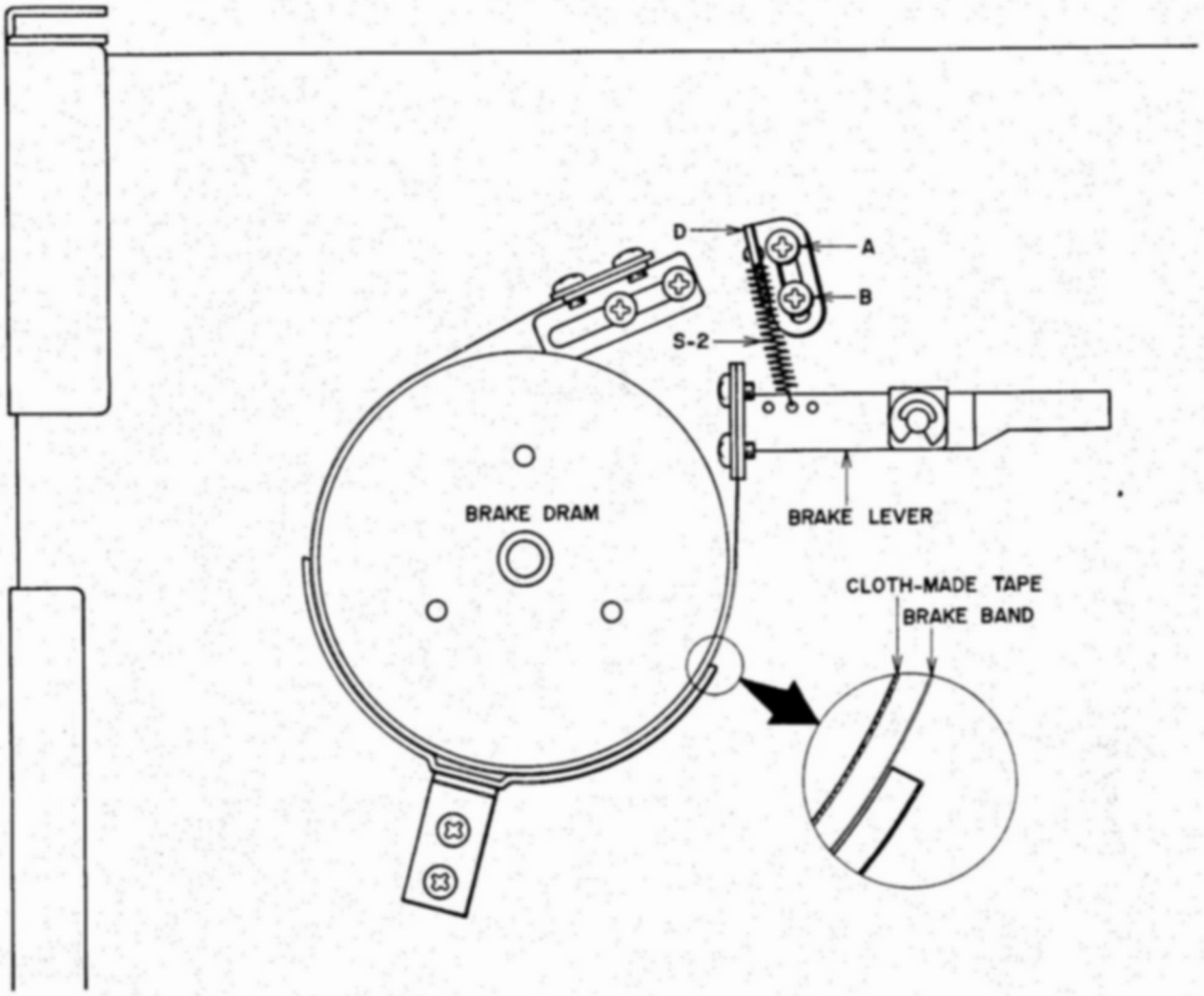

D
A
B
S-2
BRAKE DRAM
BRAKE LEVER
CLOTH-MADE TAPE
BRAKE BAND

Fig. 10

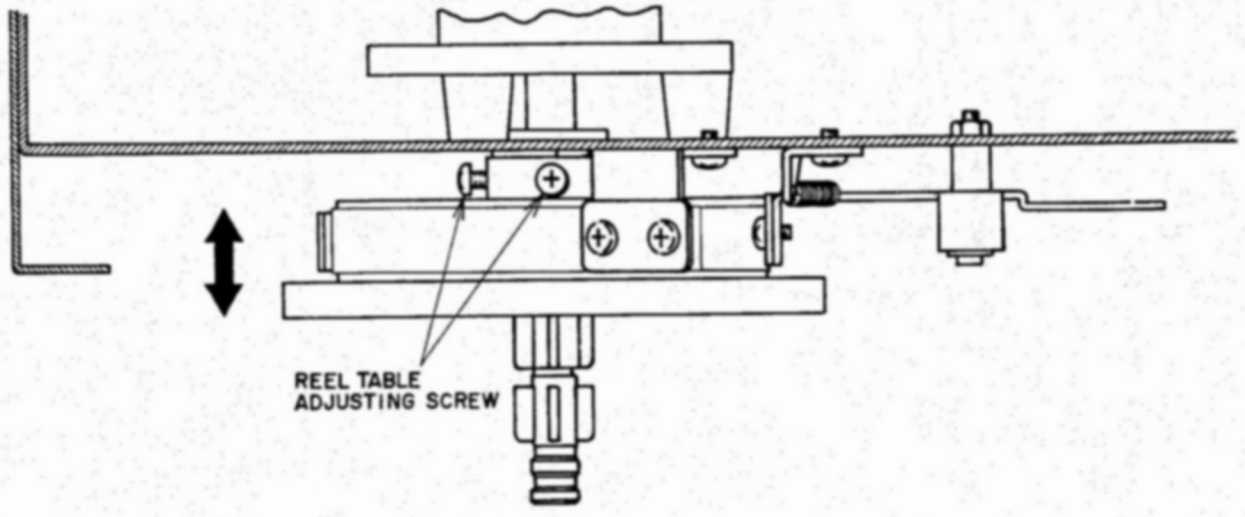

REEL TABLE
ADJUSTING SCREW

Fig. 11

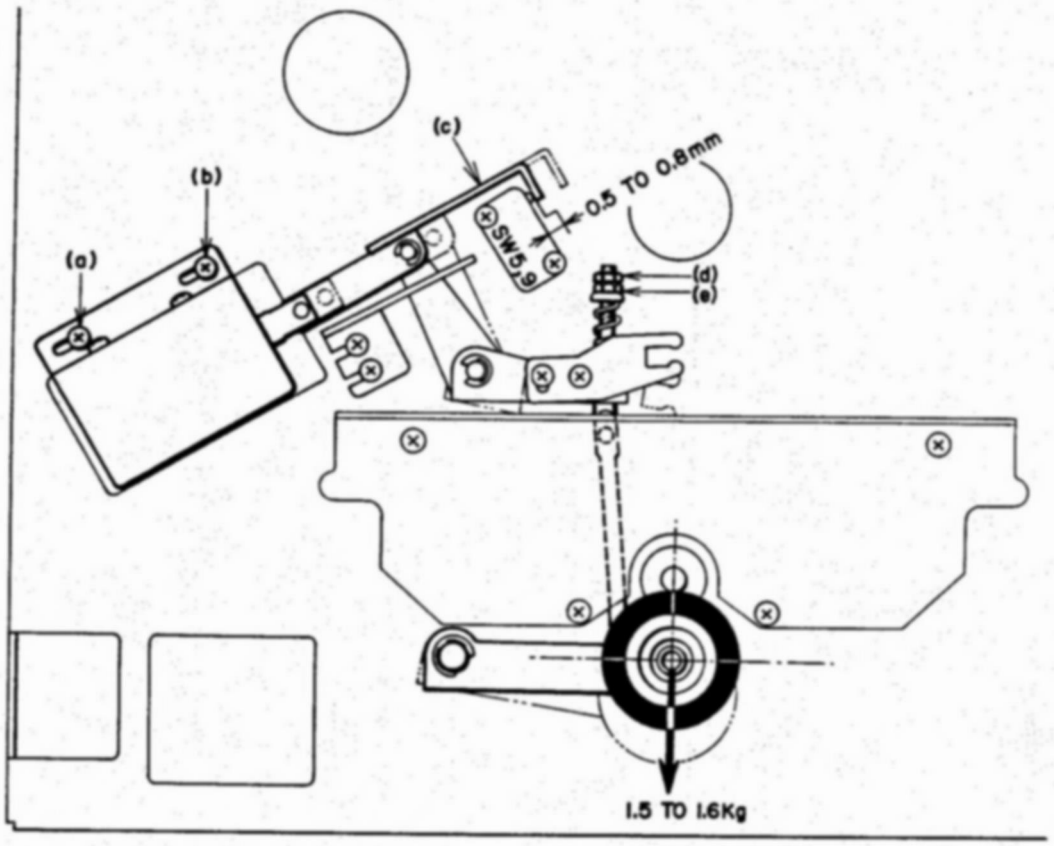


Fig. 12

3. SUPPLY VOLTAGE TO BOTH TORQUE MOTORS AND TENSION AT EACH MODE

(Values indicated are during operating mode)

Torque	Left Side	Right Side
FWD	45V	66V
	45g	100g
REV	66V	45V
	100g	45g
F. FWD	30V	115V
	25g	490g
REW	115V	30V
	490g	25g

Chart 1

4. ADJUSTMENT OF PINCH ROLLER MECHANISM

1) Pinch Roller Solenoid Position
At playback mode, adjust the position of the pinch roller plunger so that the space between lever (c) and the Micro Switch is about 0.5 to 0.8 mm. Then tighten screws (a) (b) to maintain this position. (See Fig. 12)

2) Pinch Wheel Pressure Adjustment
At playback mode, use a tension gauge and adjust nuts (d) (e) so that the pinch wheel pressure is from 1.5 to 1.6 kg.

V. HEAD ADJUSTMENTS

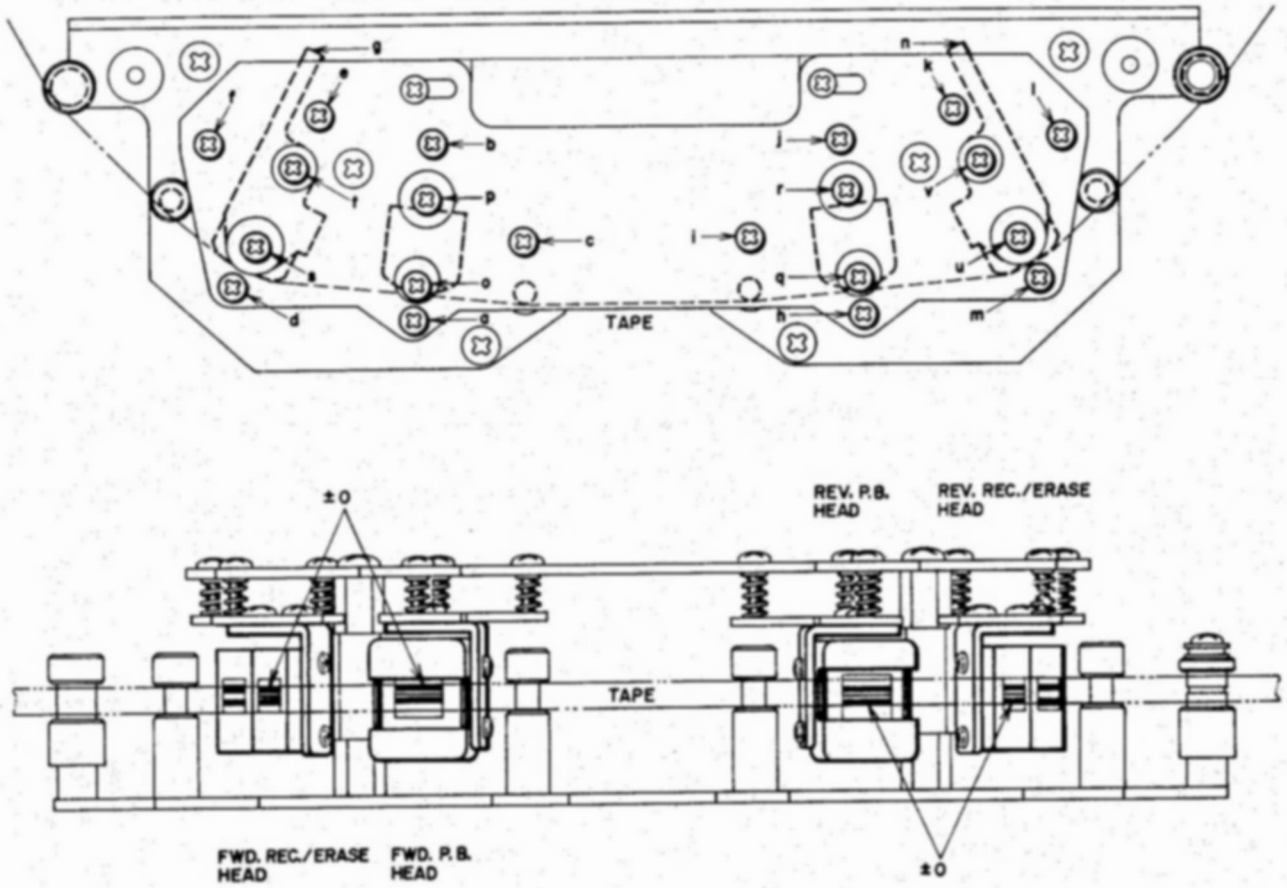


Fig. 13

1. HEAD HEIGHT ADJUSTMENT

1) Playback Head (See Fig. 13)
   a) At forward playback mode, adjust the height of the Fwd playback head by turning screws a, b shown in Fig. 13 until the upper edge of the tape and the upper edge of the left channel head core of the playback head are the same height.
   b) At reverse playback mode, adjust the height of the Rev playback head by turning screws h, j shown in Fig. 13 until the lower edge of the tape and the lower edge of the right channel head core of the playback head are the same height.
2) Recording and Erase Head
   a) At forward playback mode, adjust the height of the recording head by turning screws d, e shown in Fig. 13 until the upper edge of the tape and the upper edge of the left channel head core of the recording head is the same height.
   In this instance, because in combining the erase and recording head, slight unevenness exists, confirm that the upper edge of the erase head part is about 0.015 mm to 0.125 mm higher than the upper edge of the tape.
   b) At reverse playback mode, adjust the height of the Rev recording head by turning screws k, m shown in Fig. 13 until the lower edge of the tape and the lower edge of the right channel head core of the recording head are the same height.
   In the same way as for the forward and erase head, also confirm that the lower edge of the reverse and erase head part is about 0.115 mm to 0.125 mm lower than the lower edge of the tape.

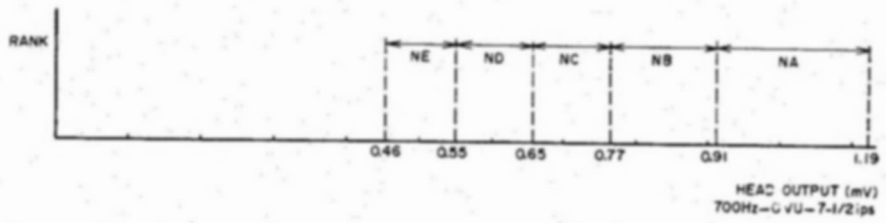


Chart 2



Fig. 14

2. HEAD AZIMUTH ALIGNMENT ADJUSTMENT

1) Forward Playback Head
   a) Connect a high sensitivity V.T.V.M. to the output terminals.
   b) Set the Tape Speed Switch to 7-1/2 ips, turn Line Output Level Controls to maximum, and set recorder to forward playback mode.
   c) Playback an Alignment Test Tape (Ampex Alignment Test Tape 8,000 Hz, 3-3/4 ips recorded).
   d) At forward playback mode, adjust Azimuth Alignment Adjustment screw C by turning to left and right until the line output level of both channels is maximum.
   e) After the adjustment outlined in Item d) above has been completed, loosen screws o and p and move the gap side of the playback head to left and right, and position so that when tension is applied to the supply reel side, the line output level of both channels does not fluctuate. When a maximum allowable fluctuation of within +0.5/−0 dB is attained, tighten screws o and p.
2) Reverse Playback Head
   a) Follow "Forward Playback Head" procedure through Item c). Then, at reverse playback mode, adjust Azimuth Alignment Adjustment Screw i by turning to left and right until the line output level of both channels is maximum.
   b) After the adjustment outlined in Item a) above has been completed, loosen screws q, r and move the gap side of the playback head to left and right, and position so that when tension is applied to the supply reel side, the line output level of both channels does not fluctuate. When a maximum allowable fluction of within +0.5/−0 dB is attained, tighten screws q, r.
3) Forward Recording/Erase Head
   a) Connect an Audio Frequency Oscillator to the line inputs and an high sensitivity V.T.V.M. to the line outputs, and load a blank tape.
   b) Set the Monitor Selector Switch to TAPE position, and record a 16 kHz signal at −10 dB level at forward recording mode.
   c) At forward recording mode, adjust Azimuth Alignment Adjustment Screw f by turning to left and right until the output level of both channels is maximum and does not fluctuate.
   d) After the adjustments outlined above have been completed, loosen Fwd recording head mounting screws s, t and move lever g to left and right and adjust the gap side of the recording head so that when tension is applied to the supply reel, the line output level of both channels does not fluctuate. When a maximum allowable fluctuation of within +0.5/−0 dB is attained, tighten screws s, t.
4) Reverse Recording/Erase Head
   a) In the same way as the forward recording, record at reverse recording mode.
   b) At reverse recording mode, adjust Azimuth Alignment Adjustment Screw l by turning to left and right until the output level of both channels is maximum and does not fluctuate.
   c) After the adjustments outlined above have been completed, loosen reverse recording head mounting screws u, v and move lever n (refer to Fig. 13) to left and right and adjust the gap side of the recording head so that when tension is applied to the supply reel side, the line output of both channels does not fluctuate. When a maximum allowable fluctuation of which +0.5/−0 dB is attained, tighten screws u, v.

3. For best results, head demagnetizing should be performed before adjustments. All adjustments outlined in sections 1 and 2 should be repeated two or three times. Blank tape used in adjustments should be new tape.

NOTE

1) In order to keep the difference in playback level between normal and reverse playback as small as possible, the FWD/Playback and the Rev/Playback Heads are categorized and marked "NA" to "NE" respectively. (See Fig. 14 and Chart 2)
2) When a playback Head is replaced, it is imperative that the same rank head be installed as was previously used.
   In case the previously installed head rank is not available, both heads can be replaced with other heads of the same marks.

VI. AMPLIFIER ADJUSTMENTS

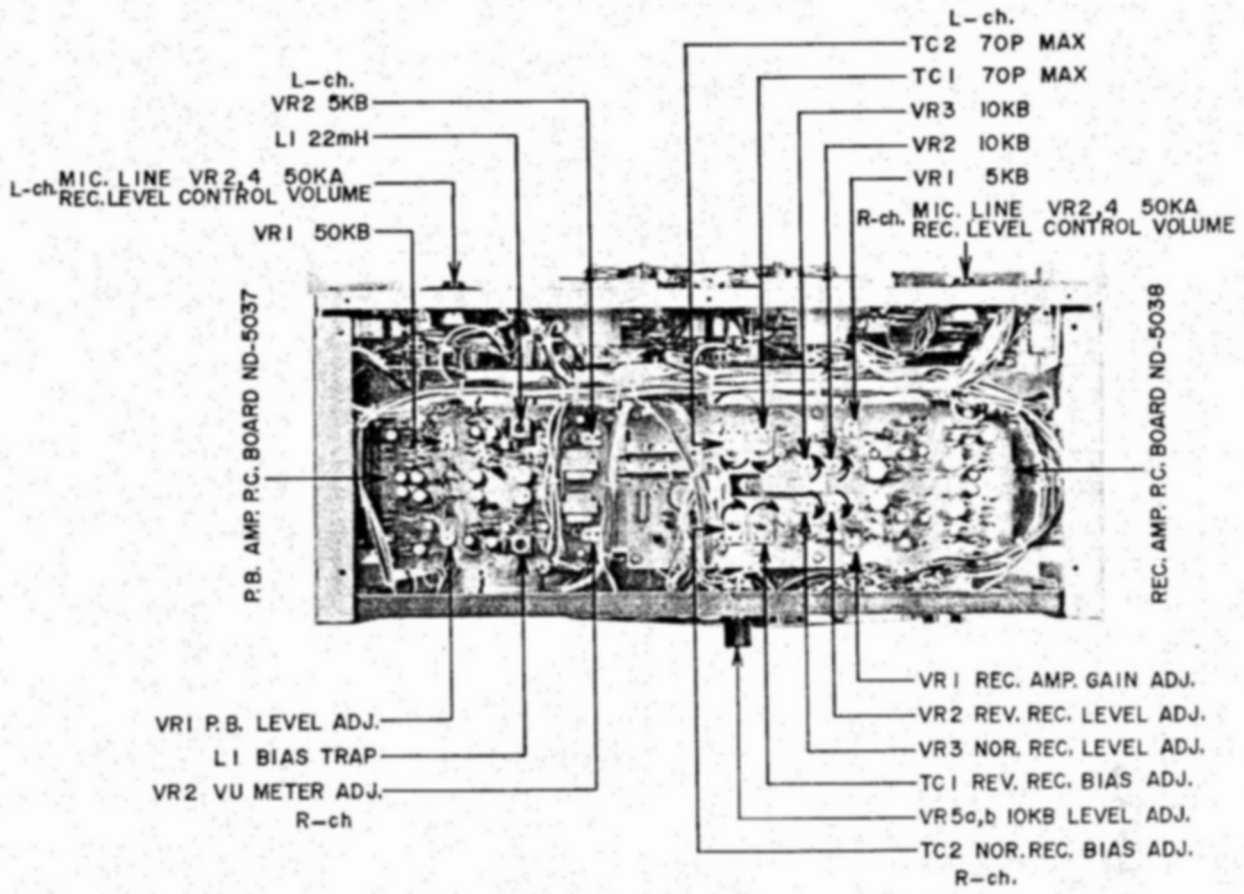


Fig. 15

1. PLAYBACK LEVEL ADJUSTMENT (See Fig. 15)

1) Connect a High Sensitivity V.T.V.M. to the Line Output.
2) Set Tape Speed Selector to 7-1/2 ips.
3) Set Monitor Switch to TAPE position and Line Output Level Control VR5a, 5b to maximum.
4) Playback a 250 Hz, 7-1/2 ips pre-recorded tape.
5) With P.B. Amp. P.C. Board (ND-5037) semi-fixed resistor VR1 (50 kB), set Line Output level of both channels to 4 dB ±1 dB at FWD and 4 dB ±1.5 dB at REV.

2. VU METER SENSITIVITY ADJUSTMENT (See Fig. 15)

After Playback Adjustment is completed and an indication of +4 dB is attained, adjust P.B. Amp. P.C. Board (ND-5037) semi-fixed resistor VR2 (5 kB) to obtain a VU meter indication of "O" VU on both channels.

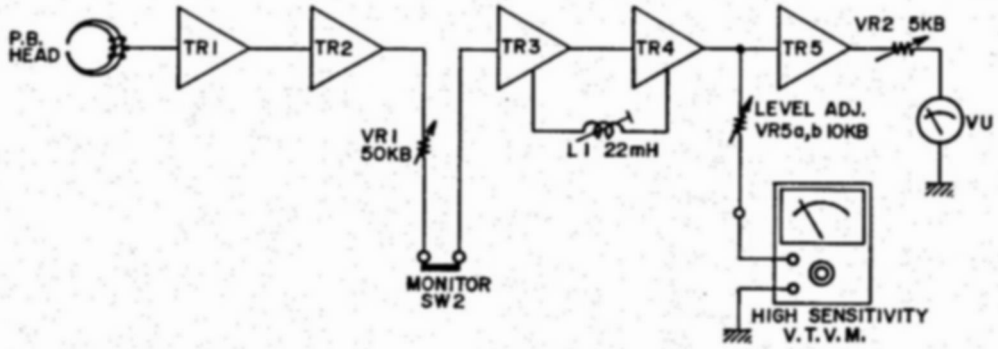


Fig. 16 P.B. AMP. BLOCK DIAGRAM

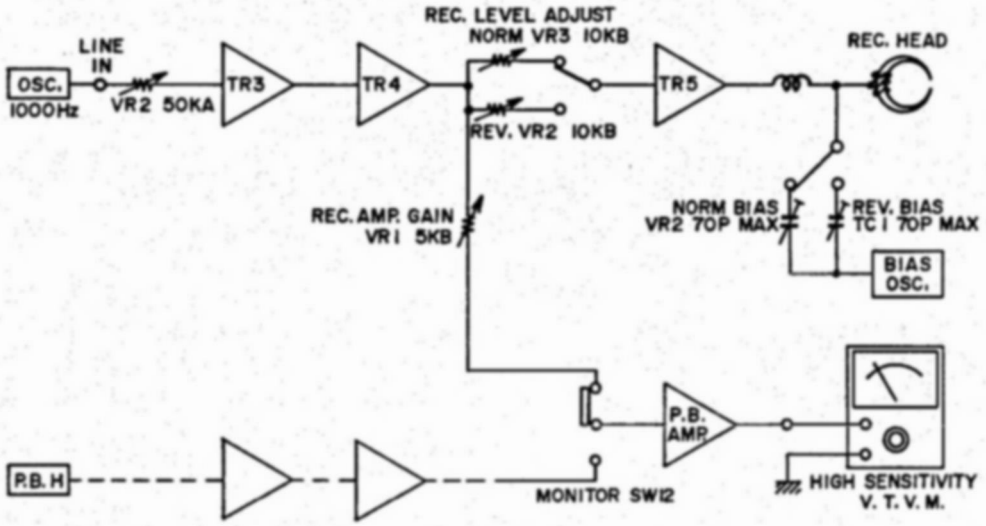


Fig. 17 REC. AMP. BLOCK DIAGRAM

3. RECORDING LEVEL ADJUSTMENT (See Fig. 15)

1) Connect an Audio Frequency Oscillator to the line input and connect a High Sensitivity V.T.V.M. to the line output.
2) Set Tape Speed Selector to 7-1/2 ips.
3) Load a Scotch 111 blank tape and set the Monitor Switch to TAPE position.
4) Set recorder to recording mode, while depressing both LEFT and RIGHT Recording Track Selector Switches, and supply a 1,000 Hz sinewave signal to the line input from the audio frequency oscillator.
5) Adjust Forward and Reverse Recording Capacitors TC1 and TC2 to obtain maximum output on all channels.
   * In case of Frequency Response Bias adjustment having been made prior to Recording Level Adjustment, do not adjust these capacitors.
6) At this time, with forward and reverse recording level adjustment volumes VR2 and VR3, adjust each channel to 1 dB lower than the channel discharging the smallest output.
7) Adjust Audio Frequency Oscillator output to obtain a line output level of 4 dB (O VU).
8) Set Monitor Switch to SOURCE position and adjust Rec. Amp. P.C. Board (ND-5038) Rec. Amp. Gain Adjustment Volumes VR1 (5 kB) to obtain a 4 dB Line Output level on each channel.

NOTE
1) Because the recording level is very closely related to the Frequency Response Adjustment (Section 5), re-confirm recording levels following frequency response adjustment.
2) For O VU recording, it is necessary that the microphone input level be about −70 dB following Rec. Level Adjustment.

4. RECORDING BIAS FREQUENCY MEASURING METHOD AND ADJUSTMENT

1) Connect a Frequency Counter to OSC Circuit. Set recorder to the REC mode, and take a frequency counter reading at this time.
2) If the Frequency Counter indication is 100 ±5 kHz, the recording bias frequency is correct.

Adjustment
The recording bias frequency can be adjusted by changing the value of OSC Circuit Condenser C27 (2,000P/250).

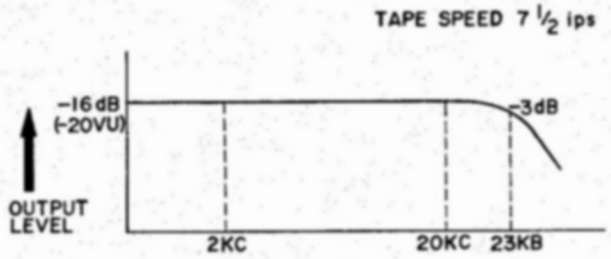


Fig. 18

5. FREQUENCY RESPONSE ADJUSTMENT

1) Refer to section regarding Frequency Response Measuring Method (Fig. 3 of this manual).
2) Adjust REC Amp. P.C. Board semi-fixed capacitors TC1, TC2 (70P) so that a 20 kHz signal output level is the same in relation to 2,000 Hz. (See Fig. 18)
3) The Bias Voltage will vary depending on the Recording Head and tape being used.

NOTE

1) The frequency response will vary depending upon the tape being used. For model GX-260D, Fuji tape F-100 is used for frequency response adjustment.
2) Prior to adjustment, record at non-signal input and adjust Bias Trap L1 (22 mH) so that the bias leak at line out is minimum. (See Fig. 15)

6. ERASE VOLTAGE

There is no way to adjust the Erase Voltage, but correct value is about 35V at 7-1/2 ips, and 30V 3-3/4 ips.

VII. MECHANICAL OPERATING PRINCIPLES

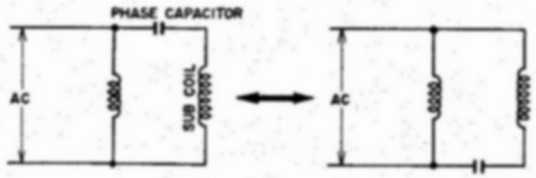


Fig. 19

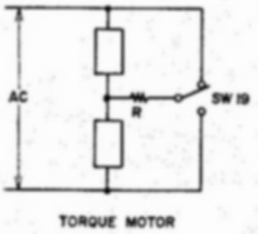


Fig. 20

Refer to Schematic Diagram 1460813

1. DIRECTION CHANGE OF MAIN MOTOR REVOLUTIONS

By means of manual operation or sensing tape, SW14, SW16 or sensing pole grounds the base of TR1 or TR2 on the system control board, thus facilitating or obstructing the lead through between E-C of TR2 and changing Rev Relay contact point RL1-3 as well as RL1-4 accordingly. This changes the position of the main motor sub coil and phase capacitor, and direction of the main motor revolutions is reversed. (See Fig. 19). At this time, when TR2 is turned on (Rev mode), the forward direction voltage of Diode D2 1N34A is decreased, and this low voltage is utilized to lower the base voltage of TR1, and TR1 is turned off. Thus, TR2 is held at ON condition for operating function.

2. TORQUE MOTOR SUPPLY VOLTAGE

Voltage is distributed by R3, 5W 390Ω (at Fwd, Rev) and R2, 10W, 45Ω (at F.Fwd, Rwd) inserted parallel with the supply side of the left and right torque motors which are connected in series. (See Fig. 20)

3. FORWARD MODE

When the Fwd Button is depressed, this depresses SW14, SW13.

SW14 turns OFF TR2 from Rev mode, Reverse Relay RL1 is turned OFF, and the direction of main motor revolutions as well as the voltage distribution to the torque motor is changed.

When SW13 is depressed, AC 120V flows, to D8, and then DC170 flows to SW13→SW2→ PL2 →SW12→ SW3, Plunger PL2 is pulled, and SW2, SW4 and SW6 are activated.

When SW2 is turned ON, AC 25V flows to D6→D7, and then DC30.5V flows to SW2→ PL2 →SW12 →SW3, and PL2 is held by DC30.5V.

When SW4 is turned ON, AC120V flows to D8, and then DC170V flows to SW5→SW18→SW4→ PL3 → SW12→SW3, Plunger PL3 is pulled, and SW5 is activated.

When SW5 is activated, AC 25V flows to D6→D7, and then DC30.5V flows to SW5→SW18→SW4→ PL3 →SW12→SW13, and Plunger PL3 is held by DC30.5V.

When SW6 is activated, AC120V is supplied to the Torque Motors, quick tension SW8 connected to the Pinch Wheel Lever works after a slight delay, and AC100V passes resistors R1, R4 and is supplied to the torque motors.

The purpose of the quick Tension Switch is to prevent the tape transported from the capstan from running roughly and unevenly, when the torque motor is suddenly started from stopped condition. The Quick Tension Switch works from Stop to Fwd or Rev, but does not work to and from Fwd and Rev.

4. REV. MODE

When the Rev Button is depressed, SW16, SW15 are activated.

SW16 turns OFF TR1 from Fwd mode, TR2 is turned ON, RL1 is activated, and the direction of the main motor as well as the voltage distribution to the torque motor is changed.

When RL1 is turned ON, contact point RL1-2 is closed, AC120V flows to D8, and then DC170V flows to SW1→RL1-2→ PL1 →SW3, and PL1 works.

When PL1 is activated, AC25V flows to D6→D7, and then DC29.5V flows to SW1→RL1-2→ PL1 → SW3, and PL1 is held at ON condition.

The voltage applied to PL2, PL3 as well as the torque motor, and the function of the Quick Tension Switch etc. are the same as at Fwd mode.

5. FAST FORWARD MODE

When the OFF Button is depressed, SW13, SW18, SW19, SW17 are activated.

When SW13 is depressed, Brake Plunger PL2 works in the same way as at Fwd mode, SW18 functions to prevent Pinch Wheel Plunger PL3 from working.

SW19 changes the voltage distribution to the torque motor.

SW17 is mechanically held. The resistor inserted parallel with the torque motor is changed to R2 10W 45Ω by SW17.

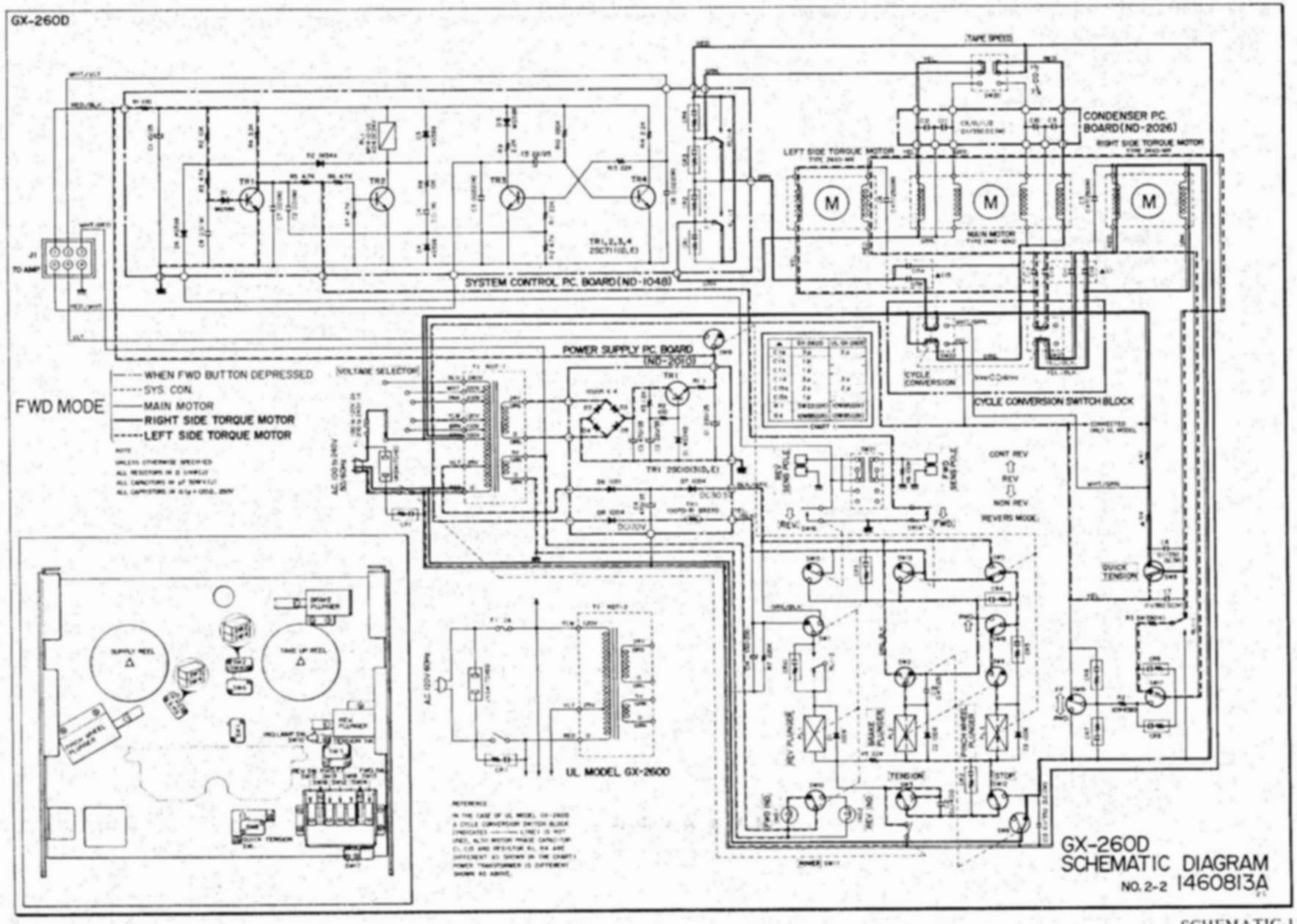
6. RWD MODE

When the Rewind Button is depressed, SW15, SW18, SW19, SW17 are activated.

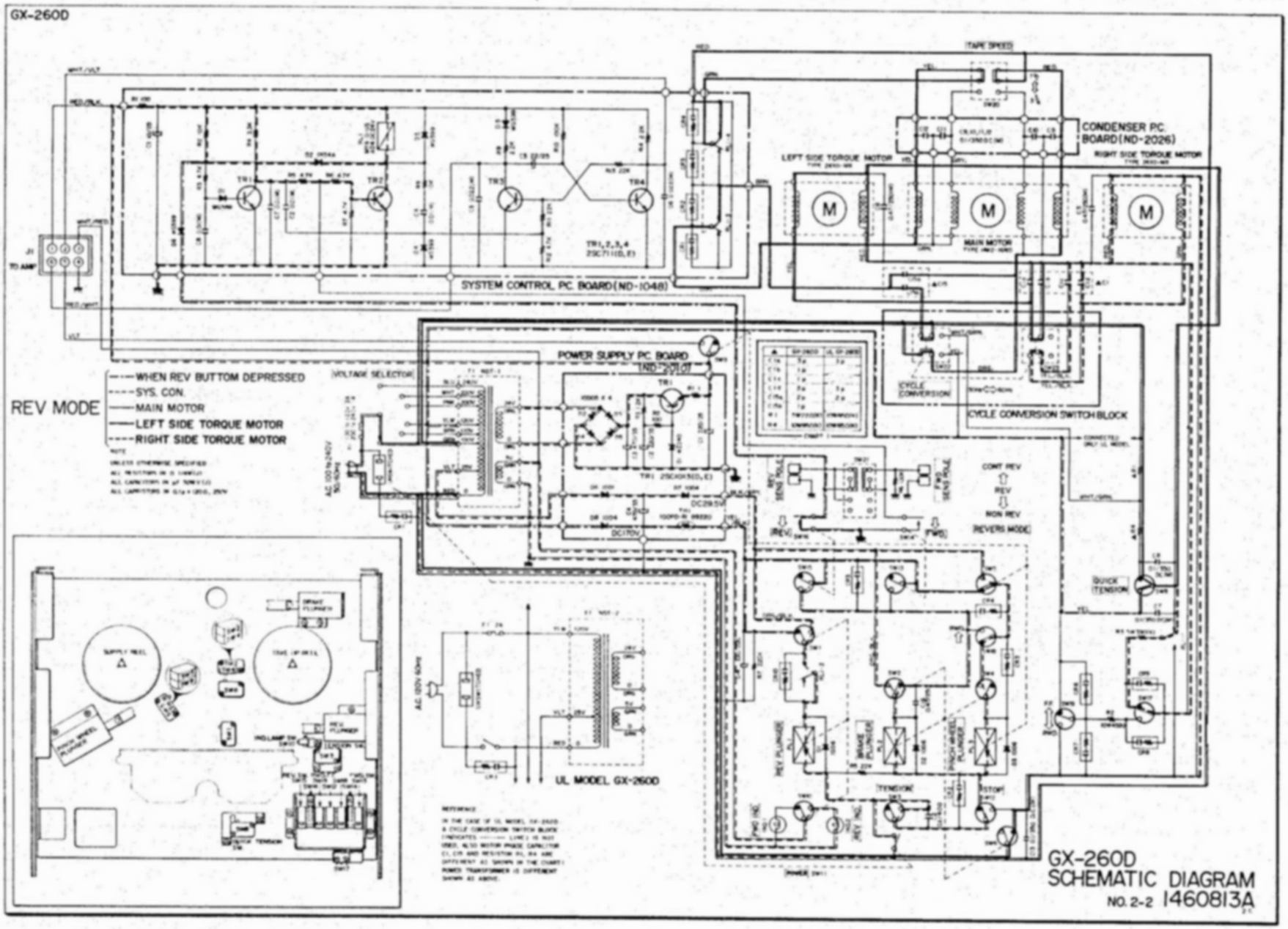
The function of these various switches are the same as at Forward & at Forward mode.

7. STOP MODE

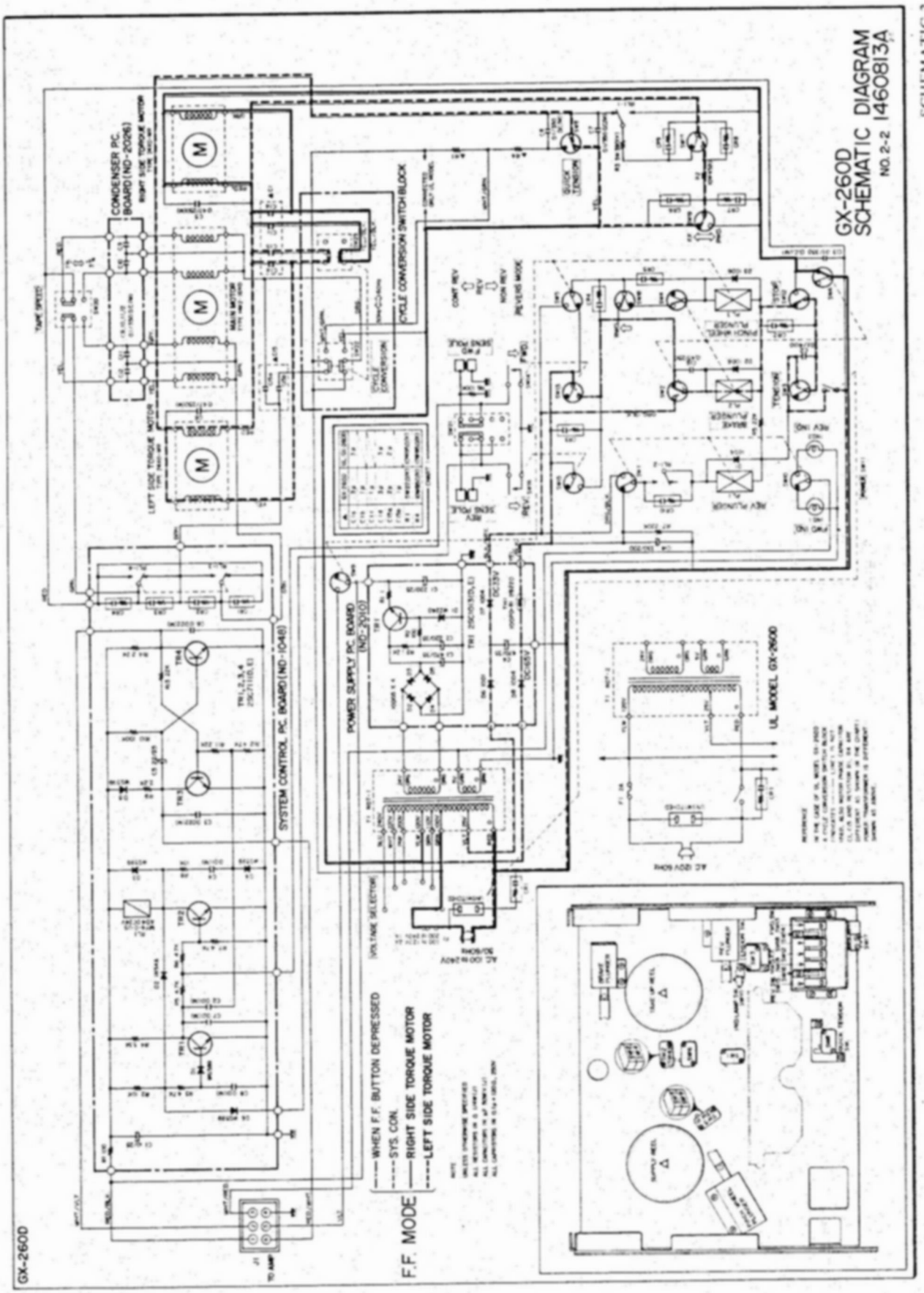
At each mode the brakings work when the SW12 which is interlocked with the Stop Button is released, and PL2, PL3 and the respective switches interlocked with these plungers are released.

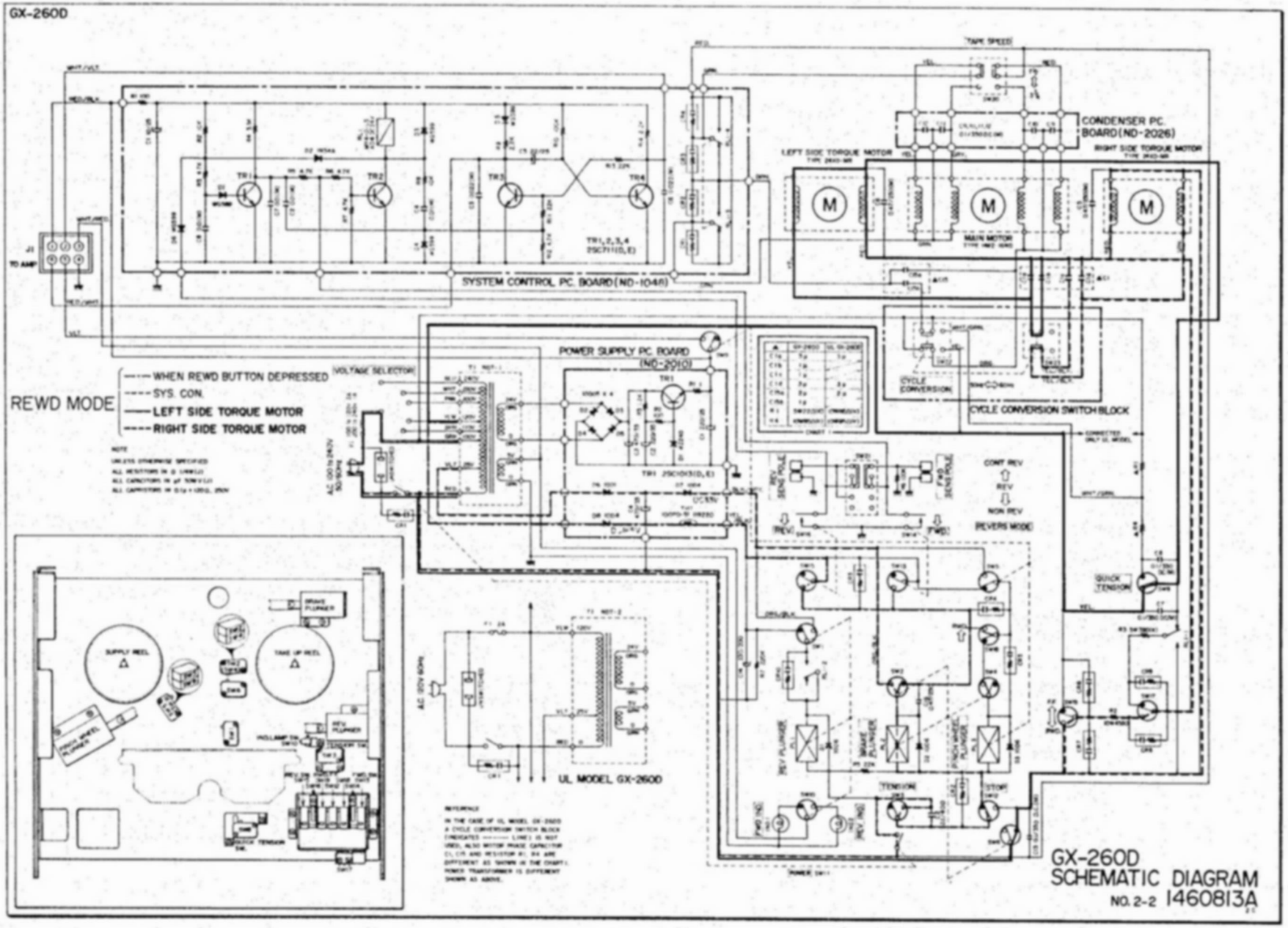

GX-260D
SYSTEM CONTROL PC. BOARD(ND-1048)
POWER SUPPLY PC BOARD (ND-2010)
CONDENSER PC. BOARD(ND-2026)
LEFT SIDE TORQUE MOTOR
RIGHT SIDE TORQUE MOTOR
MAIN MOTOR
CYCLE CONVERSION SWITCH BLOCK
FWD MODE
WHEN FWD BUTTON DEPRESSED
SYS. CON.
MAIN MOTOR
RIGHT SIDE TORQUE MOTOR
LEFT SIDE TORQUE MOTOR
UL MODEL GX-260D
GX-260D
SCHEMATIC DIAGRAM
NO.2-2 1460813A

SCHEMATIC-1


GX-260D
SYSTEM CONTROL PC. BOARD(ND-1048)
CONDENSER PC. BOARD(ND-2026)
LEFT SIDE TORQUE MOTOR
RIGHT SIDE TORQUE MOTOR
MAIN MOTOR
POWER SUPPLY PC. BOARD
CYCLE CONVERSION
CYCLE CONVERSION SWITCH BLOCK
REV MODE
WHEN REV BUTTOM DEPRESSED
SYS. CON.
MAIN MOTOR
LEFT SIDE TORQUE MOTOR
RIGHT SIDE TORQUE MOTOR
UL MODEL GX-260D
GX-260D
SCHEMATIC DIAGRAM
NO. 2-2 1460813A

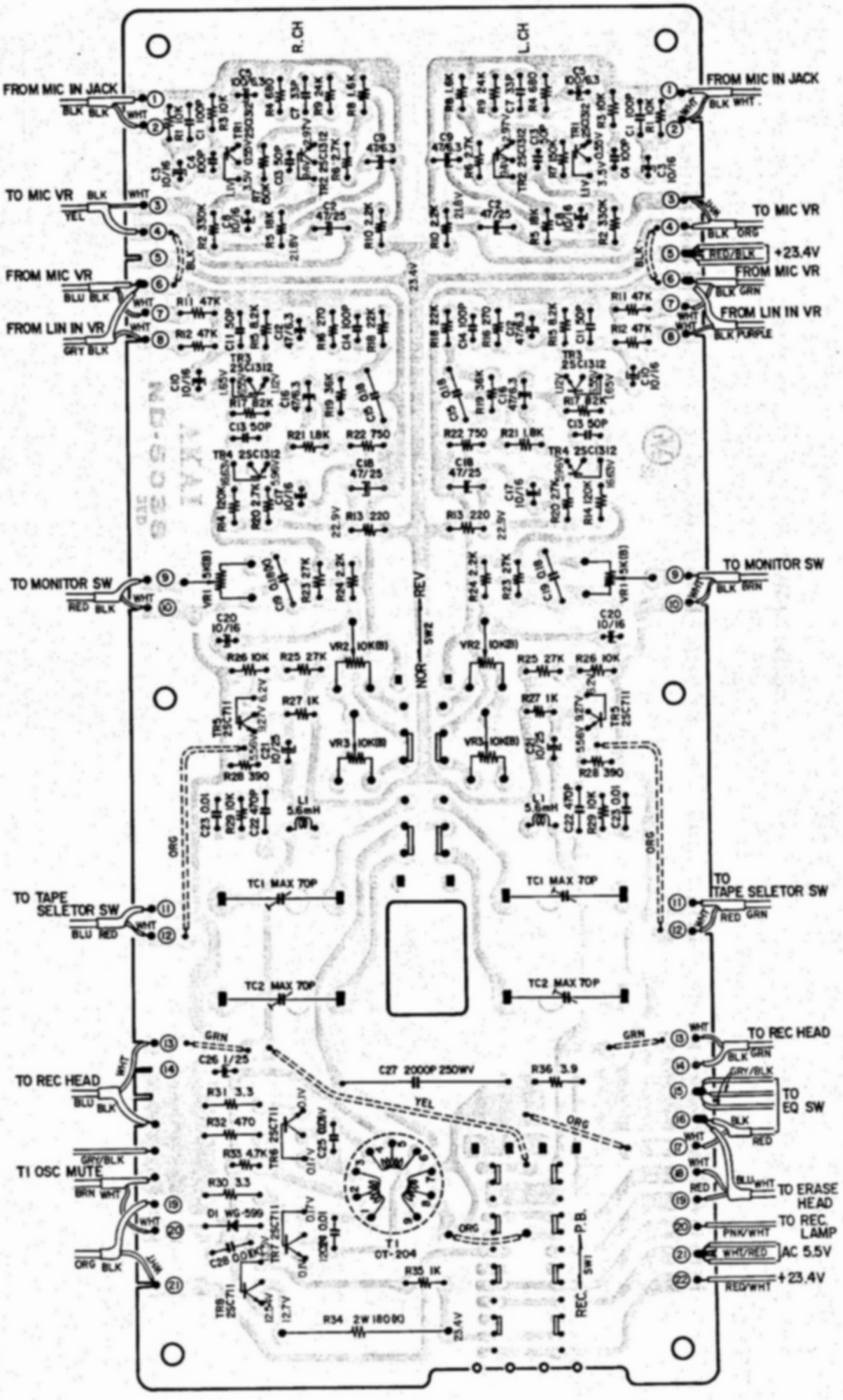
SCHEMATIC-2


GX-2600D
SCHEMATIC DIAGRAM
NO. 2-2 1460813A
GX-2600
SYSTEM CONTROL P.C. BOARD (NO-1048)
POWER SUPPLY P.C. BOARD (NO-2010)
CONDENSER P.C. BOARD (NO-2026)
CYCLE CONVERSION SWITCH BLOCK
UL MODEL GX-2600
F.F. MODE
WHEN F.F. BUTTON DEPRESSED
SYS. CON.
RIGHT SIDE TORQUE MOTOR
LEFT SIDE TORQUE MOTOR

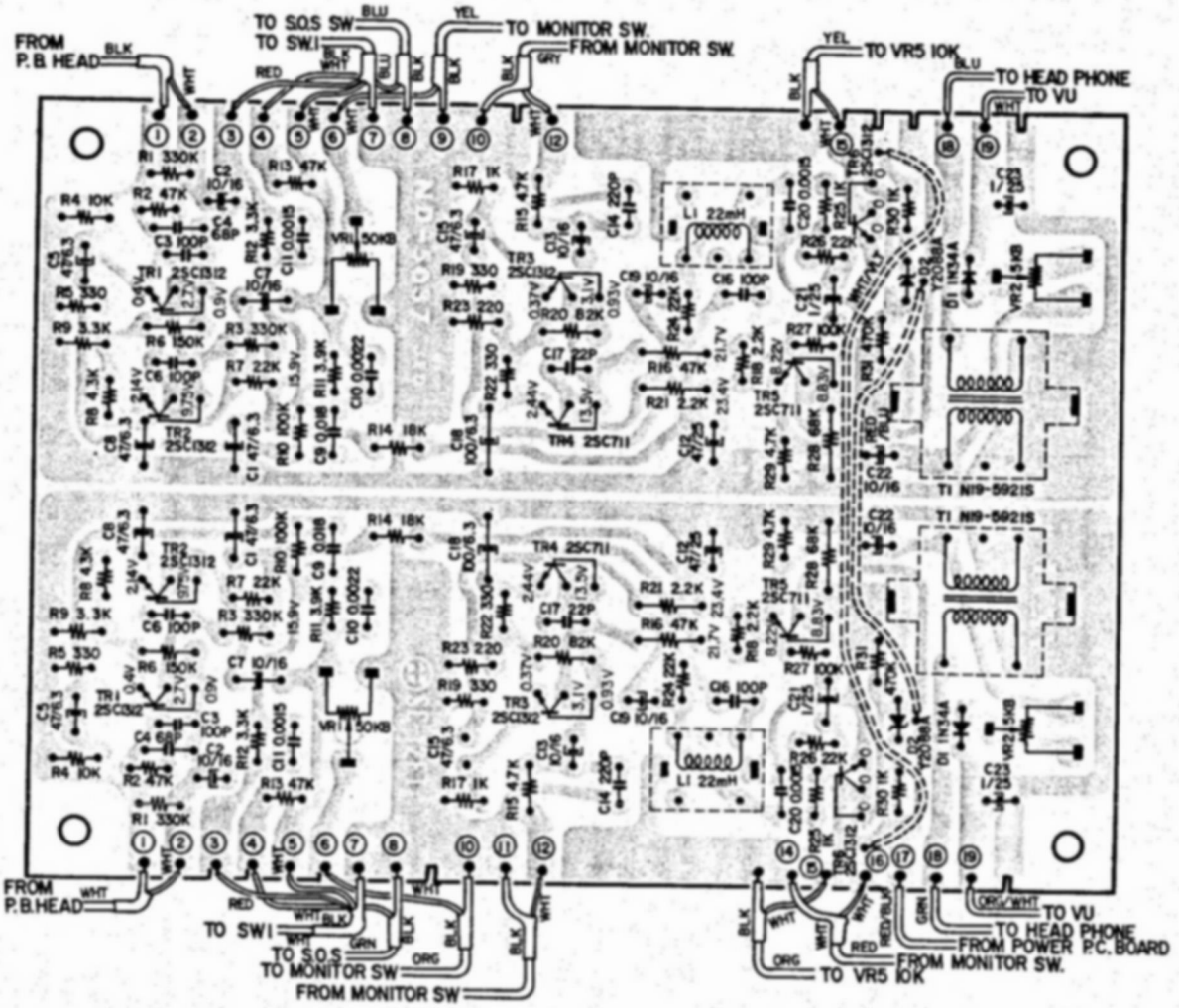

GX-260D
SYSTEM CONTROL PC. BOARD (ND-1041)
CONDENSER PC. BOARD (ND-2026)
LEFT SIDE TORQUE MOTOR
RIGHT SIDE TORQUE MOTOR
MAIN MOTOR
POWER SUPPLY PC. BOARD (ND-2010)
CYCLE CONVERSION
CYCLE CONVERSION SWITCH BLOCK
REWD MODE
WHEN REWD BUTTON DEPRESSED
SYS. CON.
LEFT SIDE TORQUE MOTOR
RIGHT SIDE TORQUE MOTOR
VOLTAGE SELECTOR
REV PLUNGER
BRAKE PLUNGER
PINCH-WHEEL PLUNGER
TENSION
STOP
QUICK TENSION
REVERS MODE
UL MODEL GX-260D
GX-260D
SCHEMATIC DIAGRAM
NO. 2-2 1460813A

VIII. COMPOSITE VIEWS OF COMPONENTS

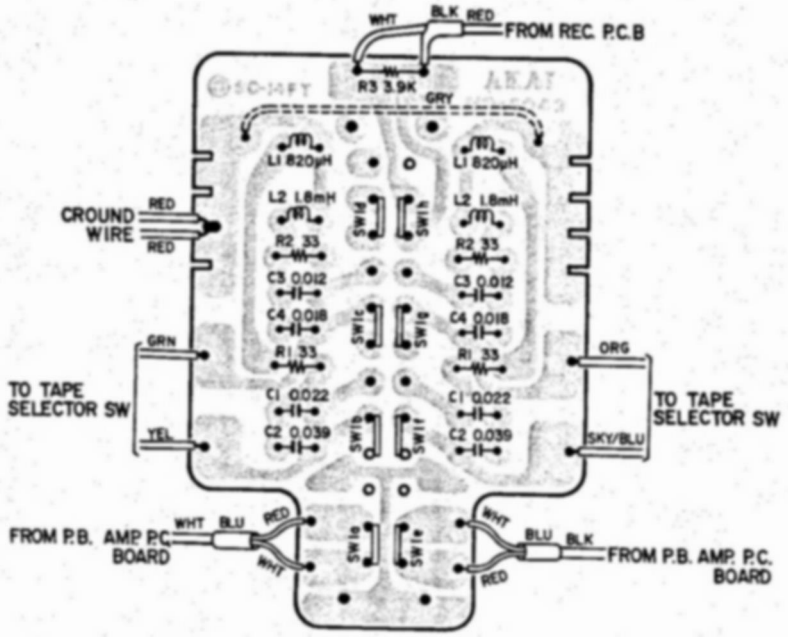
1. REC. AMP. P.C. BOARD ND-5038



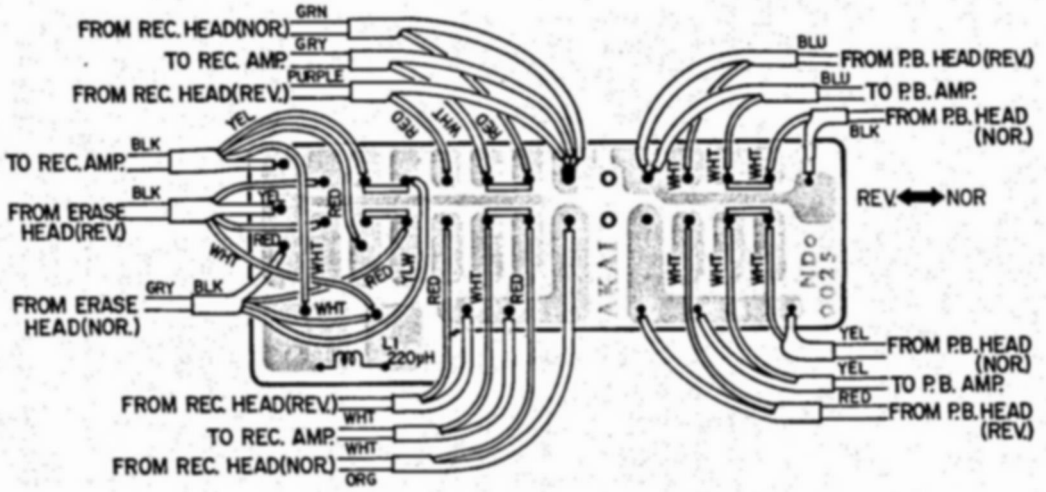
2. P.B. AMP. P.C. BOARD ND-5037



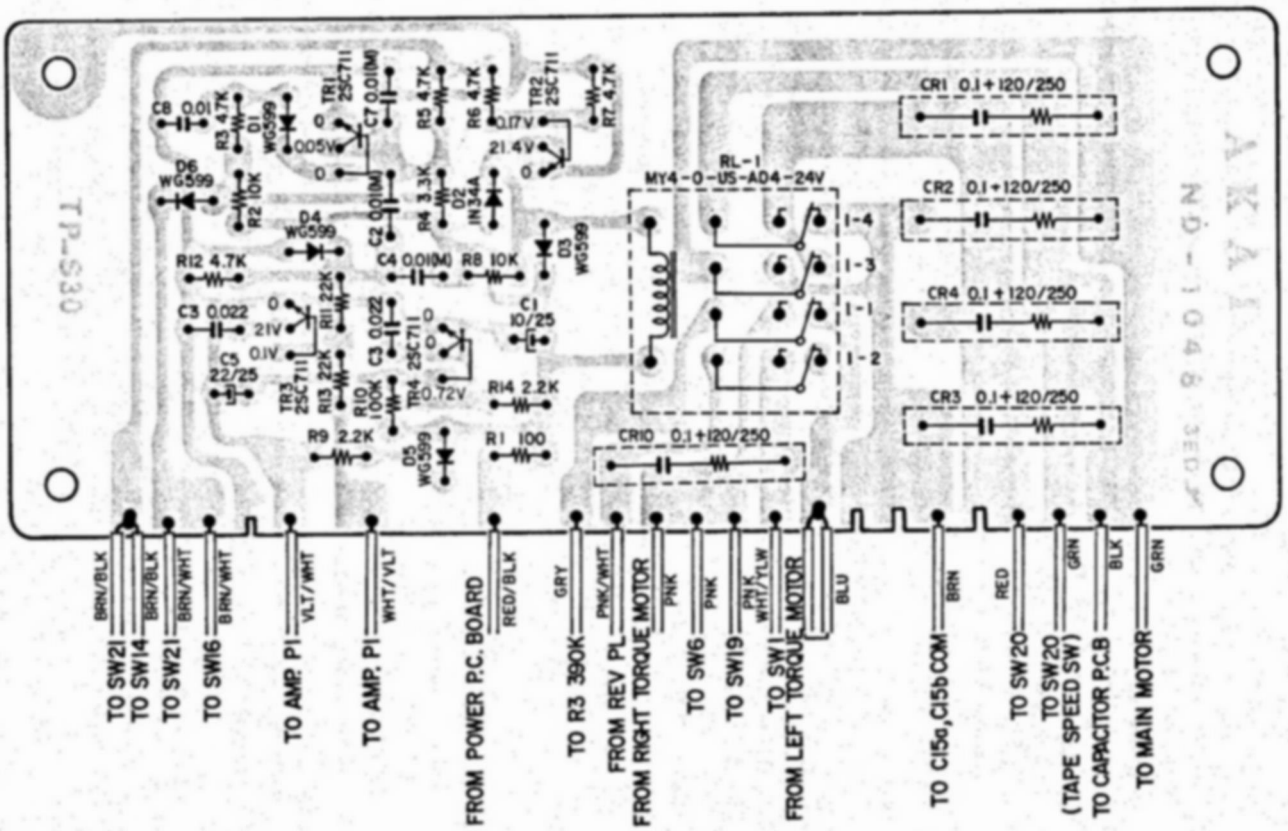
3. EQUALIZER SW. P.C. BOARD ND-5042



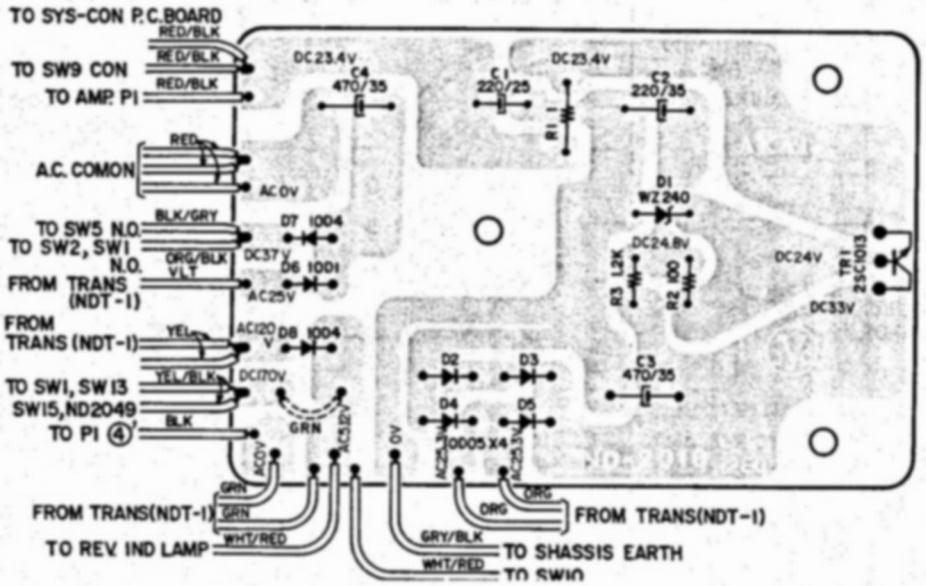
4. HEAD CHANGE SW. P.C. BOARD ND-0025



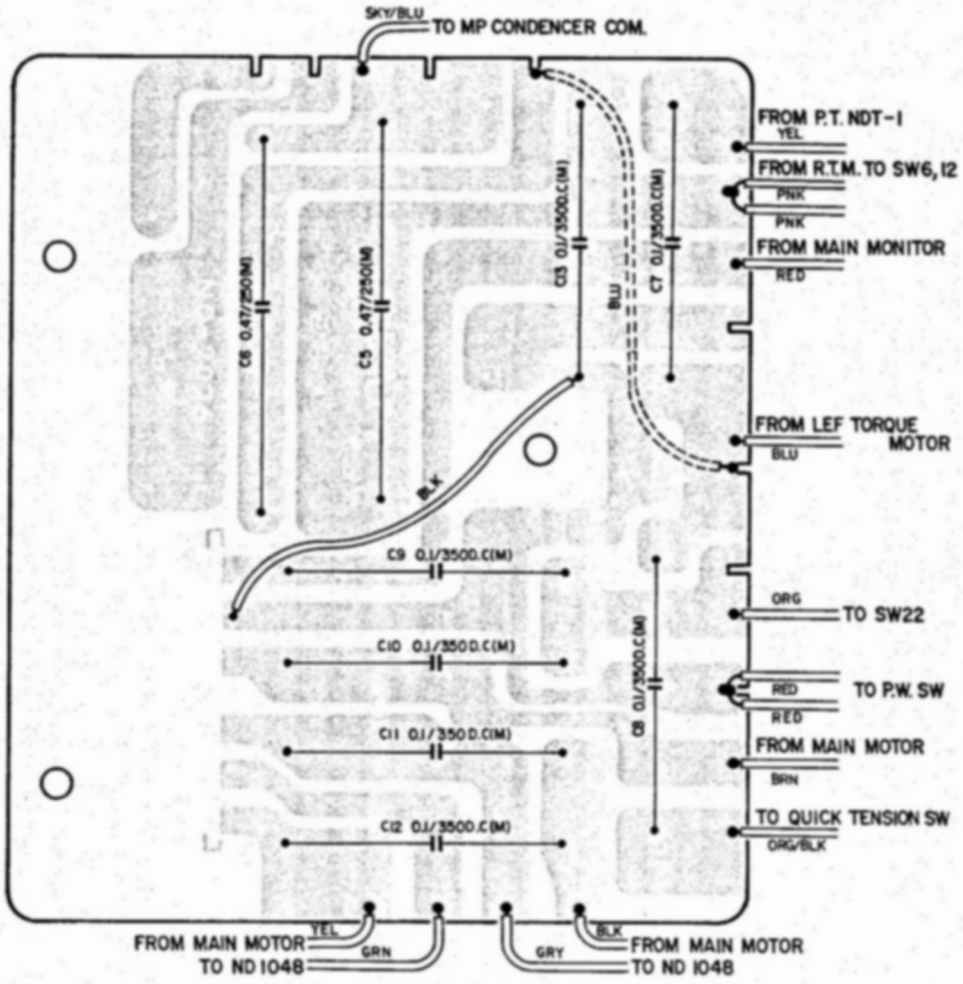
5. SYS. CON. P.C. BOARD ND-1048



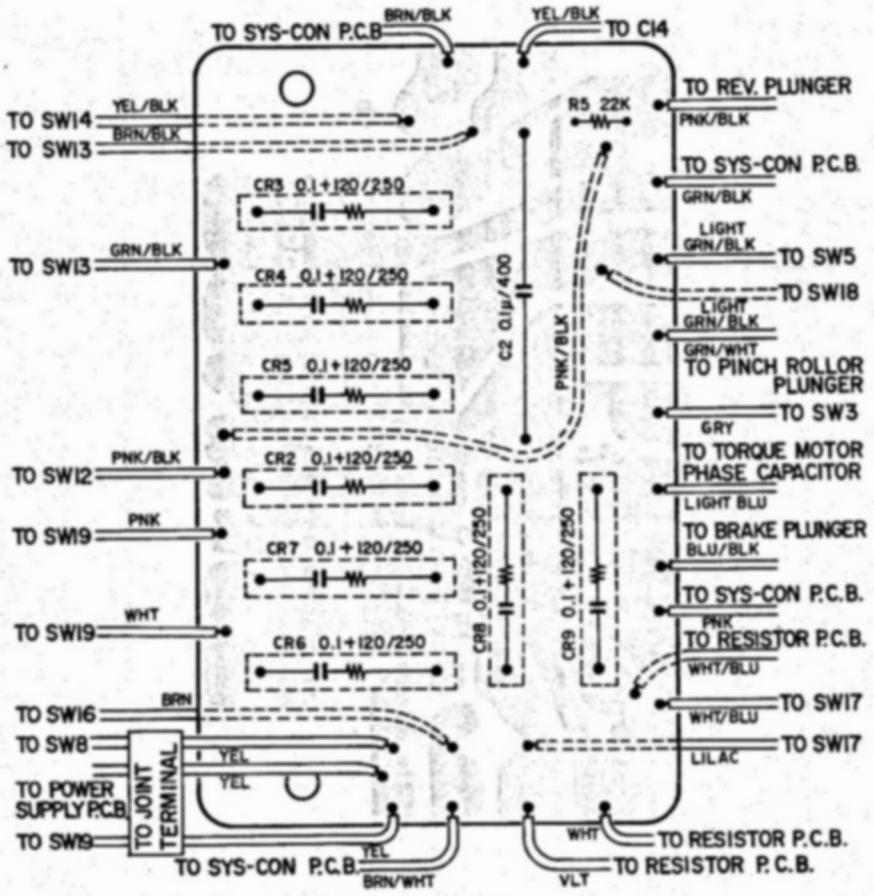
6. POWER SUPPLY P.C. BOARD ND-2010



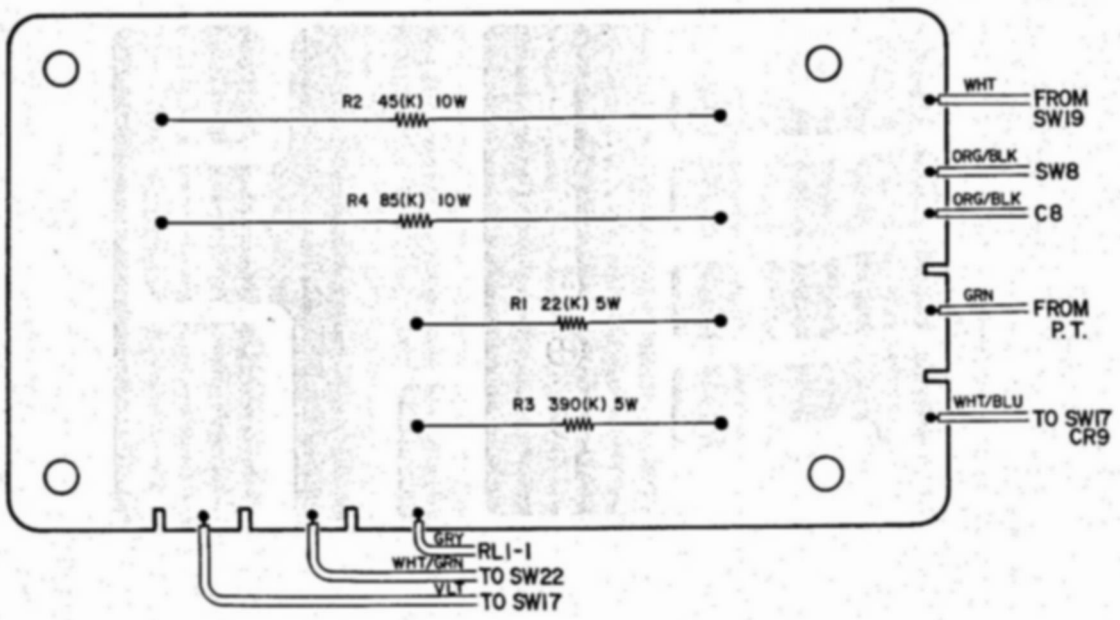
7. CONDENSER P.C. BOARD ND-2026



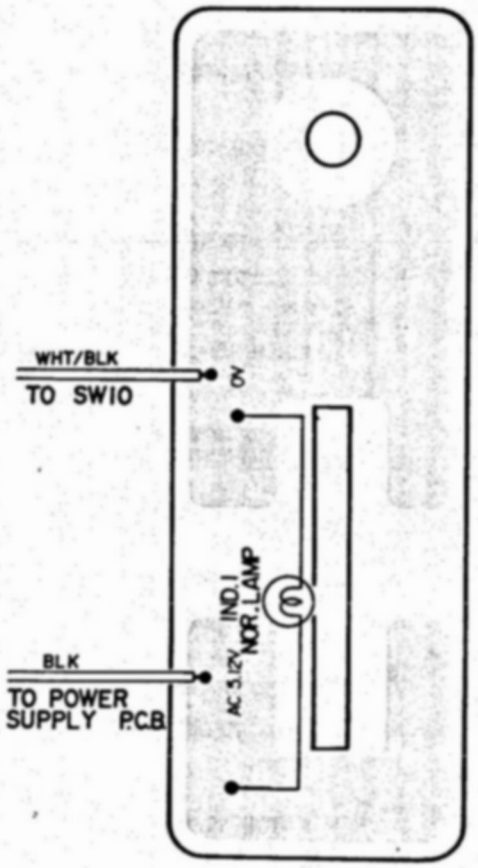
8. SPARK QUENCHER P.C. BOARD ND-2049



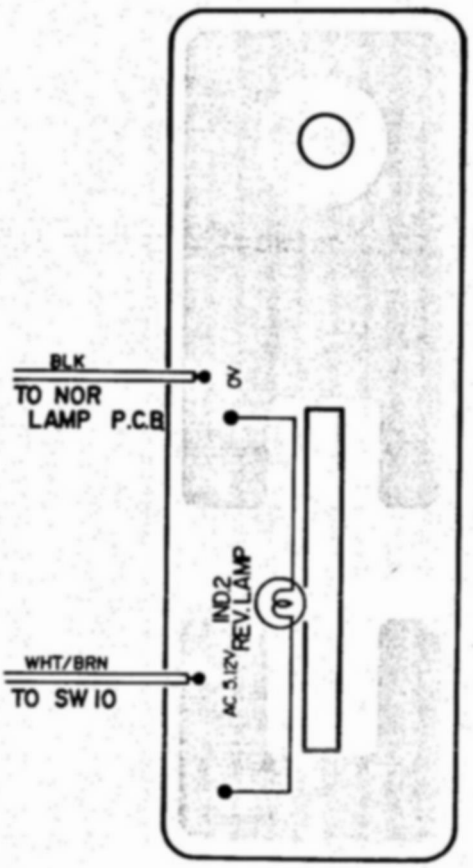
9. RESISTOR P.C. BOARD ND-2013



10. NOR. LAMP P.C. BOARD ND-1051



11. REV. LAMP P.C. BOARD ND-1051



SECTION 2

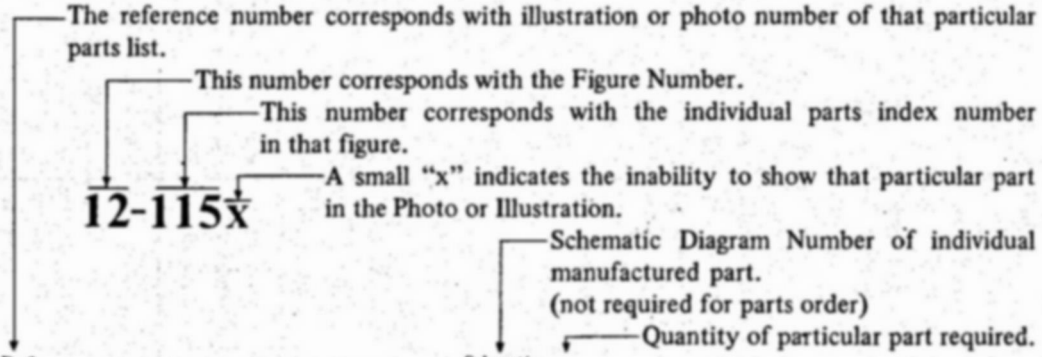
PARTS LIST

TABLE OF CONTENTS

FIG. 1 ND HEAD BLOCK 33
FIG. 2 MAIN MOTOR BLOCK 34
FIG. 3 REEL MOTOR/REEL TABLE BLOCK 35
FIG. 4 FLYWHEEL BLOCK 36
FIG. 5 OPERATION BLOCK 37
FIG. 6 SPEED SWITCH BLOCK 38
FIG. 7 POWER SUPPLY/REAR PLATE BLOCK 40
FIG. 8 MECHANISM ASSEMBLY BLOCK 41
FIG. 9 AMPLIFIER ASSEMBLY BLOCK 45
FIG. 10 SPARK QUENCHER P.C. BOARD (ND-2049) BLOCK 46
FIG. 11 CONDENSER P.C. BOARD (ND-2026) BLOCK 46
FIG. 12 POWER SUPPLY P.C. BOARD (ND-2010) BLOCK 47
FIG. 13 EQUALIZER SWITCH P.C. BOARD (ND-5042) BLOCK 47
FIG. 14 SYS. CON. P.C. BOARD (ND-1048) BLOCK 48
FIG. 15 REC. AMP. P.C. BOARD (ND-5038) BLOCK 49
FIG. 16 P.B. AMP. P.C. BOARD (ND-5037) BLOCK 50
FIG. 17 FINAL ASSEMBLY BLOCK 52
INDEX 53

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read List



Ref. No.	Parts No.	Description	Schematic No.	Q'ty
		FLYWHEEL BLOCK #13		
12-115x	800425	Flywheel Block Assy. Comp.	RDG #13	1
12-116	244506	Flywheel Only	RD-233	1
12-117x	244754	Felt, Flywheel	RD-275	1
12-118	251324	Main Metal Case	RD-236	1
12-119	253080	Main Metal	RD-237	1

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of Components of the Schematic Diagram or Service Manual.
5. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

ELECTRICAL PARTS TABLE

ELECTRICAL PARTS TABLE

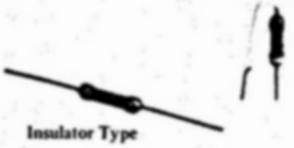
Because the indication of resistors and capacitors in the P.C. Board photos are being eliminated, please confirm parts name and shape by comparing them with the parts shown in this table.

1



Solid Resistor

2 Stopper Type



Insulator Type

Carbon Resistor

3



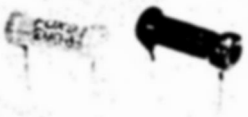
Metal Oxide Film Resistor

4



Cement Resistor

5



Wire-Wound Resistor

6



Thermister

7



Enamel Resistor

1



MP Capacitor (Tubular Type)

2



Plastic Capacitor

3



Mylar Capacitor

4



VFM (Hi-Q) Capacitor

5



Mylar Capacitor

6



Tantalum Capacitor

7



Oil Capacitor (Tubular Type)

8 Vertical Type

Tubular Type



Styrol Capacitor

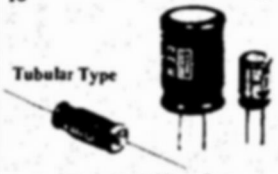
9



Electrolytic Capacitor (Tubular Type)

10 Vertical Type

Tubular Type



Electrolytic Capacitor

11



Ceramic Capacitor

12



Metalized Mylar (Paper) Capacitor

13



Trimmer Condenser

VR



Semi-Fixed Volume

L



Ferri Inductor

TR



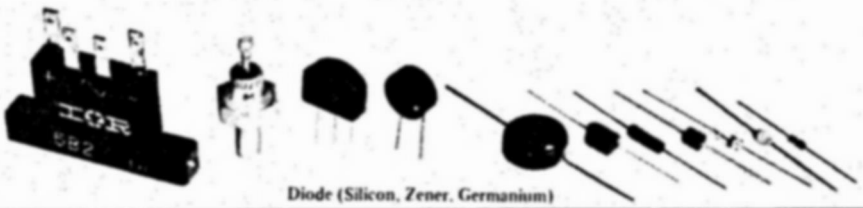
Transistor

CR



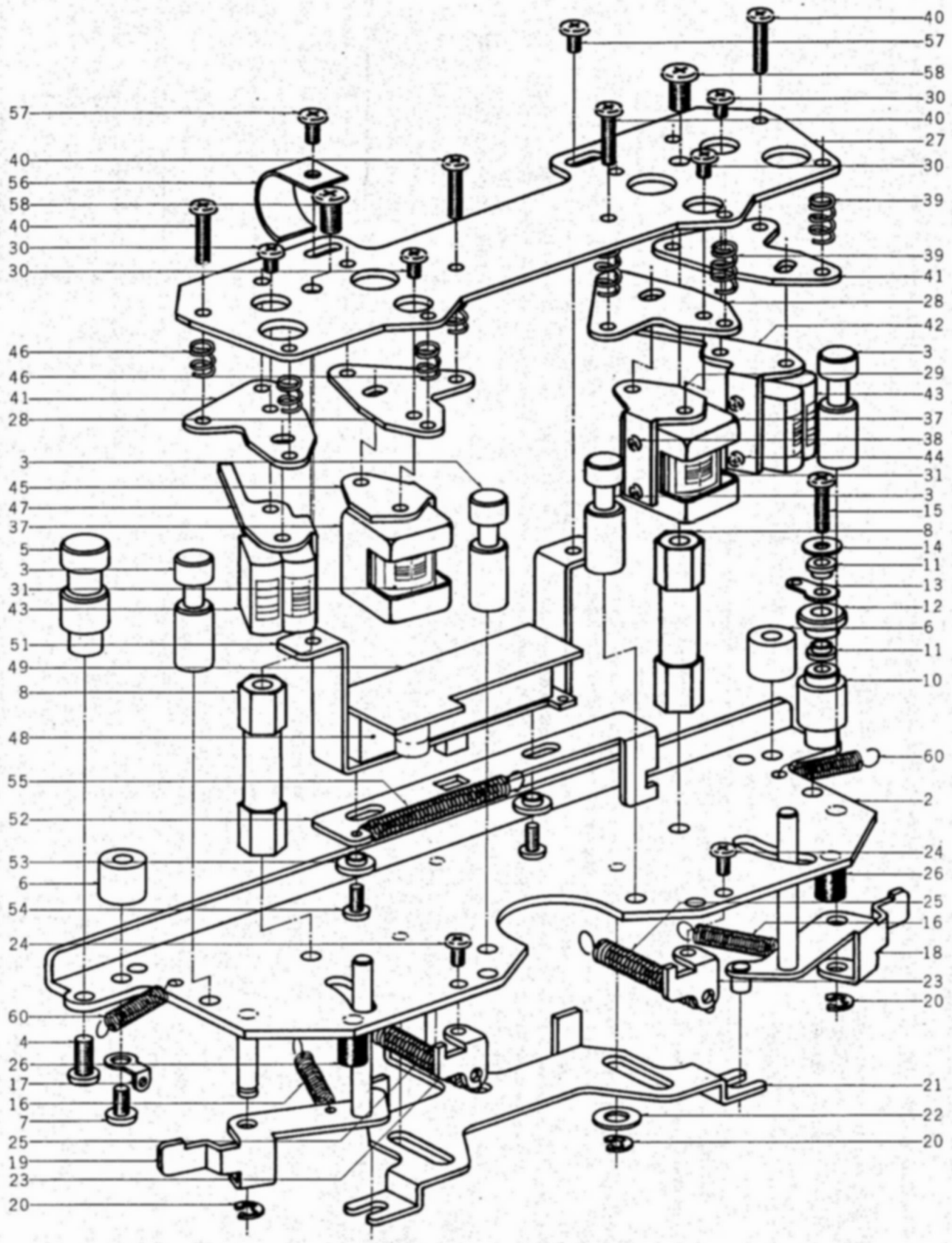
Spark Quencher

D



Diode (Silicon, Zener, Germanium)

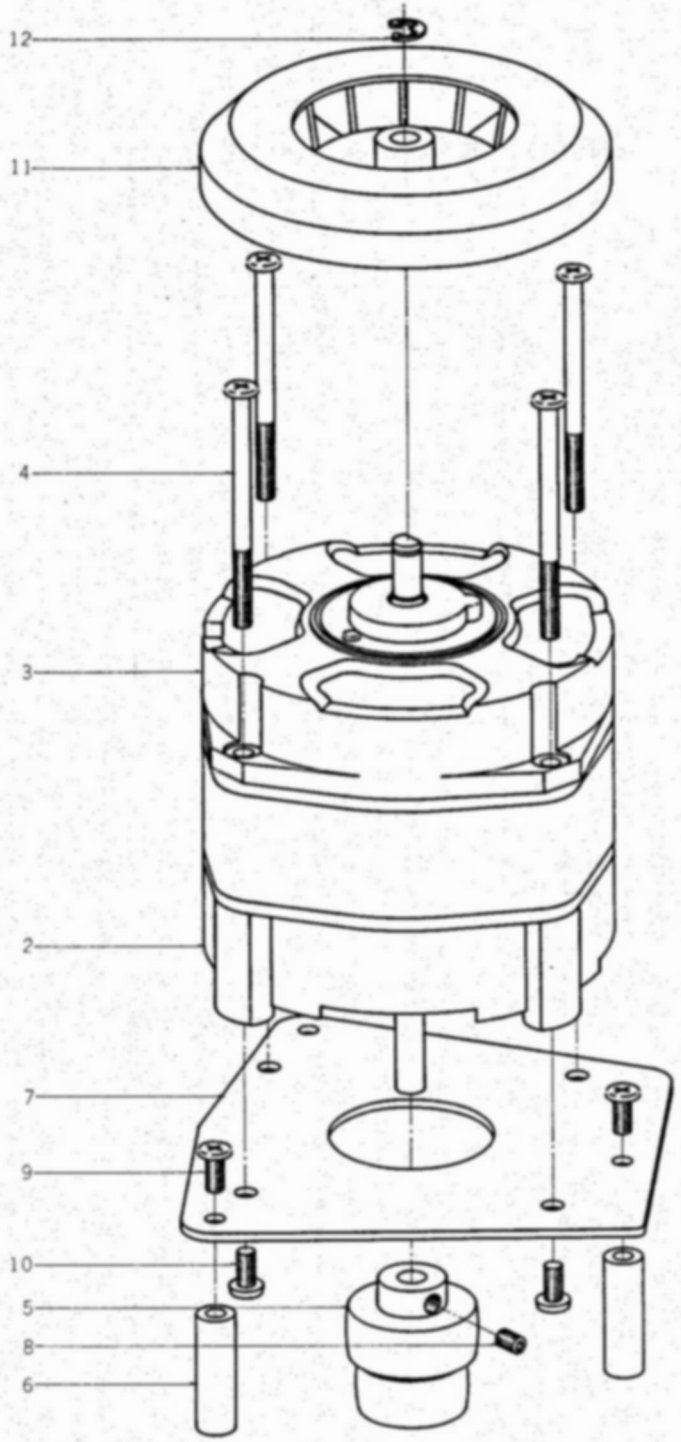
FIG. 1 ILLUSTRATION OF ND HEAD BLOCK



ND HEAD BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
1-1x	BH536354	ND Head Block Comp.		1
1-2	HZ527602	Head Sub Chassis, w/guide	ND-0001	1
1-3	HZ528581	Tape Guide A	ND-0006	4
1-4	ZW413201	Screw, pan head 4x8		5
1-5	HZ528592	Tape Guide B	ND-0007	1
1-6	MH528063	Panel Prop A	ND-0019	2
1-7	ZW419736	Screw, binding head 4x6		3
1-8	MH529233	Head Base Prop B	ND-0017	2
1-9x	ZW416687	Screw, binding head 4x8		2
1-10	HZ529301	Sensing Guide A	ND-0009	1
1-11	SE527455	Sensing Spacer	ND-0011	2
1-12	HZ528570	Sensing Guide B	ND-0010	1
1-13	ZW273778	Earth Lug M3		1
1-14	ZW425002	Washer (SPC)D3.1x8x0.5t		1
1-15	ZW413785	Screw, binding head 3x12		1
1-16	ZG232121	Tension Lever Spring	MH-143	2
1-17	ZW273881	Earth Lug M4		2
1-18	HL528085	Shifter Lever A, w/pin	ND-0016	1
1-19	HL528096	Shifter Lever B, w/pin	ND-0016	1
1-20	ZW270101	'E' Ring 3M	6-1-9	5
1-21	HL527444	Shifter Lever C	ND-0012	1
1-22	ZW396437	Washer (Polyslider)D5.1x10.3x 0.25t		3
1-23	HL528074	Shifter Spring Hook	ND-0018	2
1-24	ZW323728	Screw, binding head 3x5		2
1-25	ZG527477	Shifter Spring	ND-0024	2
1-26	MZ810191	RD Cushion Rubber	RD-278	2
1-27	HZ527466	Head Chassis	ND-0002	1
1-28	HZ527501	P.B. Head Base	ND-0003	2
1-29	HZ529470	P.B. Head Angle A	ND-0004	1
1-30	ZW396000	Screw, binding head 3x4		6
1-31	HP560698	P.B. HEAD P4-202-NA		2
1-32x	HP560700	P.B. HEAD P4-202-NB		2
1-33x	HP560711	P.B. HEAD P4-202-NC		2
1-34x	HP560722	P.B. HEAD P4-202-ND		2
1-35x	HP560733	P.B. HEAD P4-202-NE		2
1-36x	EA463206	Terminal P.C. Board A	RD-A36	4
1-37	HZ527512	Head Shield	ND-0026	2
1-38	ZW460440	Screw, pan head 2x4		4
1-39	ZG466312	Angle Adjust Spring E	BS-0018	6
1-40	ZW536490	Screw, binding head 3x12		12
1-41	HZ527490	Erase Head Base	ND-0008	2
1-42	HZ527940	REC./E. Head Angle A	ND-0005	1
1-43	HR536365	REC./ERASE HEAD RE4-5		2
1-44	ZW461395	Screw, round head 2x3		4
1-45	HZ529481	P.B. Head Angle B	ND-0004	1
1-46	ZG364656	Angle Adjust Spring C	RD-57	6
1-47	HZ527951	REC./E. Head Angle B	ND-0005	1
1-48	ES520672	Slide Switch SL-282B4	25-3-88	1
1-49	EA527523	Head Change P.C. Board	ND-0025	1
1-50x	EO346500	Ferri Inductor FL7H 220μH(J)	23-1-3	1
1-51	HZ529288	Reverse Switch Base	ND-0013	1
1-52	HL527433	Reverse Lever	ND-0014	1
1-53	HZ527422	Graduated Washer	ND-0015	2
1-54	ZW487866	Screw, round head 2.6x6		2
1-55	ZG528041	Reverse Spring	ND-0023	1
1-56	HZ531584	Earth Plate	ND-0043	1
1-57	ZW304806	Screw, binding head 3x5		2
1-58	ZW537006	Screw, binding head 4x8		2
1-59x	EA382713	Head Connector P.C. Board	RD-A8	1
1-60	ZG529334	Tension Spring	ND-1016	2

FIG. 2 ILLUSTRATION OF MAIN MOTOR BLOCK

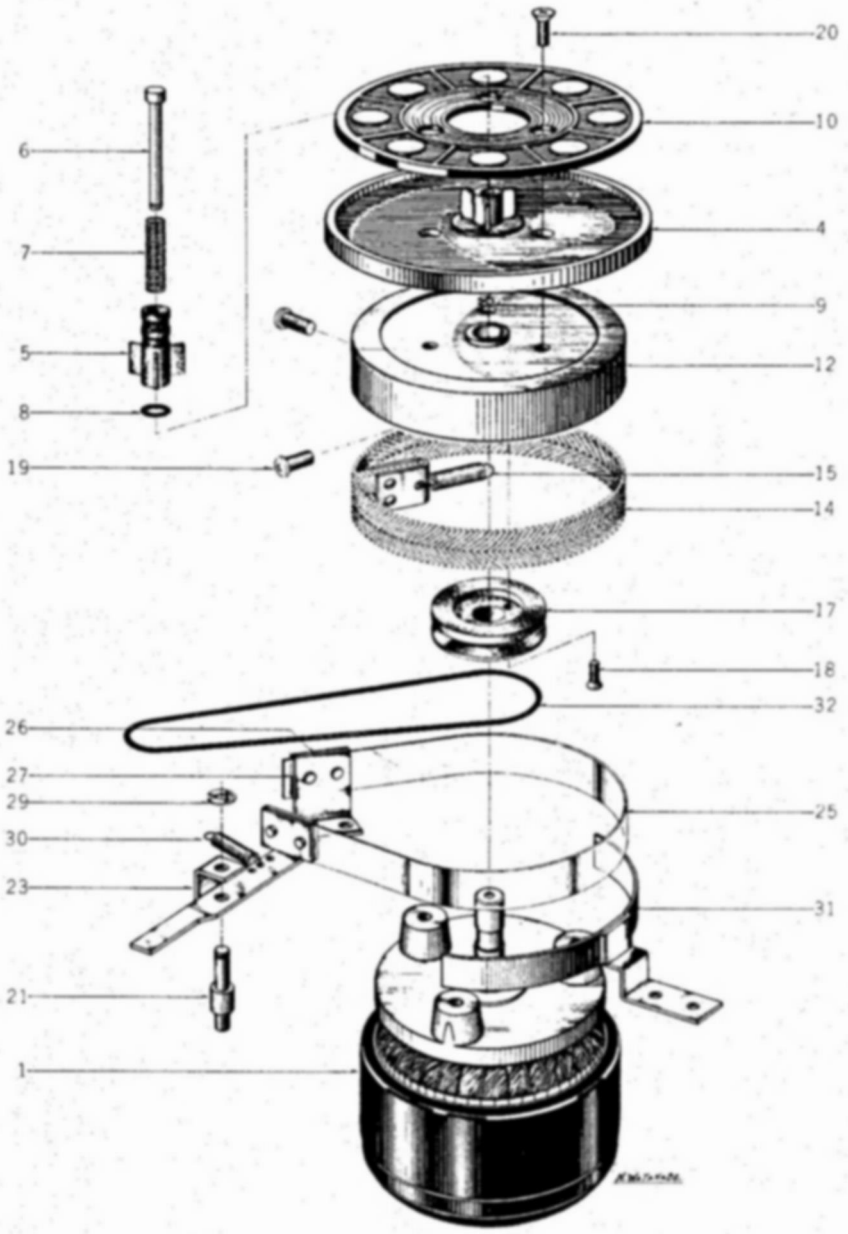


MAIN MOTOR BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
2-1x	BM536253	Main Motor Block Comp. HM2-16ND	ND. MC	1
2-2	MZ526421	16 Motor Cover Comp.	TW-7023	1
2-3	MZ448222	24 Motor Cover Comp.	24X-781	1
2-4	ZW520593	Screw, pan head 4x52, w/washer		4
2-5	MR529277	Motor Pulley	ND-7001	1
2-6	MZ528827	Motor Prop	ND-7003	3
2-7	MZ529097	Motor Mt. Plate	ND-7004	1
2-8	ZW391476	Set Screw, hexagon socket 4x4 (cup)		2
2-9	ZW416687	Screw, binding head 4x8		3
2-10	ZW413201	Screw, pan head 4x8		4
2-11	SZ529108	Main Motor Fan	ND-7010	1
2-12	ZW270134	'E' Ring 5M	6-1-9	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 3 ILLUSTRATION OF REEL MOTOR/REEL TABLE BLOCK

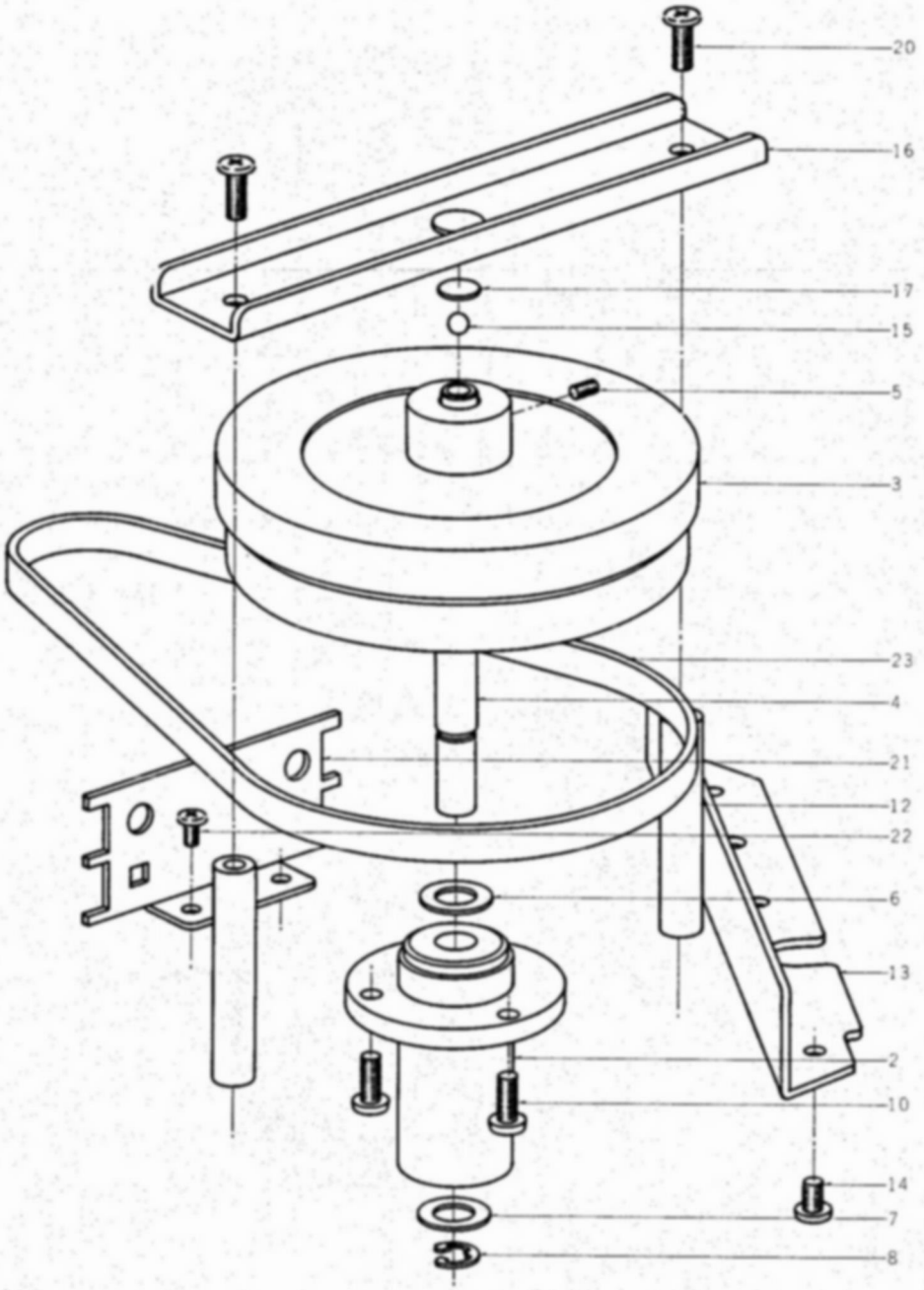


REEL MOTOR/REEL TABLE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
3-1	BM314741	Reel Motor Block (24XO-2) Comp.	MR.MS.KF	1
3-2x	BR482400	Reel Table Block Comp. (Supply)	ND.KH	1
3-3x	BR482411	Reel Table Block Comp. (Take-up)	ND.KH	1
3-4	MT488147	RD Reel Table Disk B	RD-272	1
3-5	MT255420	Reel Retainer	3R-102	1
3-6	MS342000	Reel Shaft	3R-108	1
3-7	ZG255633	Reel Spring	3R-109	1
3-8	MT297663	3R 'O' Ring 2.9x1.65M	3R-139	1
3-9	ZW270088	'E' Ring 1.9M	6-1-9	1
3-10	MT473422	Reel Table Rubber (KH)	KH-2042	1
3-11x	MT473444	Brake Drum (L) (Supply)	KH-2031	1
3-12	MT473433	Brake Drum (R) (Take-up)	KH-2031	1
3-13x	ZW273778	Earth Lug M3		1
3-14	MT436860	Brake Cloth Comp.	MR-269	1
3-15	ZG317496	Felt Tension Spring	MR-260	1
3-16x	ZW425981	Screw, binding head 3x3		1
3-17	MR317507	Counter Pulley (Take-up)	MR-217	1
3-18	ZW365973	Screw, countersunk head 2.3x12 (Take-up)		2
3-19	ZW424056	Screw, pan head 4x10		2
3-20	ZW403222	Screw, countersunk head 3x10		3
		MECH. ASSEMBLY BLOCK		
3-21	MZ317373	Brake Lever Prop	MR-102	2
3-22x	ZW413188	Nut M4		2
3-23	ML314976	Brake Lever A (Take-up)	MR-210	1
3-24x	ML396810	Brake Lever B (Supply)	KD-1038	1
3-25	MB314987	Brake Band	MR-213	2
3-26	MZ314998	Brake Band Retaining Plate	MR-212	4
3-27	MZ315000	Brake Band Support	MR-214	2
3-28x	ZW323728	Screw, binding head 3x5		8
3-29	ZW290283	'U' Ring 2.85M	6-1-1	2
3-30	ZG540551	Brake Spring	ND-1076	2
3-31	MZ317406	Brake Band Guide, w/base	MR-120	2
3-32	MB527556	Counter Belt D93x1.5	ND-1022	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 4 ILLUSTRATION OF FLYWHEEL BLOCK

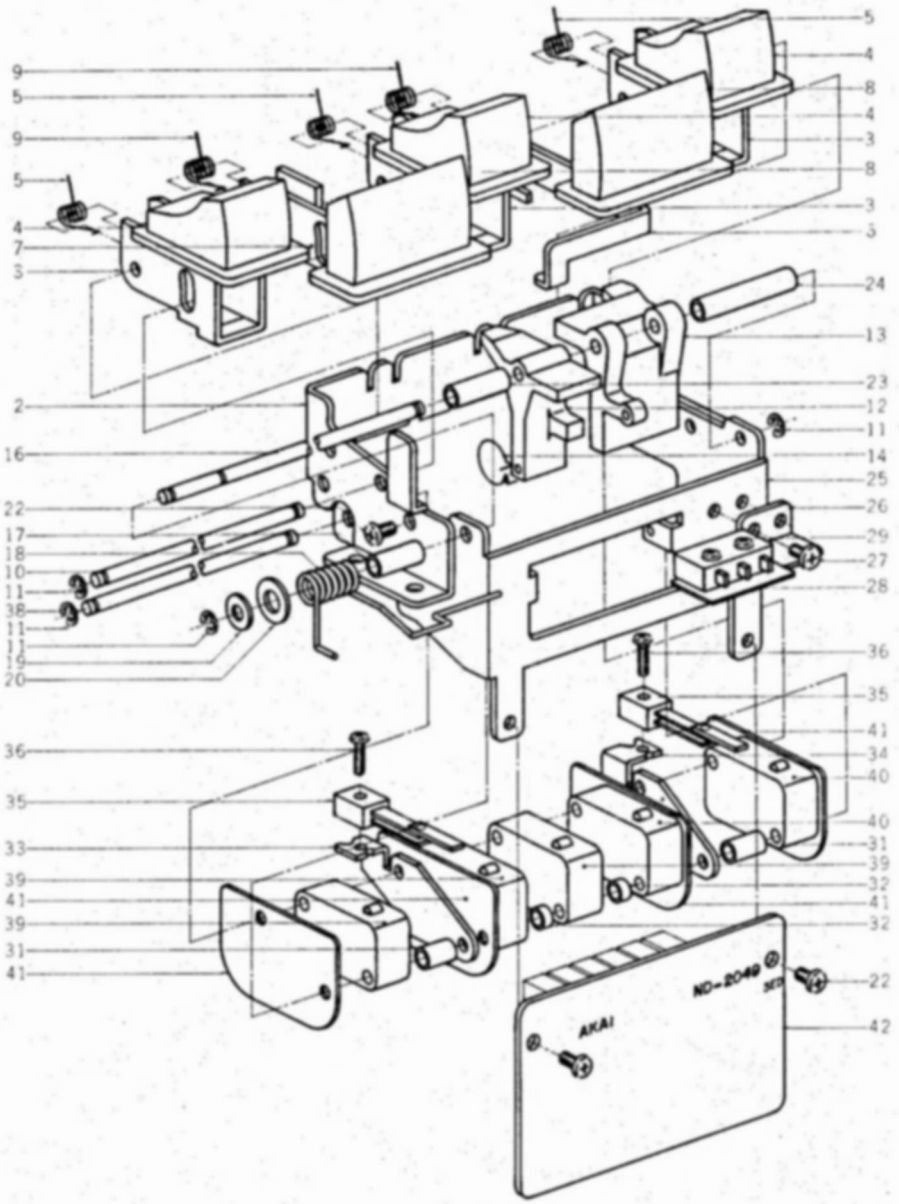


FLYWHEEL BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
4-1x	BF536264	Flywheel Block Comp. (ND)		1
4-2	BC529492	Main Case Comp.	ND-2006	1
4-3	MI455747	Flywheel	BS-2026	1
4-4	MS529626	Capstan Shaft	ND-2005	1
4-5	ZW373577	Set Screw, hexagon socket 5x6 (flat)		2
4-6	MZ437804	Flywheel Thrust A D7.9x13x1t	10102	1
4-7	ZW260278	Washer (Nylon) D8.1x13x0.5t		1
4-8	ZW270156	'E' Ring 6M	6-1-9	1
4-9x	EZ244124	Felt D13x17x1t		1
		MECH. ASSEMBLY BLOCK		
4-10	ZW416687	Screw, binding head 4x8		3
4-11x	ZW273881	Earth Lug M4		1
4-12	MA453756	Thrust Prop	BS-1023	2
4-13	MZ540527	Frame Reinforce Plate	ND-1077	2
4-14	ZW419736	Screw, binding head 4x6		6
4-15	MV269965	Steel Ball D4		1
4-16	MZ453767	Thrust Bracket	BS-1022	1
4-17	ZW462205	Washer, without hole D7.9x1t		1
4-18x	ZW330412	Adjust Washer (U) D4x13x0.13t		1
4-19x	ZW330423	Adjust Washer (U) D4x13x0.25t		1
4-20	ZW435273	Screw, binding head 4x10		2
4-21	MS527804	Belt Guide	ND-1069	1
4-22	ZW323728	Screw, binding head 3x5		2
4-23	MB238768	RD Drive Belt D120x1.6x7 (flat)	RD-129	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 5 ILLUSTRATION OF OPERATION BLOCK

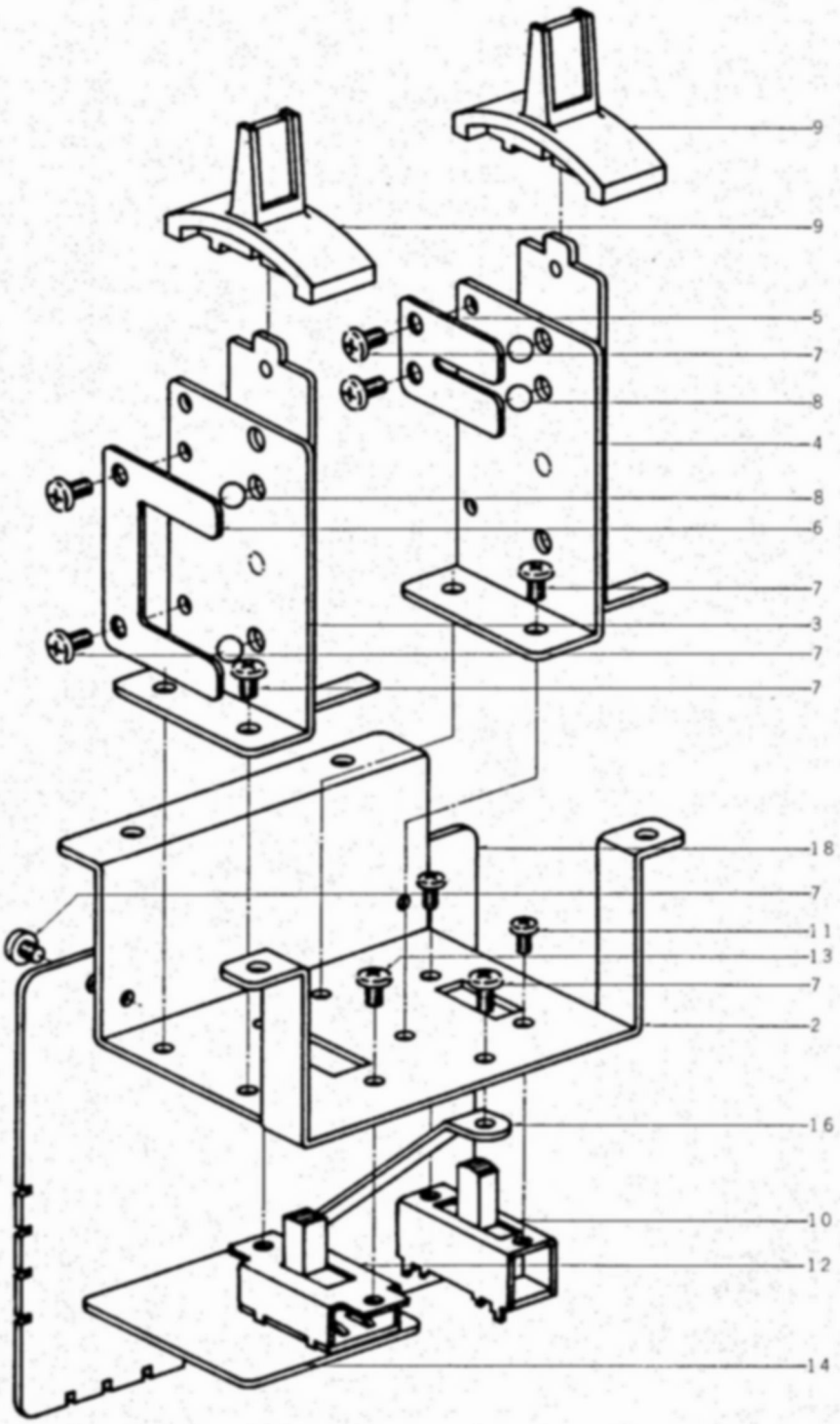


OPERATION BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
5-1x	BZ536275	Operation Block Comp.	ND	1
5-2	MZ528175	Keyboard Holder	ND-2030	1
5-3	ML528186	Keyboard Arm A	ND-2031	3
5-4	SK528197	Keyboard Knob A	ND-2032	3
5-5	ZG529143	Keyboard Return Spring A	ND-2033	3
5-6	ML527758	Keyboard Arm B	ND-2034	1
5-7	ML527747	Keyboard Arm C	ND-2035	1
5-8	SK527736	Keyboard Knob B	ND-2036	2
5-9	ZG529154	Keyboard Return Spring B	ND-2037	2
5-10	MS528480	Keyboard Shaft A	ND-2038	2
5-11	ZW270088	'E' Ring 1.9M	6-1-9	11
5-12	ML527771	Micro Switch Arm A	ND-2040	1
5-13	ML527760	Micro Switch Arm B	ND-2041	1
5-14	ZG528917	Turn Spring A (Left)	ND-2042	1
5-15x	ZG528928	Turn Spring B (Right)	ND-2042	1
5-16	MS527411	Arm Shaft	ND-2043	1
5-17	SE529165	Spacer A	ND-2044	1
5-18	ZG528287	Switch Cancellation Spring	ND-2045	1
5-19	ZW536466	Washer (Nylon) D2.1x7x0.5t		2
5-20	ZW259986	Washer (Nylon) D5.1x10.3x1t		1
5-21x	ZW536477	Washer (Nylon) D3.5x8x0.5t		1
5-22	ZW467537	Screw, binding head 3x4, w/washer		6
5-23	SE530392	Spacer D	ND-2058	1
5-24	SE530403	Spacer E	ND-2059	1
5-25	ML527782	Switch Retaining Table	ND-2039	1
5-26	ML529896	Switch Retaining Bracket	ND-2052	1
5-27	ZW323728	Screw, binding head 3x5		2
5-28	EZ528344	Insulator Fiber	ND-2053	1
5-29	ES477966	Micro Switch SS-5L	25-1-23	1
5-30x	ZW461261	Screw, binding head 2.3x8		2
5-31	SE529176	Spacer B	ND-2046	2
5-32	SE529187	Spacer C	ND-2047	2
5-33	ML529198	Leaf Switch Mt. Plate A	ND-2048	1
5-34	ML529200	Leaf Switch Mt. Plate B	ND-2048	1
5-35	ES520604	Leaf Switch BSW-3201-01	25-10-15	2
5-36	ZW536488	Screw, binding head 2x8		2
5-37x	ZW273778	Earth Lug M3		1
5-38	MS528491	Keyboard Shaft B	ND-2038	2
5-39	ES403727	Micro Switch V-1A106 U/L	25-1-20	3
5-40	ES250064	Micro Switch V-1A44 U/L	25-1-7	2
5-41	MZ402377	Micro Insulator D	KD-2050	4
5-42	BA536286	Spark Quencher P.C. Board Comp. (ND-2049)		1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 6 ILLUSTRATION OF SPEED SWITCH BLOCK

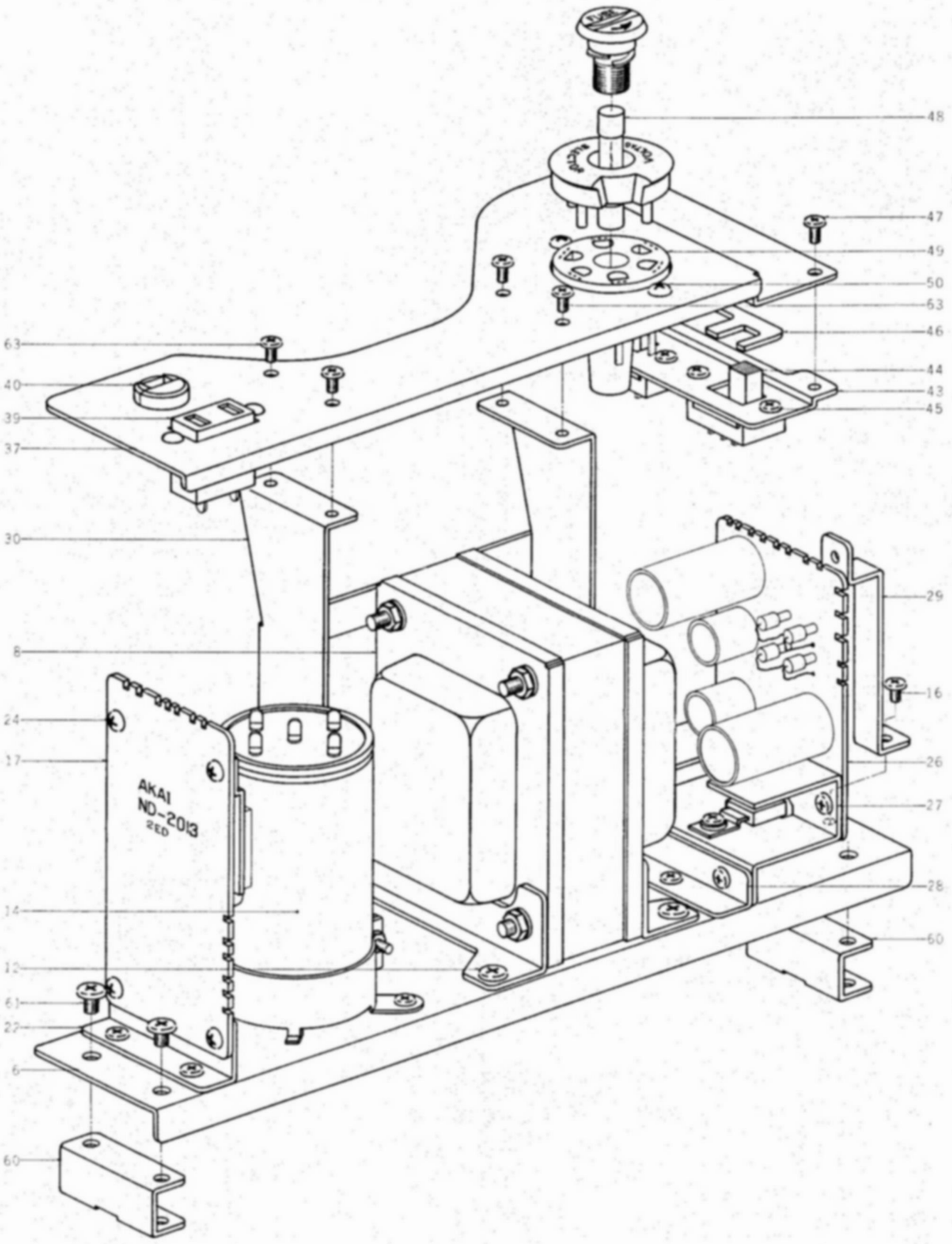


SPEED SWITCH BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
6-1x	BS536297	Speed Switch Block Comp.	ND	1
6-2	ML527973	Switch Base	ND-2018	1
6-3	ML528142	Switch Lever A, w/bracket B	ND-2020	1
6-4	ML529132	Switch Lever B, w/bracket B	ND-2021	1
6-5	ZG529435	Plate Spring A, Ball Retainer	ND-2024	1
6-6	ZG529424	Plate Spring B, Ball Retainer	ND-2025	1
6-7	ZW472274	Tapping Screw #2 3x6 (binding)		11
6-8	MV269965	Steel Ball D4		4
6-9	SK528603	Switch Knob	ND-2029	2
6-10	ES449796	Slide Switch SL-223B4	25-3-59	1
6-11	ZW419782	Screw, binding head 2.6x5		2
6-12	ES479485	Slide Switch S-1	25-3-66	1
6-13	ZW371856	ISO Screw, binding head 3x5		2
6-14	EA527668	Speed Change P.C. Board	ND-2027	1
6-15x	ER213715	Carbon/R. RD1/4 100k(J) (Insu. type)	25-9-5	1
6-16	EL527567	P.C. Board Supporting	ND-2028	1
6-17x	ZW273778	Earth Lug M3		1
6-18	BA536308	Condenser P.C. Board Comp. (ND-2026)		1
6-19x	ZW413728	Screw, binding head 3x6, w/washer		1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 7 ILLUSTRATION OF POWER SUPPLY/REAR PLATE BLOCK





POWER SUPPLY/REAR PLATE BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
	POWER SUPPLY BLOCK			
7-1x	BP536310	Power Supply Block Comp.	ND	1
7-2x	BP536747	Power Supply Block Comp. (UL)	ND	1
7-3x	BP536758	Power Supply Block Comp. (CSA)	ND	1
7-4x	BP536995	Power Supply Block Comp. (3 core)	ND	1
7-5x	BP561161	Power Supply Block Comp. (EC)	ND	1
7-6	MZ527815	Power Supply Mt. Base	ND-2008	1
7-7x	MZ546603	Power Supply Mt. Base (EC)	ND-2008	1
7-8	BT520615	Power Trans. NDT-1	38-4-210	1
7-9x	BT536916	Power Trans. NDT-2 (UL)	38-4-222	1
7-10x	BT536951	Power Trans. NDT-3 (CSA)	38-4-220	1
7-11x	BT561205	Power Trans. NDT-5 (EC)	38-4-221	1
7-12	ZW468112	Tapping Screw #2 4x8 (truss)		4
7-13x	ZW419736	Screw, binding head 4x6 (EC)		4
7-14	EC520626	MP/C. (3+1)μFx2 250WVAC (Lug. type Uni/D.)	24-9-74	1
7-15x	EC536927	MP/C. 3μFx2 250WVAC (Lug type Uni/D.) (UL, CSA)	24-9-79	1
7-16	ZW472274	Tapping Screw #2 3x6 (binding)		5
7-17	BA527376	Resistor P.C. Board Comp. (ND-2013)		1
7-18	ER465750	Cement/R. 5W 22Ω(K) (Wire-wound type)	35-16-3	1
7-19	ER550585	Cement/R. 10W 85Ω(K) (Wire-wound type)	35-16-5	1
7-20	ER520648	Cement/R. S10W 45Ω(K) (Wire-wound type)	35-16-5	1
7-21	ER550574	Cement/R. 5W 390Ω(K) (Metal Ox. Film/T)	35-16-13	1
7-22	MZ528164	Resistor Mt. Metal Fitting	ND-2014	1
7-23x	ER552813	Cement/R. H10B 85Ω(K) (CSA)	35-16-46	1
7-24	ZW447772	Tapping Screw #2 3x6 (BR)		8
7-25x	ZW472274	Tapping Screw #2 3x6 (binding)		2
7-26	BA536321	Power Supply P.C. Board Comp. (ND-2010)		1
7-27	EZ480396	Heat-sink Plate	LE-5010	1
7-28	MZ528805	Heat-sink Retaining Plate	ND-2011	1
7-29	MZ529110	P.C. Board Retaining Plate C	ND-2012	1
7-30	MZ527826	Rear Plate Retaining Angle	ND-2009	1
7-31x	EZ516464	AC Cord 2.5M (CSA)	26-3-29	1

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
	REAR PLATE BLOCK			
7-32x	BZ536332	Rear Plate Block Comp.	ND	1
7-33x	BZ536760	Rear Plate Block Comp. (UL)	ND	1
7-34x	BZ536771	Rear Plate Block Comp. (CSA)	ND	1
7-35x	BZ536736	Rear Plate Block Comp. (3 core)	ND	1
7-36x	BZ561183	Rear Plate Block Comp. (EC)	ND	1
7-37	EZ529413	Rear Plate	ND-2015	1
7-38x	EZ546614	Rear Plate B (EC)	ND-2015	1
7-39	EJ378944	U/L AC Socket S-1 9122	31-1-47	1
7-40	EZ382263	Strain Relief SR-4K-4	2-7-12	1
7-41x	EW540112	AC Cord 2.5M	26-3-19	1
7-42x	EC559260	Power Cord TYPE-412 (EC)	26-3-33	1
7-43	EZ529121	Slide Switch Mt. Plate	ND-2017	1
7-44	ES479485	Slide Switch S-1	25-3-66	2
7-45	ZW444273	ISO Screw, binding head 3x4		4
7-46	EZ527850	Switch Slide Plate	ND-2016	1
7-47	ZW417137	Screw, binding head 3x4		2
7-48	EF277413	Fuse ST-2 2A	39-1-26	1
7-49	EJ233370	Power Plug Socket S-18010	40-2-3	1
7-50	ZW372025	ISO Screw, truss head 3x6		2
7-51x	EJ536940	Fuse Holder, screw type (UL)	40-2-8	1
7-52x	EA480925	Fuse Terminal Plate 1 (CSA)	101061	1
7-53x	EF524722	Fuse 125V 1.2A (CSA)	39-1-44	4
7-54x	ZW561227	Connector 6E-2SD (EC)	52-1-18	1
7-55x	ZW546625	Connector Insulator (EC)	ND-1081	1
7-56x	EJ546636	Fuse Holder B (EC)	A0392	1
7-57x	EF513663	Fuse 800MAT (T type) (EC)		4
7-58x	EZ246936	Strain Relief SR-6W-1 (3 core)	2-7-8	1
7-59x	EZ315448	Australia Cord (3 core)	26-3-11	1
7-60	MZ527545	Power Supply Angle	ND-1009	2
7-61	ZW419736	Screw, binding head 4x6		4
7-62x	ZW273881	Earth Lug M4		1
7-63	ZW396000	Screw, binding head 3x4		4

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

MECHANISM ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-1	MZ529255	Mech. Frame	ND-1001	1
8-2	MH529312	Head Base Prop A	ND-1002	4
8-3x	ZW435273	Screw, binding head 4x10		4
8-4	MZ528107	Lever Pin	ND-1005	1
8-5x	ZW413278	Nut M5		2
8-6	MS528456	Pinch Roller Arm Shaft	ND-1010	1
8-7	MS527534	Reverse Guide	ND-1011	1
8-8x	ZW413188	Nut M4		7
8-9	MH527916	Reverse Joint Prop	ND-1014	1
8-10	MH527905	Reverse Prop	ND-1018	1
8-11	MS465480	Brake Lever Shaft B	ND-1093	1
8-12x	ZW273756	Nut M3		1
8-13	MS397012	Brake Lever Shaft	KD-1003	2
8-14	MZ317373	Brake Lever Prop	MR-102	2
8-15	ML527837	Brake Lever, w/pin	ND-1060	1
8-16	ML529244	Switch Plate	ND-1061	1
8-17	ZW417137	Screw, binding head 3x4		3
8-18	MZ397181	Lever Cushion	KD-1069	1
8-19	ZW290283	'U' Ring 2.85M	6-1-1	8
8-20	MZ314605	MR Spring Rack	MR-104	2
8-21	ZW323728	Screw, binding head 3x5		18
8-22	ML314976	Brake Lever A (Take-up)	MR-210	1
8-23	ML396810	Brake Lever B (Supply)	KD-1038	1
8-24	MB314987	Brake Band	MR-213	2
8-25	MZ314998	Brake Band Retaining Plate	MR-212	4
8-26	MZ315000	Brake Band Support	MR-214	2
8-27	ZG540551	Brake Spring	ND-1076	2
8-28	ML529525	ND Brake Lever A, w/pin	KD-1039	1
8-29	ZG465478	Brake Lever Spring	KD-1092	1
8-30	EP554747	Plunger Solenoid SDC-953 FHT	44-1-58	1
8-31x	ED224561	Silicon Diode 10D6	45-2-17	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
8-32	ML528131	Plunger Base	ND-1058	1
8-33x	ZW371856	ISO Screw, binding head 3x5		4
8-34	MZ529863	Brake Plunger Joint	ND-1064	1
8-35	ZW257477	Connecting Pin	RD-211	1
8-36	ZW270088	'E' Ring 1.9M	6-1-9	1
8-37	ES403727	Micro Switch V-1A106 U/L	25-1-20	6
8-38	MZ479834	Micro Insulator S	MS-1020	2
8-39x	ZW486314	Screw, binding head 3x28		2
8-40x	ZW397146	Micro Switch Nut	KD-1057	1
8-41	MZ250413	Micro Insulator C	RC-127	2
8-42x	ZW417148	Screw, binding head 3x15		4
8-43x	ZW414066	Screw, binding head 3x25		2
8-44x	ZW330412	Adjust Washer D4x13x0.13t (U)		1
8-45x	ZW330423	Adjust Washer D4x13x0.25t (U)		1
8-46x	ZW330445	Adjust Washer D4x13x0.8t (U)		1
8-47	ML528445	P Lever	ND-1036	1
8-48	MS527591	Pinch Roller Shaft	ND-1030	1
8-49x	ZW274026	Spring Washer M5		1
8-50x	ZW413278	Nut M5		1
8-51	MZ529727	P Joint Pin B	ND-1034	1
8-52	MZ527848	P Joint	ND-1035	1
8-53	ZW536444	Screw, binding head 4x18		1
8-54	ZG527580	Quick Spring	ND-1031	1
8-55	ML529222	P Plunger Lever, w/pin	ND-1033	1
8-56	MZ529378	Shift Adjuster	ND-1032	1
8-57	ZW417137	Screw, binding head 3x4		6
8-58	MZ529356	Pinch Roller Joint B	ND-1027	1
8-59	ZG529367	Cramp Spring	ND-1029	1
8-60	MZ802980	Spring Holder	RD-276	2
8-61	ZW413188	Nut M4		4
8-62	MZ528557	P Joint Pin A	ND-1028	1
8-63	ZW270088	'E' Ring 1.9M	6-1-9	2
8-64x	ZW345442	Washer (Nylon)D4.2x9x1t		1
8-65	ZW270156	'E' Ring 6M	6-1-9	1
8-66	EP520558	Plunger Solenoid SDC-1064FHT	44-1-51	1
8-67x	ED224561	Silicon Diode 10D6	45-2-17	1
8-68	MZ527578	Plunger Bracket	ND-1037	1
8-69x	ZW371856	ISO Screw, binding head 3x5		8
8-70	MZ529648	P Plunger Joint	ND-1038	1
8-71x	ZW257477	Connecting Pin	RD-211	1
8-72x	ZW270101	'E' Ring 3M	6-1-9	2
8-73	ZW323728	Screw, binding head 3x5		9
8-74	ML530043	Lever Holder	ND-1070	1
8-75	ML527646	FF Reset Lever A, w/pin	ND-1006	1
8-76x	ZW396437	Washer (Polyslider) D5.1x 10.3x0.25t		1
8-77	ZW290283	'U' Ring 2.85M	6-1-1	7
8-78	ZG527938	FF Reset Spring	ND-1024	2
8-79	ML529323	FF Reset Guide	ND-1015	1
8-80	ML529738	FF Reset Lever B	ND-1007	1
8-81	EP520560	Plunger Solenoid SDC-953THT	44-1-52	1
8-82x	ED224561	Silicon Diode 10D6	45-2-17	1
8-83	ML528131	Plunger Base	ND-1058	1
8-84	MZ529650	Reverse Joint D, w/p	ND-1059	1
8-85	ML529380	D Switch Lever	ND-1056	1
8-86	ZW257477	Connecting Pin	RD-211	1
8-87	ZW270088	'E' Ring 1.9M	6-1-9	2
8-88	MZ527657	Reverse Joint A, w/pin	ND-1012	1
8-89	MZ527883	Reverse Joint B	ND-1021	1
8-90	ES438535	Micro Switch V-1A442 U/L	25-1-15	1
8-91	MZ250413	Micro Insulator C	RC-127	1
8-92	ML527984	AS Switch Table, w/prop	ND-1045	1
8-93x	ZW417148	Screw, binding head 3x15		4
8-94	MZ529558	AS Rotary	ND-1066	1
8-95	ZW413785	Screw, binding head 3x12		1
8-96	ZW424495	Washer (SPC)D3.1x8x1t		2
8-97	ZW273756	Nut M3		2
8-98	ML529290	AS Lever	ND-1047	1
8-99	ZW200777	Set Screw, 3x6 (cone)		1
8-100x	ZW259738	Washer (Polyslider)D4.1x7x 0.25t		2
8-101	ML528153	Quick Switch Table, w/shaft	ND-1062	1
8-102	ML528513	Switch Pin	ND-1055	1
8-103x	MH527635	Switch Pipe	ND-1054	1
8-104	ZG529211	Switch Spring	ND-1053	1
8-105	ML529391	Quick Plate	ND-1063	1
8-106	ES250064	Micro Switch V-1A44 U/L	25-1-7	1
8-107	MZ250413	Micro Insulator C	RC-127	1
8-108	ML529345	P Spring Rack	ND-1019	1
8-109	ZG528118	P Spring	ND-1004	1
8-110	ML527962	Lamp P.C. Board Mt. Table	ND-1052	2
8-111	EA527624	Lamp P.C. Board	ND-1051	2
8-112x	EL295312	No.2 Lamp 8V 0.2A (IND1,2)	28-2-8	2
8-113x	ZW413223	Screw, binding head 3x5, w/washer		2
8-114	MS527400	Tension Arm Shaft	ND-1003	2
8-115	ML528478	Tension Arm A, w/pole	ND-1040	1
8-116	ZW487811	Washer (Polyslider)D4.1x7x 0.5t		2
8-117	ZW290283	'U' Ring 2.85M	6-1-1	2
8-118	ML528794	Tension Arm B, w/metal	ND-1040	1
8-119	HZ317632	Insulator Collar A	MR-36	2
8-120	ZW273778	Earth Lug M3		1
8-121	HZ425485	Sensing Collar	MS-2015	1
8-122	ML528546	Sensing Top	ND-1043	1
8-123	ZW536455	Screw, binding head 2.3x18		1
8-124	ES479395	Push Switch TV-3 JH5	25-5-62	1
8-125x	ES561194	Push Switch AC250V 4A 285/10 (EC)	25-5-110	1
8-126	ML527613	Power Switch Table	ND-1050	1
8-127x	ML546557	Power Switch Table B (EC)	ND-1083	1
8-128	ZW371856	ISO Screw, binding head 3x5		2
8-129	SK518477	Push Switch Knob B	RD-506	1
8-130x	ER226798	Spark Quencher 0.1μ+120 250WV	41-1-10	1
8-131x	EA546570	Switch P.C. Board (EC)	ND-1084	1
8-132x	SK546581	Push Switch Knob A (EC)	ND-1080	1
8-133x	ES494188	Micro Switch SS-5GL-13(EC)	25-1-25	1
8-134x	ZW345442	Washer (Nylon) D4.2x9x1t (EC)		1
8-135x	ML527861	Switch Plate (EC)	ND-1057	1
8-136x	ZW546592	Switch Barrier (EC)	ND-1082	1
8-137x	EZ528344	Insulator Fiber (EC)	ND-2053	1
8-138x	ZW417328	Screw, binding head 2.3x10 (EC)		2
8-139	ZW323728	Screw, binding head 3x5		19
8-140x	EC520547	Elect./C. 330μF 200WV (Lug type)	24-10-75	1
8-141x	ER365016	Carbon/R. RD1/4 220k(J) (Insu. type)	35-9-5	1
8-142x	EC314662	MP/C. 2+1μF 250WVAC (Lug type Uni/D.)	24-9-34	1
8-143x	EC536938	MP/C. 2μF 250WVAC (Lug type Uni/D.) (UL, CSA)	24-9-78	1
8-144x	ZW424056	Screw, pan head 4x10		6
8-145	MC520536	Counter MP-490-18	9-1-27	1
8-146	ZW417137	Screw, binding head 3x4		2
8-147x	MB527556	Counter Belt	ND-1022	1
8-148	MZ527894	Panel Support	ND-1020	1
8-149x	ZW447772	Tapping Screw #2 3x6(BR)		2
8-150	ES389700	Micro Switch SS-5	25-1-19	1
8-151	EZ528344	Insulator Fiber	ND-2053	1
8-152	ML527861	Switch Plate	ND-1057	1
8-153x	ZW417328	Screw, binding head 2.3x10		2
8-154x	EJ299834	6P Mate-N-Lock Plug Housing 1-480273-0	52-1-2	1
8-155x	EJ373634	Socket Contact 61115-1	52-1-1	6
8-156	MZ317406	Brake Band Guide, w/base	MR-120	2
8-157	ZG529334	Tension Spring	ND-1016	2
8-158x	EZ496686	Wire Clip 220JD486010-119	2-7-16	2
8-159x	MB229138	Wire Bundle Holder	2-35-1	5
8-160x	EJ205986	Cramp Terminal 2-SD	32-1-8	13
8-161	MP275984	RD Pinch Roller	RD-231	1
8-162x	ER552813	Cement/R. H10B 85Ω (K) (EC)	25-16-46	1
8-163	SZ527681	Pinch Roller Set Screw	ND-6019	1
8-164	SZ528838	Panel Support A (Right)	ND-6005	1
8-165x	SZ528840	Panel Support B (Left)	ND-6005	1
8-166	MZ527927	Amp. Supporting Plate C	ND-1025	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 9 ILLUSTRATION OF AMPLIFIER ASSEMBLY BLOCK

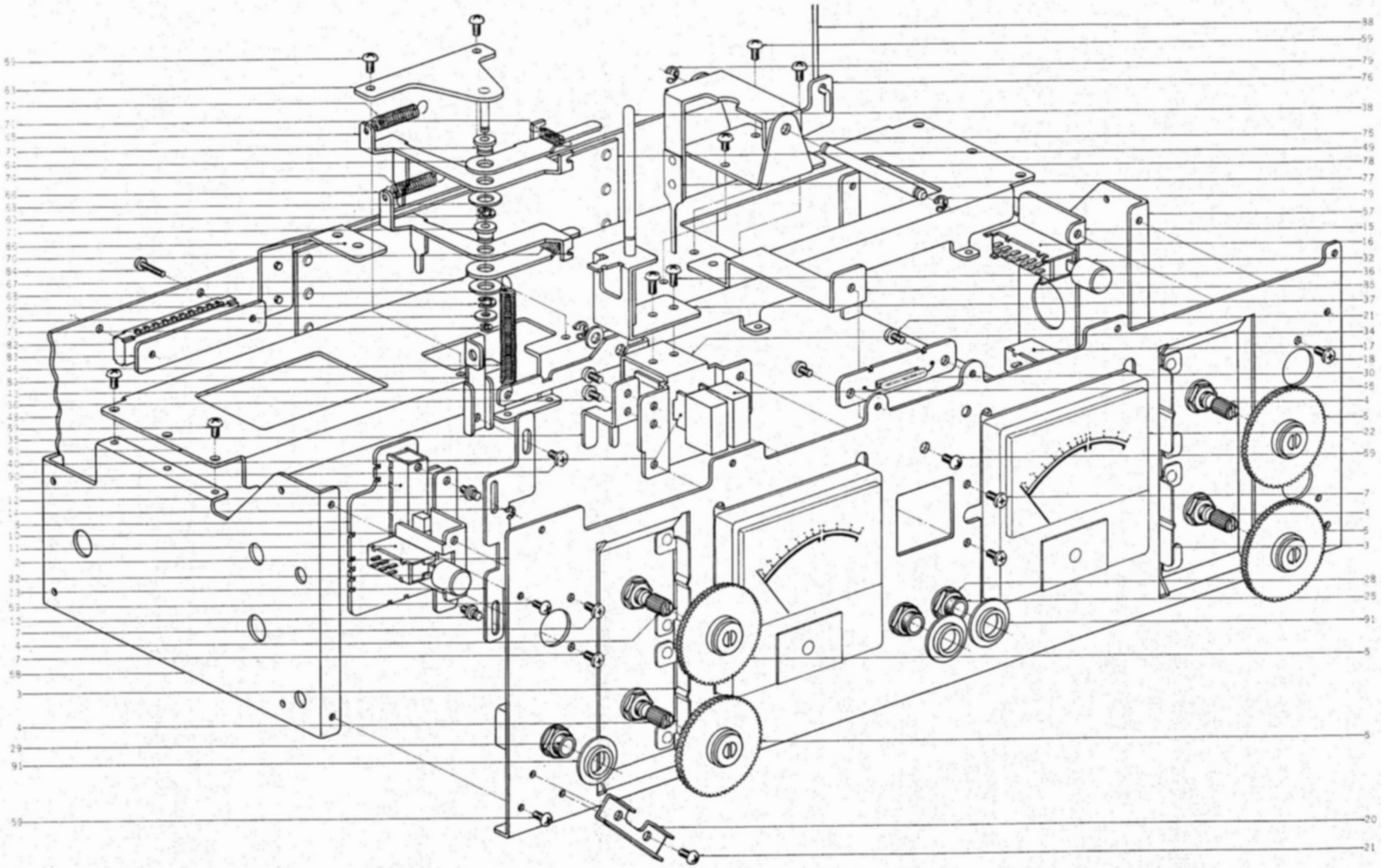
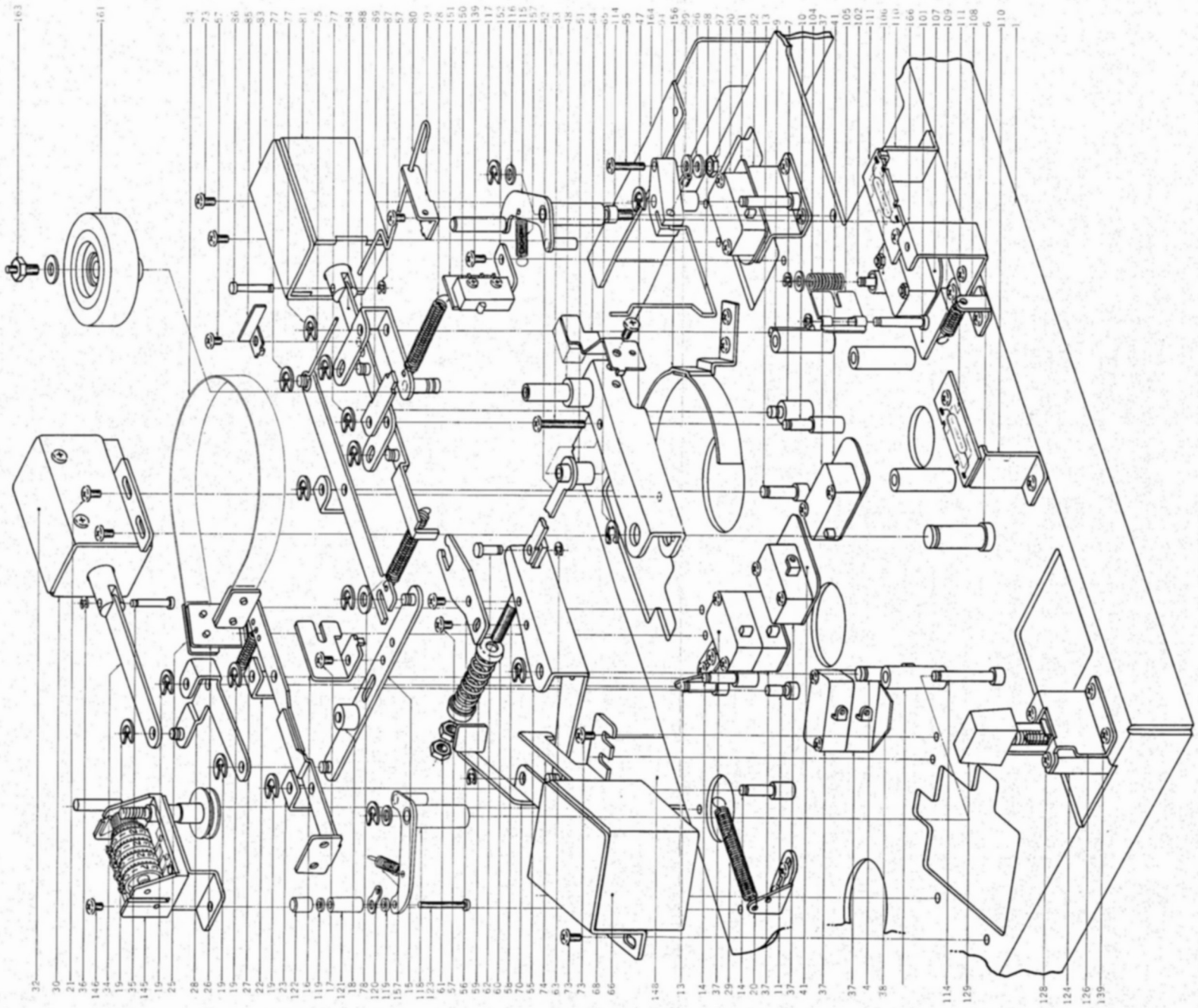


FIG. 8 ILLUSTRATION OF MECHANISM ASSEMBLY BLOCK



AMPLIFIER ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
		AMP. FRONT CHASSIS BLOCK		
9-1x	BZ536387	Amp. Front Chassis Block Comp.	ND	1
9-2	EZ529661	Amp. Front Chassis	ND-5001	1
9-3	ZG529907	Click Spring	ND-5045	4
9-4	EV487822	Volume V24N 50 kA	36-2-28	4
9-5	EZ529604	Click Gear	ND-5044	4
9-6x	BK536398	Rec. Button Block Comp.	ND	1
9-7	ZW413155	Screw, binding head 3x6		5
9-8	BS536400	Equalizer Switch P.C. Board Comp. (ND-5042)		1
9-9	ES520672	Slide Switch SL-282B4	25-3-88	1
9-10	EZ528232	Switch Bracket A	ND-5012	1
9-11	ES520705	Push Switch UEG-22A	25-5-78	1
9-12	VM422381	Slide Plate Shaft	PX-A206	2
9-13	EZ528210	Link B	ND-5014	1
9-14	ZW357164	'E' Ring 2.3M	6-1-9	2
9-15	EZ528265	Switch Angle	ND-5015	1
9-16	ES494594	Push Switch UEG42A	25-5-70	1
9-17	ES520705	Push Switch UEG-22A	25-5-78	1
9-18	ZW413155	Screw, binding head 3x6		2
9-19x	ZW432843	Screw, pan head 2.6x4		3
9-20	EZ528243	Support	ND-5018	2
9-21	ZW447772	Tapping Screw #2 3x6 (BR)		6
9-22	EM520694	VU Meter KL-250B-20 (blue) (AAL, WG, JPN)	46-1-67	2
9-23x	EM561756	VU Meter KL-250B-27 (black)	46-1-79	1
9-24x	ZG290878	VU Meter Spring	DX-504	4
9-25	EJ433844	Mic. Jack 2PMJ4	31-2-35	2
9-26x	ZW272722	Toothed Lock Washer M9 D9.3x13x0.5t		3
9-27x	ZW260368	Washer (Fiber)D9.2x18x0.5t		2
9-28	ZW270191	E Jack Nut		3
9-29	EJ442078	Mic. Jack 3PMJ4	31-2-36	1
9-30	EA528254	Rec. Lamp P.C. Board	ND-5016	1
9-31x	EL295312	No. 2 Lamp 8V 0.2A	28-2-8	1
9-32	SK487675	Knob C	CG-2007	3
		REC. BUTTON BLOCK		
9-33x	BK536398	Rec. Button Block Comp.	ND	1
9-34	EZ528333	Rec. Switch Holder, w/shaft	ND-5002	1
9-35	EZ528208	Safety Guide	ND-5010	1
9-36	ZW325495	Tapping Screw #2 3x6		4
9-37	EZ528298	Rod Stand	ND-5008	1
9-38	EZ528930	Rec. Con Rod	ND-5009	1
9-39x	ZW270101	'E' Ring 3M	6-1-9	2
9-40	EZ528322	Switch Slider	ND-5004	2
9-41x	ZG528311	Coil Spring	ND-5005	2
9-42x	EZ528300	Spring Retainer	ND-5006	1
9-43	EZ528467	Stopper	ND-5007	1
9-44x	ZW420682	Washer (Nylon)D4.2x9x0.5t		1
9-45	SK528671	Push Switch Knob	ND-5011	2
9-46	ZG520716	RF Spring	3R-150	1
		REAR CHASSIS BLOCK		
9-47x	BZ536411	Rear Chassis Block Comp.	ND	1
9-48	EZ529593	Amp. Rear Chassis	ND-5035	1
9-49	BZ527387	Jack Plate Comp. GX-260D	ND-5050	1
9-50x	ES379045	6P Slide Switch SJ-0282(small)	25-3-36	1
9-51x	EV520738	Co-axial 2-throw Volume GM30A 10 kBx2	36-1-24	1
9-52x	ER213794	Carbon/R. RD1/4 120k(J) (Insu. type)	35-9-5	2
9-53x	ER345712	Carbon/R. RD1/4 22k(J) (Insu. type)	35-9-5	6
9-54x	ER520740	Carbon/R. RD1/4 240(J) (Insu. type)	35-9-5	2
9-55x	ER329264	Carbon/R. RD1/4 2.2k(J) (Insu. type)	35-9-5	2
9-56x	ZW273778	Earth Lug M3		1

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
		AMP. ASSEMBLY BLOCK		
9-57	EZ528366	Amp. Side Plate R	ND-5020	1
9-58	EZ528377	Amp. Side Plate L	ND-5020	1
9-59	ZW447772	Tapping Screw #2 3x6 (BR)		18
9-60x	ZW523664	Tapping Screw #2 3x10 (BR)		1
9-61	EZ529560	Center Bridge	ND-5021	1
9-62x	EZ328320	Nylon Clip HP-5N	2-7-39	1
9-63	EZ528276	Lever Retaining Plate, w/shaft	ND-5022	1
9-64	ML528851	Sub R Lever A	ND-5025	1
9-65	ML528873	Rec. Lever A	ND-5026	1
9-66	ML528884	Rec. Lever B	ND-5027	1
9-67	ML541484	Sub R Lever C	ND-5053	1
9-68	ZW379361	Washer (Nylon)D6.1x13x0.5t		2
9-69	ZW270123	'E' Ring 4M	6-1-9	2
9-70	ZG528423	Rec. Pull Spring A	ND-5028	2
9-71	ZW544083	Sleeve	ND-5055	2
9-72	ZW317171	Washer (PBP) D3.1x8x0.1t		3
9-73	ZW270088	'E' Ring 1.9M	6-1-9	1
9-74	ZG529683	Rec. Pull Spring B	ND-5029	2
9-75	EZ528682	RA Shaft Retaining Plate	ND-5030	1
9-76	ML528434	Reverse Arm A	ND-5032	1
9-77	ML529806	Reverse Arm B	ND-5033	1
9-78	MS529582	Reverse Arm Shaft	ND-5031	1
9-79	ZW270101	'E' Ring 3M	6-1-9	2
9-80x	EJ299823	6P Mate-N-Lock Cap Housing 1-480276-0	52-1-2	1
9-81x	EJ373623	Pin Contact 61116-1	52-1-1	6
9-82	EJ292961	10P Multi-Jack 500-010-005	31-4-4	1
9-83	EZ530021	Jack Nut Plate	ND-5052	1
9-84	ZW462947	Screw, pan head 2.3x12		2
9-85	EZ528963	Amp. Supporting Plate A	ND-5040	1
9-86	EZ528952	Amp. Supporting Plate B	ND-5041	1
9-87x	ZW413155	Screw, binding head 3x6		2
9-88	SZ528412	Reverse Switch Rod	ND-5034	1
9-89	SZ528221	Link A	ND-5013	1
9-90	ZW413728	Screw, binding head 3x6, w/washer		1
9-91	ZW526577	Collar B, Jack	MC-5006	3

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

FIG. 10 PHOTO OF SPARK QUENCHER P.C. BOARD (ND-2049)

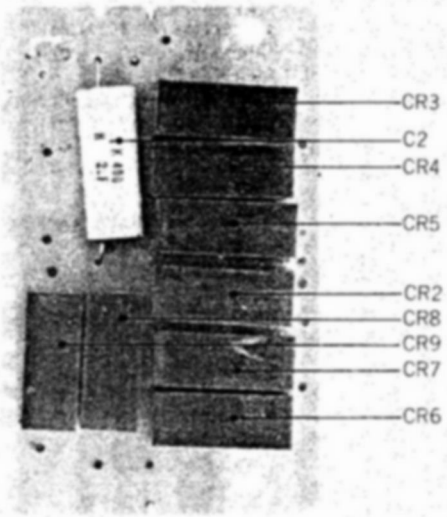
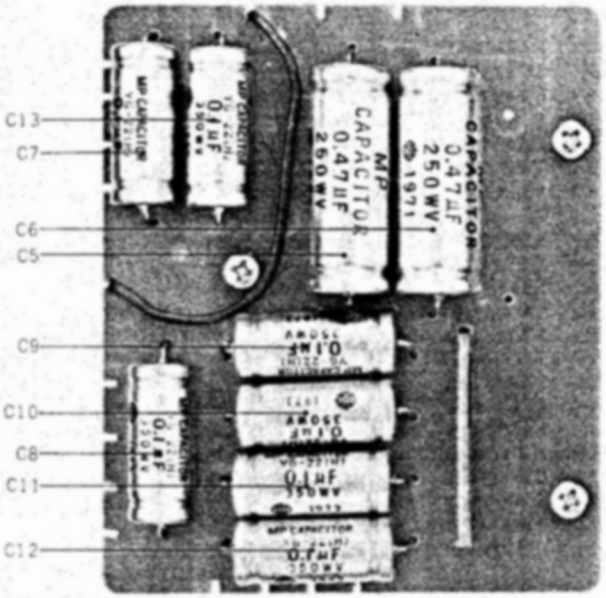


FIG. 11 PHOTO OF CONDENSER P.C. BOARD (ND-2026)



SPARK QUENCHER P.C. BOARD (ND-2049) BLOCK

Symbol No.	Parts No.	Description	Q'ty
10-1x	BA536286	Spark Quencher P.C. Board Comp. (ND-2049)	1
10-CR2 to 9	ER226798	Spark Quencher 0.1μ+120 250WV	8
10-C2	EC273464	MP Capacitor 0.1μF(M) 350WVDC (Tub. type)	1
10-R5	ER212264	Carbon Resistor RD1/4 22k(J) (Stop. type)	1

CONDENSER P.C. BOARD (ND-2026) BLOCK

Symbol No.	Parts No.	Description	Q'ty
11-1x	BA536308	Condenser P.C. Board Comp. (ND-2026)	1
11-C5, 6	EC350987	MP Capacitor 0.47μF (M) 250VAC (Tub. type)	2
11-C7 to 13	EC273464	MP Capacitor 0.1μF (M) 350WVDC (Tub. type)	7

FIG. 12 PHOTO OF POWER SUPPLY P.C. BOARD (ND-2010)

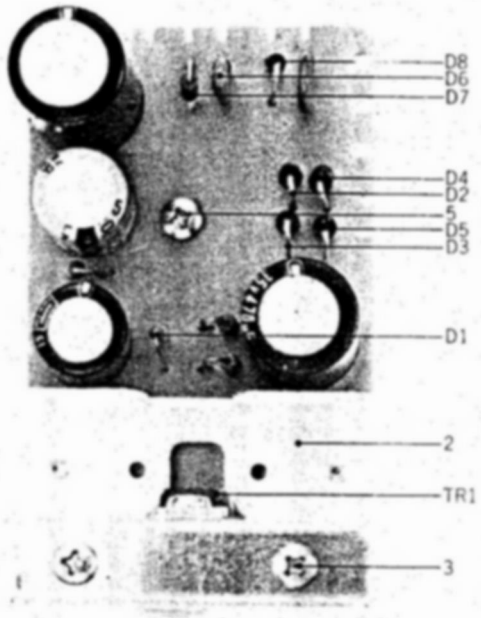
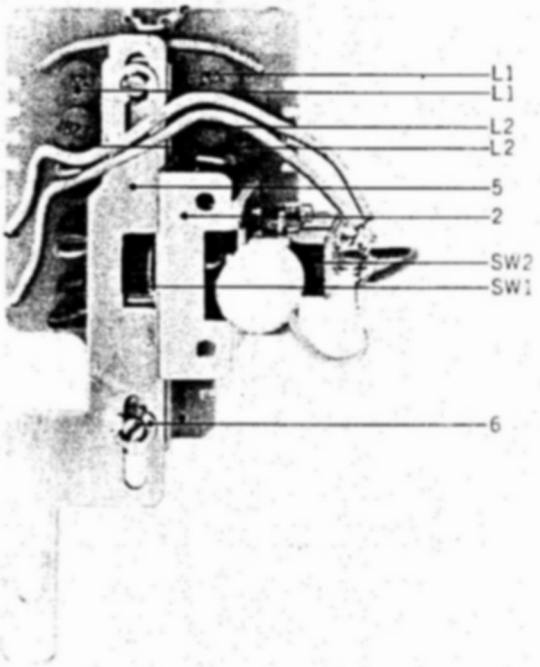


FIG. 13 PHOTO OF EQUALIZER SWITCH P.C. BOARD (ND-5042)



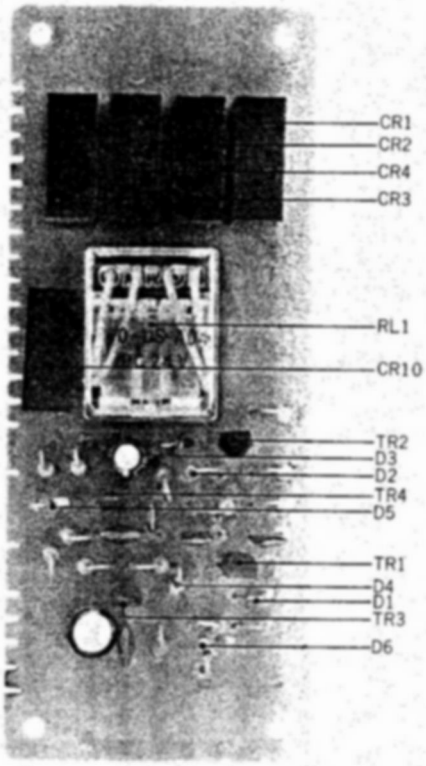
POWER SUPPLY P.C. BOARD (ND-2010) BLOCK

Symbol No.	Parts No.	Description	Q'ty
12-1x	BA536321	Power Supply P.C. Board Comp. (ND-2010)	1
12-2	EZ480396	Heat-sink Plate	1
12-TR1	ET391735	Transistor 2SC1013(D) (E)	1
12-3	ZW413155	Screw, binding head 3x6	3
12-4x	MZ528805	Heat-sink Retaining Plate	1
12-5	ZW417137	Screw, binding head 3x4	3
12-D1	ED511918	Zener Diode WZ-240	1
12-D2 to 5	ED494583	Silicon Diode 10D05	4
12-D6	ED224526	Silicon Diode 10D1	1
12-D7, 8	ED224550	Silicon Diode 10D4	2
12-6x	MZ529110	P.C. Board Retaining Plate C	1
		Capacitor, Vertical Type	
12-C1	EC336115	Elect. 220μF 25WV	1
12-C2	EC372148	Elect. 220μF 35WV	1
12-C3, 4	EC444082	Elect. 470μF 35WV	2
		Resistor, Stopper Type	
12-R1	ER430018	Carbon RD1/4 1(J)	1
12-R2	ER211667	Carbon RD1/4 100(J)	1
12-R3	ER306843	Carbon RD1/4 1.2k(J)	1

EQUALIZER SWITCH P.C. BOARD (ND-5042) BLOCK

Symbol No.	Parts No.	Description	Q'ty
13-1x	BS536400	Equalizer Switch P.C. Board Comp. (ND-5042)	1
13-SW1	ES520672	Slide Switch SL-282B4	1
13-SW2	ES520705	Push Switch UEG-22A	1
13-L1	EO524856	Ferri Inductor FL7H 820μH(J)	2
13-L2	EO380564	Ferri Inductor FL7H 1.8MH(J)	2
13-2	EZ528232	Switch Bracket A	1
13-3x	ZW442585	Screw, binding head 2.6x4	2
13-4x	VM422381	Slide Plate Shaft	2
13-5	EZ528210	Link B	1
13-6	ZW357164	'E' Ring 2.3M	2
		Capacitor, Vertical Type	
13-C1	EC368335	Mylar 0.022μF(J) 50WV	2
13-C2	EC379192	Mylar 0.039μF(J) 50WV	2
13-C3	EC311793	Mylar 0.012μF(J) 50WV	2
13-C4	EC389485	Mylar 0.018μF(J) 50WV	2
13-R1, 2	ER380913	Carbon Resistor RD1/4 33(J) (Stop. type)	4

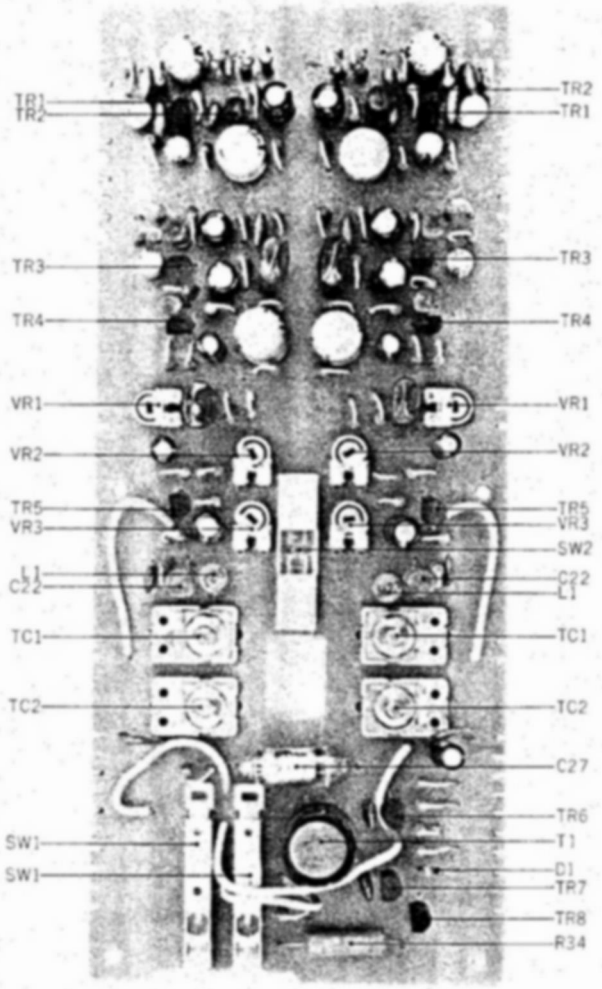
FIG. 14 PHOTO OF SYS. CON. P.C. BOARD (ND-1048)



SYS. CON. P.C. BOARD (ND-1048) BLOCK

Symbol No.	Parts No.	Description	Q'ty
14-1x	BA536343	Sys. Con. P.C. Board Comp. (ND-1048)	1
14-2x	BA561172	Sys. Con. P.C. Board Comp. (ND-1048) (CSA, EC)	1
14-TR1 to 4	ET379462	Transistor 2SC711 (D) (E)	4
14-D1	ED514721	Silicon Diode WG-599	1
14-D2	ED219464	Germanium Diode 1N34A	1
14-D3 to 6	ED514721	Silicon Diode WG-599	4
14-CR1 to 4	ER226798	Spark Quencher 0.1μ+120Ω 250WV	4
14-CR10	ER376413	Spark Quencher U/L 0.033μ+ 120Ω 500WV	1
14-3x	EZ529536	P.C. Board Mt. Plate A	1
14-4x	EZ529547	P.C. Board Mt. Plate B	1
14-5x	ZW413223	Screw, binding head 3x5, w/washer	4
14-FR1	ER561216	Fuse Resistor FRN1/4 100(K) 50MA (CSA, EC)	1
14-RL1	EP344136	Relay MY4-O-US-AD4-24V	1
		Capacitor, Vertical Type	
14-C1	EC220994	Elect. 10μF 25WV	1
14-C2	EC250918	Mylar 0.01μF(M) 50WV	1
14-C3	EC391498	Mylar 0.022μF(M) 50WV	1
14-C4	EC250918	Mylar 0.01μF(M) 50WV	1
14-C5	EC350684	Elect. 22μF 25WV	1
14-C6	EC391498	Mylar 0.022μF(M) 50WV	1
14-C7, 8	EC250918	Mylar 0.01μF(M) 50WV	2
		Resistor, Stopper Type	
14-R1	ER211667	Carbon RD1/4 100(J)	1
14-R2	ER336442	Carbon RD1/4 10k(J)	1
14-R3	ER212883	Carbon RD1/4 4.7k(J)	1
14-R4	ER212477	Carbon RD1/4 3.3k(J)	1
14-R5 to 7	ER212883	Carbon RD1/4 4.7k(J)	3
14-R8	ER336442	Carbon RD1/4 10k(J)	1
14-R9	ER357456	Carbon RD1/4 2.2k(J)	1
14-R10	ER211757	Carbon RD1/4 100k(J)	1
14-R11	ER212264	Carbon RD1/4 22k(J)	1
14-R12	ER212883	Carbon RD1/4 4.7k(J)	1
14-R13	ER212264	Carbon RD1/4 22k(J)	1
14-R14	ER357456	Carbon RD1/4 2.2k(J)	1

FIG. 15 PHOTO OF REC. AMP. P.C. BOARD (ND-5038)



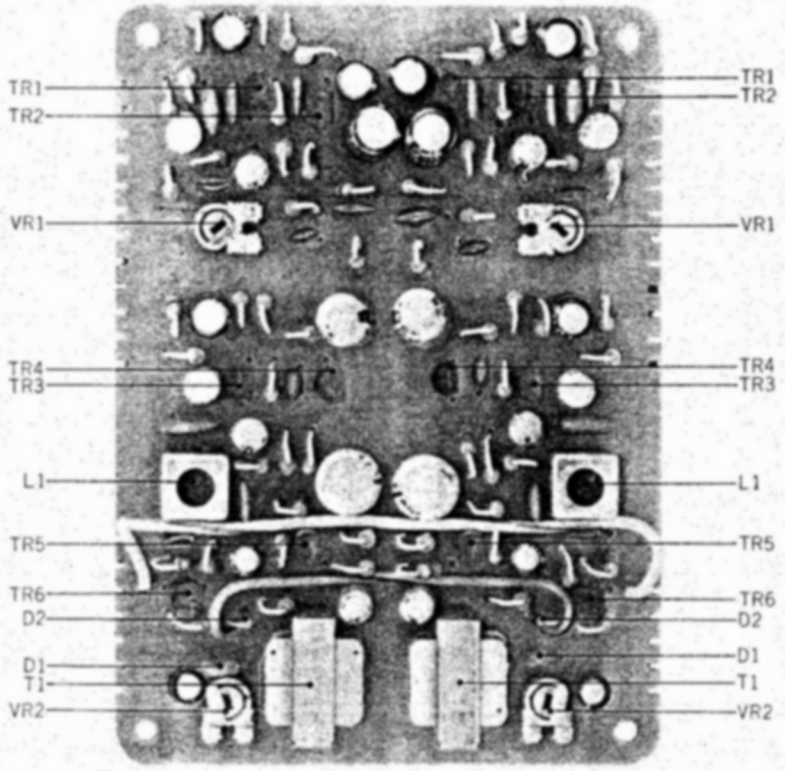
REC. AMP. P.C. BOARD (ND-5038) BLOCK

Symbol No.	Parts No.	Description	Q'ty
15-1x	BA536433	Rec. Amp. P.C. Board Comp. (ND-5038)	1
15-TR1 to 4	ET517263	Transistor 2SC1312(G) (H)	8
15-TR5 to 8	ET453486	Transistor 2SC711(E) (F)	5
15-D1	ED514721	Silicon Diode WG-599	2
15-VR1	EV464207	Semi-fixed Volume V8K4-1 5kB	2
15-VR2, 3	EV520806	Semi-fixed Volume V8K4-1 10 kB	4
15-TC1, 2	EC398878	Trimmer/C. C-1P-2 50 to 70PF	4
15-L1	EO321254	Ferri Inductor FL7H 5.6MH(J)	2
15-SW1	ES520784	Slide Switch CL-104BO	2
15-SW2	ES520795	Slide Switch CL-204E	2
15-T1	EO383365	OSC. Coil OT-204	1

Symbol No.	Parts No.	Description	Q'ty
		Capacitor, Vertical Type	
15-C1	EC290520	VFM 100PF(J) 50WV	2
15-C2	EC336126	Elect. 47μF 25WV	2
15-C3	EC432810	Elect. 10μF 16WV(NL)	2
15-C4	EC290520	VFM 100PF(J) 50WV	2
15-C5	EC336104	Elect. 100μF 6.3WV	2
15-C6	EC456322	VFM 22PF(K) 50WV	2
15-C7	EC394918	VFM 33PF(K) 50WV	2
15-C8	EC320051	Elect. 10μF 16WV	2
15-C9	EC329771	Elect. 47μF 6.3WV	2
15-C10	EC320051	Elect. 10μF 16WV	2
15-C11	EC357827	VFM 50PF(K) 50WV	2
15-C12	EC329771	Elect. 47μF 6.3WV	2
15-C13	EC357827	VFM 50PF(K) 50WV	2
15-C14	EC290520	VFM 100PF(J) 50WV	2
15-C15	EC333562	Mylar 0.18μF(K) 50WV	2
15-C16	EC329771	Elect. 47μF 6.3WV	2
15-C17	EC320051	Elect. 10μF 16WV	2
15-C18	EC336126	Elect. 47μF 25WV	2
15-C19	EC333562	Mylar 0.18μF(K) 50WV	2
15-C20	EC320051	Elect. 10μF 16WV	2
15-C21	EC220994	Elect. 10μF 25WV	2
15-C22	EC405898	Styrol 470PF(J) 50WV	2
15-C23,24,25	EC250841	Mylar 0.01μF(J) 50WV	4
15-C26	EC450055	Elect. 1μF 25WV	1
15-C27	EC520773	Styrol 2000PF(J) 250WV (Tub. type)	1
15-C28	EC250885	Mylar 0.01μF(K) 50WV	1
		Resistor, Stopper Type	
15-R1	ER336442	Carbon RD1/4 10k(J)	2
15-R2	ER362485	Carbon RD1/4 330k(J)	2
15-R3	ER336442	Carbon RD1/4 10k(J)	2
15-R4	ER213300	Carbon RD1/4 680(J)	2
15-R5	ER346994	Carbon RD1/4 18k(J)	2
15-R6	ER343078	Carbon RD1/4 2.7k(J)	2
15-R7	ER357570	Carbon RD1/4 150k(J)	2
15-R8	ER343135	Carbon RD1/4 1.6k(J)	2
15-R9	ER407316	Carbon RD1/4 24k(J)	2
15-R10	ER357456	Carbon RD1/4 2.2k(J)	2
15-R11, 12	ER346601	Carbon RD1/4 47k(J)	4
15-R13	ER357412	Carbon RD1/4 220(J)	2
15-R14	ER450011	Carbon RD1/4 120k(J)	2
15-R15	ER349942	Carbon RD1/4 8.2k(J)	2
15-R16	ER347038	Carbon RD1/4 270 (J)	2
15-R17	ER357491	Carbon RD1/4 82k(J)	2
15-R18	ER212264	Carbon RD1/4 22k(J)	2
15-R19	ER420322	Carbon RD1/4 36k(J)	2
15-R20	ER343078	Carbon RD1/4 2.7k(J)	2
15-R21	ER362441	Carbon RD1/4 1.8k(J)	2
15-R22	ER213377	Carbon RD1/4 750(J)	2
15-R23	ER342933	Carbon RD1/4 27k(J)	2
15-R24	ER357456	Carbon RD1/4 2.2k(J)	2
15-R25	ER342933	Carbon RD1/4 27k(J)	2
15-R26	ER336442	Carbon RD1/4 10k(J)	2
15-R27	ER211465	Carbon RD1/4 1k(J)	2
15-R28	ER349784	Carbon RD1/4 390(J)	2
15-R29	ER336442	Carbon RD1/4 10k(J)	2
15-R30 31	ER315944	Carbon RD1/4 3.3(J)	2
15-R32	ER304402	Carbon RD1/4 470(J)	1
15-R33	ER212883	Carbon RD1/4 4.7k(J)	1
15-R34	ER511288	Metal Oxide Film 1W 180(K)	1
15-R35	ER211465	Carbon RD1/4 1k(J)	1
15-R36	ER371946	Carbon RD1/4 2k(J)	1

When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

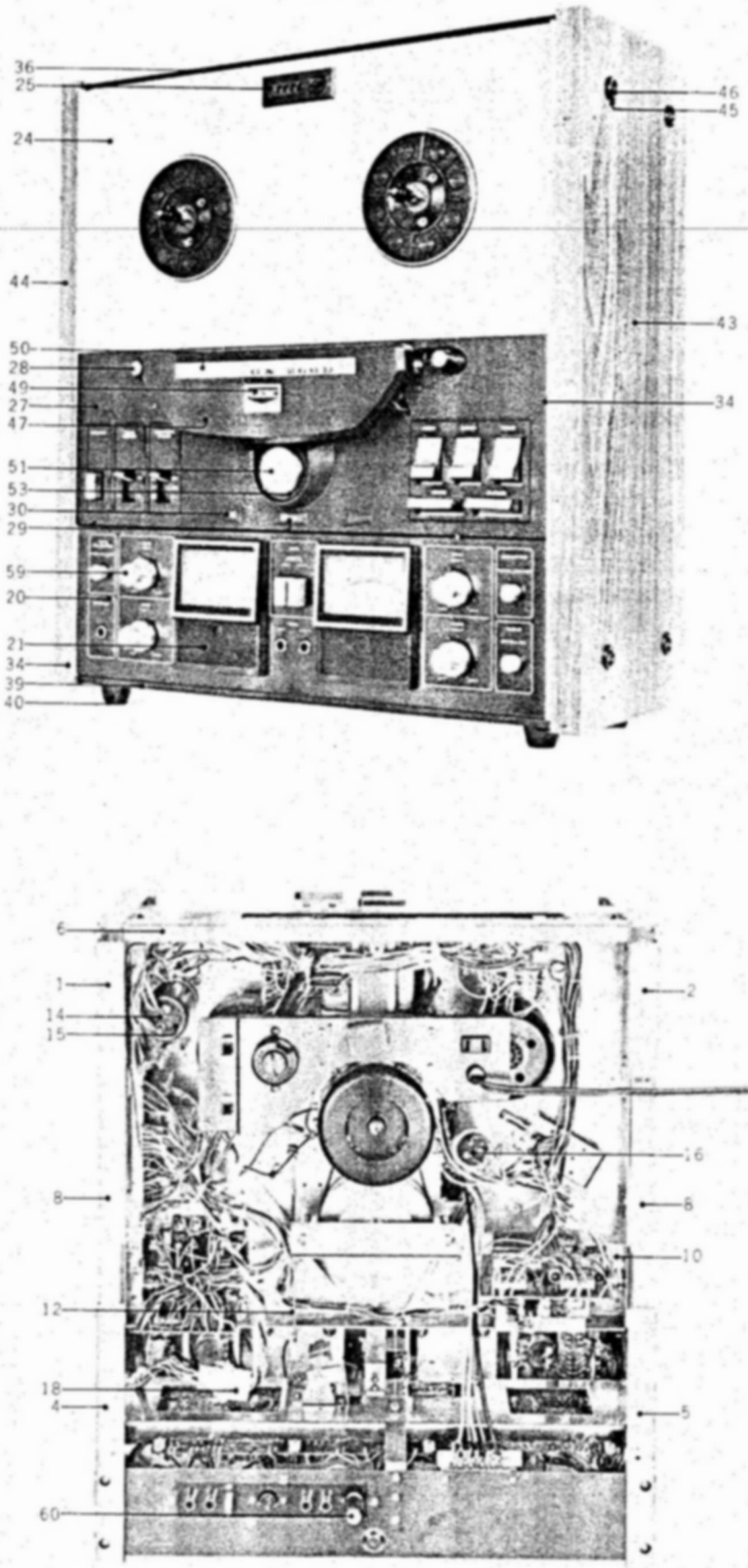
FIG. 16 PHOTO OF P.B. AMP. P.C. BOARD (ND-5037)



P.B. AMP. P.C. BOARD (ND-5037) BLOCK

Symbol No.	Parts No.	Description	Q'ty
16-1x	BA536422	P.B. Amp. P.C. Board Comp. (ND-5037)	1
16-TR1, 2, 3	ET517263	Transistor 2SC1312(G) (H)	6
16-TR4, 5, 6	ET379462	Transistor 2SC711(D) (E)	6
16-D1	ED219464	Germanium Diode 1N34A	2
16-D2	ED520762	Zener Diode YZ-088A	2
16-L1	EO346230	Inductor RX22MH	2
16-T1	BT247768	Head Phone Trans. N19-5921S	2
16-VR1	EV464220	Semi-fixed Volume V8K4-1 50 kB	2
16-VR2	EV464207	Semi-fixed Volume V8K4-1 5 kB	2
		Capacitor, Vertical Type	
16-C1	EC320040	Elect. 47μF 16WV	2
16-C2	EC432810	Elect. 10μF 16WV(NL)	2
16-C3	EC290520	VFM 100PF(J) 50WV	2
16-C4	EC467133	VFM 68PF(J) 50WV	2
16-C5	EC329771	Elect. 47μF 6.3WV	2
16-C6	EC290520	VFM 100PF(J) 50WV	2
16-C7	EC517138	Elect. 10μF 25WV(NL)	2
16-C8	EC329771	Elect. 47μF 6.3WV	2
16-C9	EC389485	Mylar 0.018μF(J) 50WV	2
16-C10	EC250683	Mylar 0.0022μF(J) 50WV	2
16-C11	EC389474	Mylar 0.0015μF(J) 50WV	2
16-C12	EC336126	Elect. 47μF 25WV	2
16-C13	EC432810	Elect. 10μF 16WV(NL)	2
16-C14	EC329850	VFM 200PF(J) 50WV	2
16-C15	EC329771	Elect. 47μF 6.3WV	2
16-C16	EC290520	VFM 100PF(J) 50WV	2
16-C17	EC399565	VFM 22PF(J) 50WV	2
16-C18	EC336104	Elect. 100μF 6.3WV	2
16-C19	EC320051	Elect. 10μF 16WV	2
16-C20	EC389474	Mylar 0.0015μF(J) 50WV	2
16-C21	EC450055	Elect. 1μF 25WV	2
16-C22	EC320051	Elect. 10μF 16WV	2
16-C23	EC450055	Elect. 1μF 25WV	2
		Resistor, Stopper Type	
16-R1	ER362485	Carbon RD1/4 330k(J)	2
16-R2	ER346601	Carbon RD1/4 47k(J)	2
16-R3	ER362485	Carbon RD1/4 330k(J)	2
16-R4	ER336442	Carbon RD1/4 10k(J)	2
16-R5	ER212681	Carbon RD1/4 330(J)	2
16-R6	ER357570	Carbon RD1/4 150k(J)	2
16-R7	ER212264	Carbon RD1/4 22k(J)	2
16-R8	ER212872	Carbon RD1/4 4.3k(J)	2
16-R9	ER212477	Carbon RD1/4 3.3k(J)	2
16-R10	ER211757	Carbon RD1/4 100k(J)	2
16-R11	ER352045	Carbon RD1/4 3.9k(J)	2
16-R12	ER212477	Carbon RD1/4 3.3k(J)	2
16-R13	ER346601	Carbon RD1/4 47k(J)	2
16-R14	ER346994	Carbon RD1/4 18k(J)	2
16-R15	ER212883	Carbon RD1/4 4.7k(J)	2
16-R16	ER346601	Carbon RD1/4 47k(J)	2
16-R17	ER211465	Carbon RD1/4 1k(J)	2
16-R18	ER357456	Carbon RD1/4 2.2k(J)	2
16-R19	ER212681	Carbon RD1/4 330(J)	2
16-R20	ER357491	Carbon RD1/4 82k(J)	2
16-R21	ER357456	Carbon RD1/4 2.2k(J)	2
16-R22	ER212681	Carbon RD1/4 330(J)	2
16-R23	ER357412	Carbon RD1/4 220(J)	2
16-R24	ER212264	Carbon RD1/4 22k(J)	2
16-R25	ER211465	Carbon RD1/4 1k(J)	2
16-R26	ER212264	Carbon RD1/4 22k(J)	2
16-R27	ER211757	Carbon RD1/4 100k(J)	2
16-R28	ER350100	Carbon RD1/4 68k(J)	2
16-R29	ER212883	Carbon RD1/4 4.7k(J)	2
16-R30	ER211465	Carbon RD1/4 1k(J)	2
16-R31	ER429996	Carbon RD1/4 470k(J)	2

FIG. 17 PHOTO OF FINAL ASSEMBLY BLOCK



FINAL ASSEMBLY BLOCK

Ref. No.	Parts No.	Description	Schematic No.	Q'ty
17-1	MZ528985	Mech. Side Plate A (Right)	ND-6001	1
17-2	MZ528996	Mech. Side Plate B (Left)	ND-6001	1
17-3x	ZW462925	Tapping Screw #2 4x8(BR)		4
17-4	MZ529931	Mech. Side Plate C (Right)	ND-6002	1
17-5	MZ529942	Mech. Side Plate D (Left)	ND-6002	1
17-6	SZ529920	Reinforcement Angle A	ND-6003	1
17-7x	ZW447772	Tapping Screw #2 3x6(BR)		16
17-8	SZ529086	Reinforcement Angle B	ND-6004	2
17-9x	ZW416687	Screw, binding head 4x8		8
17-10	SZ529007	Nut Plate	ND-6015	2
17-11x	ZW424620	Screw, pan head 3x10		4
17-12	SZ528412	Reverse Switch Rod	ND-5034	1
17-13x	ZW290283	'U' Ring 2.85M	6-1-1	1
17-14	EC520547	Elect./C. 330μF 200WV (Lug type)	24-10-75	1
17-15	ER365016	Carbon/R. RD1/4 220k(J) (Insu. type)	35-9-5	1
17-16	EC314662	MP/C. 2+1μF 250WVAC (Lug type Uni/D.)	24-9-34	1
17-17x	EC536938	MP/C. 2μF 250WVAC (Lug type Uni/D.) (UL, CSA)	24-9-78	1
17-18	EJ299834	6P Mate-N-Lock Plug Housing 1-480273-0	52-1-2	1
17-19x	EJ373634	Socket Contact 61115-1	52-1-1	1
17-20	SP529042	Amp. Panel	ND-6009	1
17-21	SC473815	VU Meter Cover	KH-6020	2
17-22x	ZW487866	Screw, round head 2.6x6		6
17-23x	ZW447772	Tapping Screw #2 3x6(BR)		7
17-24	SP529953	Mech. Panel Comp.	ND-6007	1
17-25	SZ528906	Counter Escutcheon	ND-6008	1
17-26x	ZW323728	Screw, binding head 3x5		4
17-27	SP529031	Front Panel	ND-6010	1
17-28	SE528390	Column Cover	ND-6011	2
17-29	SE528401	Rec. Lamp Lens	ND-6012	1
17-30	SE528974	Direction Indicator Lamp Lens	ND-6013	2
17-31x	SE528816	Mask, Pinch Wheel	ND-6027	1
17-32x	ZW200687	Tapping Screw #2 3x6 (round)		2
17-33x	SZ529874	Head Cover Prop	ND-6014	2
17-34	SE529020	Sash	ND-6006	2
17-35x	ZW417352	Screw, pan head 3x6		8
17-36	SP528748	Upper Plate	ND-6022	1
17-37x	ZW462172	Decorative Washer M3		4
17-38x	ZW482815	Screw, oval countersunk head 3x8		4
17-39	SP528750	Bottom Plate	ND-6022	1
17-40	SZ377190	LM Rubber Foot	LM-404	8
17-41x	ZW419646	Washer (SPC)D4.5x9.8x0.5t		8
17-42x	ZW487776	Screw, truss head 4x18		8
17-43	SZ527692	Side Plate A (Right)	ND-6021	1
17-44	SZ527703	Side Plate B (Left)	ND-6021	1
17-45	ZW513764	Spot Facing Washer	2-4-28	8
17-46	ZW520525	Screw, binding head 4x25		8
17-47	SC529018	Head Cover	ND-6016	1
17-48x	SZ527670	Head Cover Retaining Ring	ND-6018	2
17-49	SZ382285	GX Symbol Plate	RD-A633	1
17-50	SM529468	Name Plate GX-260D	ND-6017	1
17-51	SK529773	Pinch Roller Cap	ND-6028	1
17-52x	SZ527681	Pinch Roller Set Screw	ND-6019	1
17-53	MP275984	RD Pinch Roller	RD-232	1
17-54x	SP529402	Back Plate	ND-6023	1
17-55x	SP530076	Back Plate (UL)	ND-6023	1
17-56x	SP530054	Back Plate (CSA)	ND-6023	1
17-57x	SP530065	Back Plate (CEE)	ND-6023	1
17-58x	ZW494842	Tapping Screw #2 3x8 (bind), w/washer		2
17-59	SK475154	Amp. Knob	LF-6206	4
17-60	SK409511	Amp. Knob D Comp.	LF-6025	1
17-61x	EF277413	Puse ST-2 2A	39-1-26	1
17-62x	EF304626	Fuse ST-4 1A	39-1-28	2

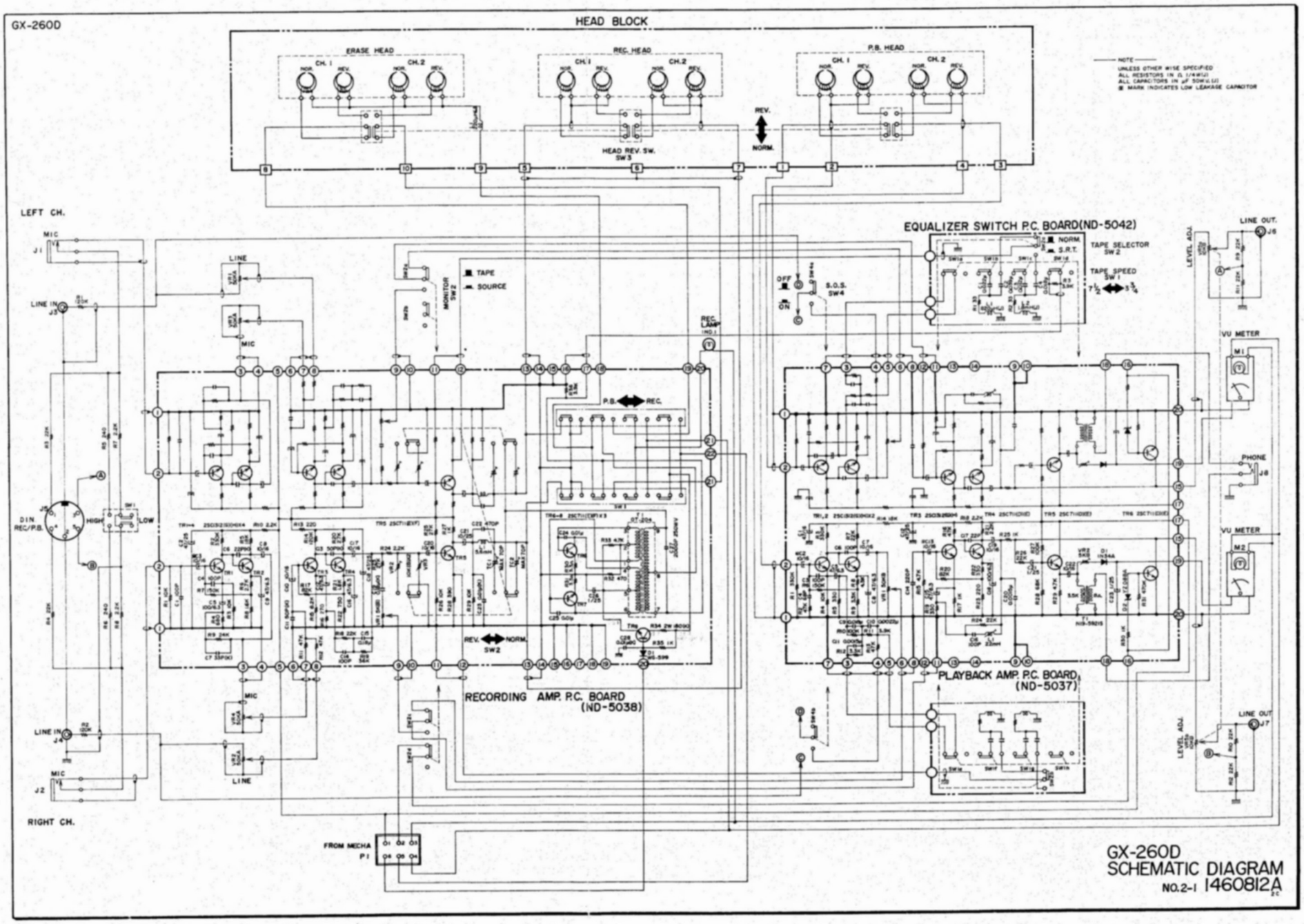
When ordering parts, please describe Parts Number, Serial Number, and Model Number in detail.

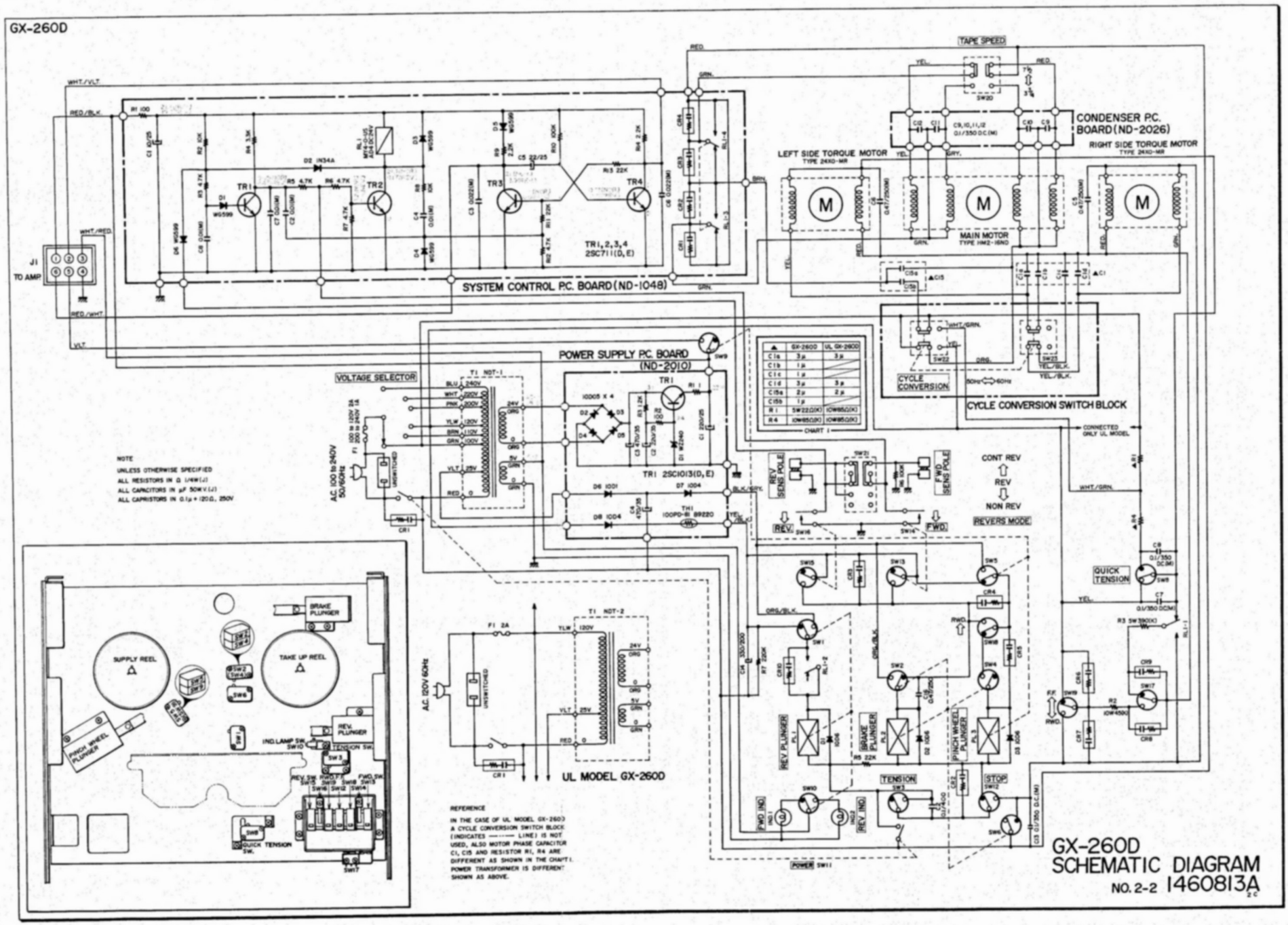
INDEX

Parts No.	Ref. No. & Symbol No.
BA527376	7-17
BA536286	5-42
BA536286	10-1x
BA536308	6-18
BA536308	11-1x
BA536321	7-26
BA536321	12-1x
BA536343	14-1x
BA536422	16-1x
BA536433	15-1x
BA561172	14-2x
BC529492	4-2
BF536264	4-1x
BH536354	1-1x
BK536398	9-6x
BK536398	9-33x
BM314741	3-1
BM536253	2-1x
BP536310	7-1x
BP536747	7-2x
BP536758	7-3x
BP536995	7-4x
BP561161	7-5x
BR482400	3-2x
BR482411	3-3x
BS536297	6-1x
BS536400	9-8
BS536400	13-1x
BT247768	16-T1
BT520615	7-8
BT536916	7-9x
BT536951	7-10x
BT561205	7-11x
BZ527387	9-49
BZ536275	5-1x
BZ536332	7-32x
BZ536387	9-1x
BZ536411	9-47x
BZ536736	7-35x
BZ536760	7-33x
BZ536771	7-34x
BZ561183	7-36x
EA382713	1-59x
EA463206	1-36x
EA480925	7-52x
EA527523	1-49
EA527624	8-111
EA527668	6-14
EA528254	9-30
EA546570	8-131x
EC220994	14-C1
EC220994	15-C21
EC250683	16-C10
EC250841	15-C23,24,25
EC250885	15-C28
EC250918	14-C2
EC250918	14-C4
EC250918	14-C7, 8
EC273464	10-C2
EC273464	11-C7 to 13
EC290520	15-C1
EC290520	15-C4
EC290520	15-C14
EC290520	16-C3
EC290520	16-C6
EC290520	16-C16
EC311793	13-C3
EC314662	8-142x
EC314662	17-16
EC320040	16-C1
EC320051	15-C8
EC320051	15-C10
EC320051	15-C17
EC320051	15-C20
EC320051	16-C19
EC320051	16-C22
EC329771	15-C9
EC329771	15-C12
EC329771	15-C16
EC329771	16-C5
EC329771	16-C8
EC329771	16-C15
EC329850	16-C14
EC333562	15-C15
EC333562	15-C19
EC336104	15-C5
EC336104	16-C18
EC336115	12-C1
EC336126	15-C2
EC336126	15-C18
EC336126	16-C12
EC350684	14-C5
EC350987	11-C5, 6
EC357827	15-C11
EC357827	15-C13
EC368335	13-C1
EC372148	12-C2
EC379192	13-C2
EC389474	16-C11
EC389474	16-C20
EC389485	13-C4
EC389485	16-C9
EC391498	14-C3
EC391498	14-C6
EC394918	15-C7
EC398878	15-TC1, 2
EC399565	16-C17
EC405898	15-C22
EC432810	15-C3
EC432810	16-C2
EC432810	16-C13
EC444082	12-C3,4
EC450055	15-C26
EC450055	16-C21
EC450055	16-C23
EC456322	15-C6
EC467133	16-C4
EC517138	16-C7
EC520547	8-140x
EC520547	17-14
EC520626	7-14
EC520773	15-C27
EC536927	7-15x
EC536938	8-143x
EC536938	17-17x
EC559260	7-42x
ED219464	14-D2
ED219464	16-D1
ED224526	12-D6
ED224550	12-D7, 8
ED224561	8-31x
ED224561	8-67x
ED224561	8-82x
ED494583	12-D2 to 5
ED511918	12-D1
ED514721	14-D1
ED514721	14-D3 to 6
ED514721	15-D1
ED520762	16-D2
EF277413	7-48
EF277413	17-61x
EF304626	17-62x
EF513663	7-57x
EF524722	7-53x
EJ205986	8-160x
EJ233370	7-49
EJ292961	9-82
EJ299823	9-80x
EJ299834	8-154x
EJ299834	17-18
EJ373623	9-81x
EJ373634	8-155x
EJ373634	17-19x
EJ378944	7-39
EJ433844	9-25
EJ442078	9-29
EJ536940	7-51x
EJ546636	7-56x
EL295312	8-112x
EL295312	9-31x
EL527567	6-16
EM520694	9-22
EM561756	9-23x
EO321254	15-L1
EO346230	16-L1
EO346500	1-50x
EO380564	13-L2
EO383365	15-T1
EO524856	13-L1
EP344136	14-RL1
EP520558	8-66
EP520560	8-81
EP554747	8-30
ER211465	15-R27
ER211465	15-R35
ER211465	16-R17
ER211465	16-R25
ER211465	16-R30
ER211667	12-R2
ER211667	14-R1
ER211757	14-R10
ER211757	16-R10
ER211757	16-R27
ER212264	10-R5
ER212264	14-R11
ER212264	14-R13
ER212264	15-R18
ER212264	16-R7
ER212264	16-R24
ER212264	16-R26
ER212477	14-R4
ER212477	16-R9
ER212477	16-R12
ER212681	16-R5
ER212681	16-R19
ER212681	16-R22
ER212872	16-R8
ER212883	14-R3
ER212883	14-R5 to 7
ER212883	14-R12
ER212883	15-R33
ER212883	16-R15
ER212883	16-R29
ER213300	15-R4
ER213377	15-R22
ER213715	6-15x
ER213794	9-52x
ER226798	8-130x
ER226798	10-CR2 to 9
ER226798	14-CR1 to 4
ER304402	15-R32
ER306843	12-R3
ER315944	15-R30, 31
ER329264	9-55x
ER336442	14-R2
ER336442	14-R8
ER336442	15-R1
ER336442	15-R3
ER336442	15-R26
ER336442	15-R29
ER336442	16-R4
ER342933	15-R23
ER342933	15-R25
ER343078	15-R6
ER343078	15-R20
ER343135	15-R8
ER345712	9-53x
ER346601	15-R11, 12
ER346601	16-R2
ER346601	16-R13
ER346601	16-R16
ER346994	15-R5
ER346994	16-R14
ER347038	15-R16
ER349784	15-R28
ER349942	15-R15
ER350100	16-R28
ER352045	16-R11
ER357412	15-R13
ER357412	16-R23
ER357456	14-R9
ER357456	14-R14
ER357456	15-R10
ER357456	15-R24
ER357456	16-R18
ER357456	16-R21
ER357491	15-R17
ER357491	16-R20
ER357570	15-R7
ER357570	16-R6
ER362441	15-R21
ER362485	15-R2
ER362485	16-R1
ER362485	16-R3
ER365016	8-141x
ER365016	17-15
ER371946	15-R36
ER376413	14-CR10
ER380913	13-R1, 2
ER407316	15-R9
ER420322	15-R19
ER429996	16-R31
ER430018	12-R1
ER450011	15-R14
ER465750	7-18
ER511288	15-R34
ER520648	7-20
ER520740	9-54x
ER550574	7-21
ER550585	7-19
ER552813	7-23x
ER552813	8-162x
ER561216	14-FR1
ES250064	5-40
ES250064	8-106
ES379045	9-50x
ES389700	8-150
ES403727	5-39
ES403727	8-37
ES438535	8-90
ES449796	6-10
ES477966	5-29
ES479395	8-124
ES479485	6-12
ES479485	7-44
ES494188	8-133x
ES494594	9-16
ES520604	5-35
ES520672	1-48
ES520672	9-9
ES520672	13-SW1
ES520705	9-11
ES520705	9-17
ES520705	13-SW2
ES520784	15-SW1
ES520795	15-SW2
ES561194	8-125x
ET379462	14-TR1 to 4
ET379462	16-TR4,5,6
ET391735	12-TR1
ET453486	15-TR5 to 8
ET517263	15-TR1 to 4
ET517263	16-TR1,2,3
EV464207	15-VR1
EV464207	16-VR2
EV464220	16-VR1
EV487822	9-4
EV520738	9-51x
EV520806	15-VR2, 3
EW540112	7-41x
EZ244124	4-9x
EZ246936	7-58x
EZ315448	7-59x
EZ328320	9-62x
EZ382263	7-40
EZ480396	7-27
EZ480396	12-2
EZ496686	8-158x
EZ516464	7-31x
EZ527850	7-46
EZ528208	9-35
EZ528210	9-13
EZ528210	13-5
EZ528232	9-10
EZ528232	13-2
EZ528243	9-20
EZ528265	9-15
EZ528276	9-63
EZ528298	9-37
EZ528300	9-42x
EZ528322	9-40
EZ528333	9-34
EZ528344	5-28
EZ528344	8-137x
EZ528344	8-151
EZ528366	9-57
EZ528377	9-58
EZ528467	9-43
EZ528682	9-75
EZ528930	9-38
EZ528952	9-86
EZ528963	9-85
EZ529121	7-43
EZ529413	7-37
EZ529536	14-3x
EZ529547	14-4x
EZ529560	9-61
EZ529593	9-48
EZ529604	9-5
EZ529661	9-2
EZ530021	9-83
EZ546614	7-38x
HL527433	1-52
HL527444	1-21
HL528074	1-23
HL528085	1-18
HL528096	1-19
HP560698	1-31
HP560700	1-32x
HP560711	1-33x
HP560722	1-34x
HP560733	1-35x
HR536365	1-43
HZ317632	8-119
HZ425485	8-121
HZ527422	1-53
HZ527466	1-27
HZ527490	1-41
HZ527501	1-28
HZ527512	1-37
HZ527602	1-2
HZ527940	1-42
HZ527951	1-47
HZ528570	1-12
HZ528581	1-3
HZ528592	1-5
HZ529288	1-51
HZ529301	1-10
HZ529470	1-29
HZ529481	1-45
HZ531584	1-56
MA453756	4-12
MB229138	8-159x
MB238768	4-23
MB314987	3-25
MB314987	8-24
MB527556	3-32
MB527556	8-147x
MC520536	8-145
MH527635	8-103x
MH527905	8-10
MH527916	8-9
MH528063	1-6
MH529233	1-8
MH529312	8-2
MI455747	4-3
ML314976	3-23
ML314976	8-22
ML396810	3-24x
ML396810	8-23

INDEX

Parts No.	Ref. No. & Symbol No.
ML527613	8-126
ML527646	8-75
ML527747	5-7
ML527758	5-6
ML527760	5-13
ML527771	5-12
ML527782	5-25
ML527837	8-15
ML527861	8-135x
ML527861	8-152
ML527962	8-110
ML527973	6-2
ML527984	8-92
ML528131	8-32
ML528131	8-83
ML528142	6-3
ML528153	8-101
ML528186	5-3
ML528434	9-76
ML528445	8-47
ML528478	8-115
ML528513	8-102
ML528546	8-122
ML528794	8-118
ML528851	9-64
ML528873	9-65
ML528884	9-66
ML529132	6-4
ML529198	5-33
ML529200	5-34
ML529222	8-55
ML529244	8-16
ML529290	8-98
ML529323	8-79
ML529345	8-108
ML529380	8-85
ML529391	8-105
ML529525	8-28
ML529738	8-80
ML529806	9-77
ML529896	5-26
ML530043	8-74
ML541484	9-67
ML546557	8-127x
MP275984	8-161
MP275984	17-53
MR317507	3-17
MR529277	2-5
MS342000	3-6
MS397012	8-13
MS465480	8-11
MS527400	8-114
MS527411	5-16
MS527534	8-7
MS527591	8-48
MS527804	4-21
MS528456	8-6
MS528480	5-10
MS528491	5-38
MS529582	9-78
MS529626	4-4
MT255420	3-5
MT297663	3-8
MT436860	3-14
MT473422	3-10
MT473433	3-12
MT473444	3-11x
MT488147	3-4
MV269965	4-15
MV269965	6-8
MZ250413	8-41
MZ250413	8-91
MZ250413	8-107
MZ314605	8-20
MZ314998	3-26
MZ314998	8-25
MZ315000	3-27
MZ315000	8-26
MZ317373	3-21
MZ317373	8-14
MZ317406	3-31
MZ317406	8-156
MZ397181	8-18
MZ402377	5-41
MZ437804	4-6
MZ448222	2-3
MZ453767	4-16
MZ479834	8-38
MZ526421	2-2
MZ527545	7-60
MZ527578	8-68
MZ527657	8-88
MZ527815	7-6
MZ527826	7-30
MZ527848	8-52
MZ527883	8-89
MZ527894	8-148
MZ527927	8-166
MZ528107	8-4
MZ528164	7-22
MZ528175	5-2
MZ528557	8-62
MZ528805	7-28
MZ528805	12-4x
MZ528827	2-6
MZ528985	17-1
MZ528996	17-2
MZ529097	2-7
MZ529110	7-29
MZ529110	12-6x
MZ529255	8-1
MZ529356	8-58
MZ529378	8-56
MZ529558	8-94
MZ529648	8-70
MZ529650	8-84
MZ529727	8-51
MZ529863	8-34
MZ529931	17-4
MZ529942	17-5
MZ540527	4-13
MZ546603	7-7x
MZ802980	8-60
MZ810191	1-26
SC473815	17-21
SC529018	17-47
SE527455	1-11
SE528390	17-28
SE528401	17-29
SE528816	17-31x
SE528974	17-30
SE529020	17-34
SE529165	5-17
SE529176	5-31
SE529187	5-32
SE530392	5-23
SE530403	5-24
SK409511	17-60
SK475154	17-59
SK487675	9-32
SK518477	8-129
SK527736	5-8
SK528197	5-4
SK528603	6-9
SK528671	9-45
SK529773	17-51
SK546581	8-132x
SM529468	17-50
SP528748	17-36
SP528750	17-39
SP529031	17-27
SP529042	17-20
SP529402	17-54x
SP529953	17-24
SP530054	17-56x
SP530065	17-57x
SP530076	17-55x
SZ377190	17-40
SZ382285	17-49
SZ527670	17-48x
SZ527681	8-163
SZ527681	17-52x
SZ527692	17-43
SZ527703	17-44
SZ528221	9-89
SZ528412	9-88
SZ528412	17-12
SZ528838	8-164
SZ528840	8-165x
SZ528906	17-25
SZ529007	17-10
SZ529086	17-8
SZ529108	2-11
SZ529874	17-33x
SZ529920	17-6
VM422381	9-12
VM422381	13-4x
ZG232121	1-16
ZG255633	3-7
ZG290878	9-24x
ZG317496	3-15
ZG364656	1-46
ZG465478	8-29
ZG466312	1-39
ZG520716	9-46
ZG527477	1-25
ZG527580	8-54
ZG527938	8-78
ZG528041	1-55
ZG528118	8-109
ZG528287	5-18
ZG528311	9-41x
ZG528423	9-70
ZG528917	5-14
ZG528928	5-15x
ZG529143	5-5
ZG529154	5-9
ZG529211	8-104
ZG529334	1-60
ZG529334	8-157
ZG529367	8-59
ZG529424	6-6
ZG529435	6-5
ZG529683	9-74
ZG529907	9-3
ZG540551	3-30
ZG540551	8-27
ZW200687	17-32x
ZW200777	8-99
ZW257477	8-35
ZW257477	8-71x
ZW257477	8-86
ZW259738	8-100x
ZW259986	5-20
ZW260278	4-7
ZW260368	9-27x
ZW270088	3-9
ZW270088	5-11
ZW270088	8-36
ZW270088	8-63
ZW270088	8-87
ZW270088	9-73
ZW270101	1-20
ZW270101	8-72x
ZW270101	9-39x
ZW270101	9-79
ZW270123	9-69
ZW270134	2-12
ZW270156	4-8
ZW270156	8-65
ZW270191	9-28
ZW272722	9-26x
ZW273756	8-12x
ZW273756	8-97
ZW273778	1-13
ZW273778	3-13x
ZW273778	5-37x
ZW273778	6-17x
ZW273778	8-120
ZW273778	9-56x
ZW273881	1-17
ZW273881	4-11x
ZW273881	7-62x
ZW274026	8-49x
ZW290283	3-29
ZW290283	8-19
ZW290283	8-77
ZW290283	8-117
ZW290283	17-13x
ZW304806	1-57
ZW317171	9-72
ZW323728	1-24
ZW323728	3-28x
ZW323728	4-22
ZW323728	5-27
ZW323728	8-21
ZW323728	8-73
ZW323728	8-139
ZW323728	17-26x
ZW325495	9-36
ZW330412	4-18x
ZW330412	8-44x
ZW330423	4-19x
ZW330423	8-43x
ZW330445	8-46x
ZW345442	8-64x
ZW345442	8-134x
ZW357164	9-14
ZW357164	13-6
ZW365973	3-18
ZW371856	6-13
ZW371856	8-33x
ZW371856	8-69x
ZW371856	8-128
ZW372025	7-50
ZW373577	4-5
ZW379361	9-68
ZW391476	2-8
ZW396000	1-30
ZW396000	7-63
ZW396437	1-22
ZW396437	8-76x
ZW397146	8-40x
ZW403222	3-20
ZW413155	9-7
ZW413155	9-18
ZW413155	9-87x
ZW413155	12-3
ZW413188	3-22x
ZW413188	8-8x
ZW413188	8-61
ZW413201	1-4
ZW413201	2-10
ZW413223	8-113x
ZW413223	14-5x
ZW413278	8-5x
ZW413278	8-50x
ZW413728	6-19x
ZW413728	9-90
ZW413785	1-15
ZW413785	8-95
ZW414066	8-43x
ZW416687	1-9x
ZW416687	2-9
ZW416687	4-10
ZW416687	17-9x
ZW417137	7-47
ZW417137	8-17
ZW417137	8-57
ZW417137	8-146
ZW417137	12-5
ZW417148	8-42x
ZW417148	8-93x
ZW417328	8-138x
ZW417328	8-153x
ZW417352	17-35x
ZW419646	17-41x
ZW419736	1-7
ZW419736	4-14
ZW419736	7-13x
ZW419736	7-61
ZW419782	6-11
ZW420682	9-44x
ZW424056	3-19
ZW424056	8-144x
ZW424495	8-96
ZW424620	17-11x
ZW425002	1-14
ZW425981	3-16x
ZW432843	9-19x
ZW435273	4-20
ZW435273	8-3x
ZW442585	13-3x
ZW444273	7-45
ZW447772	7-24
ZW447772	8-149x
ZW447772	9-21
ZW447772	9-59
ZW447772	17-7x
ZW447772	17-23x
ZW460440	1-38
ZW461261	5-30x
ZW461395	1-44
ZW462172	17-37x
ZW462205	4-17
ZW462925	17-3x
ZW462947	9-84
ZW467537	5-22
ZW468112	7-12
ZW472274	6-7
ZW472274	7-16
ZW472274	7-25x
ZW482815	17-38x
ZW486314	8-39x
ZW487776	17-42x
ZW487811	8-116
ZW487866	1-54
ZW487866	17-22x
ZW494842	17-58x
ZW513764	17-45
ZW520525	17-46
ZW520593	2-4
ZW523664	9-60x
ZW526577	9-91
ZW536444	8-53
ZW536455	8-123
ZW536466	5-19
ZW536477	5-21x
ZW536488	5-36
ZW536490	1-40
ZW537006	1-58
ZW544083	9-71
ZW546592	8-136x
ZW546625	7-55x
ZW561227	7-54x


GX-260D
HEAD BLOCK
ERASE HEAD
REC. HEAD
P.B. HEAD
CH. 1
CH. 2
NOR.
REV.
HEAD REV. SW.
SW3
REV.
NORM.
NOTE
UNLESS OTHER WISE SPECIFIED
ALL RESISTORS IN Ω 1/4W(Ω)
ALL CAPACITORS IN μF 50W(μG)
MARK INDICATES LOW LEAKAGE CAPACITOR
LEFT CH.
RIGHT CH.
MIC
LINE
LINE IN
TAPE
SOURCE
MONITOR SW4
REC. LAMP (NO.)
P.B.
REC.
REV.
NORM.
SW2
DIN REC/P.B.
HIGH
LOW
SW1
FROM MECHA P1
EQUALIZER SWITCH P.C. BOARD(ND-5042)
NORM.
S.R.T.
TAPE SELECTOR SW2
TAPE SPEED SW1
7½
3¾
OFF
ON
S.O.S. SW4
LINE OUT
J6
J7
LEVEL ADJ.
VU METER
M1
M2
PHONE
J8
RECORDING AMP. P.C. BOARD (ND-5038)
PLAYBACK AMP. P.C. BOARD (ND-5037)
GX-260D
SCHEMATIC DIAGRAM
NO.2-1 1460812A


GX-260D
SYSTEM CONTROL P.C. BOARD (ND-1048)
CONDENSER P.C. BOARD (ND-2026)
LEFT SIDE TORQUE MOTOR TYPE 24X0-MR
RIGHT SIDE TORQUE MOTOR TYPE 24X0-MR
MAIN MOTOR TYPE HM2-16N0
TAPE SPEED
CYCLE CONVERSION SWITCH BLOCK
CYCLE CONVERSION
POWER SUPPLY P.C. BOARD (ND-2010)
VOLTAGE SELECTOR
TR1, 2, 3, 4 2SC711(D, E)
TR1 2SC1013(D, E)
CHART I
REVERS MODE
CONT REV
REV
NON REV
QUICK TENSION
CONNECTED ONLY UL MODEL
UL MODEL GX-260D
SUPPLY REEL
TAKE UP REEL
BRAKE PLUNGER
REV. PLUNGER
PINCH WHEEL PLUNGER
TENSION SW.
QUICK TENSION SW.
REFERENCE
IN THE CASE OF UL MODEL GX-260D A CYCLE CONVERSION SWITCH BLOCK (INDICATES ——— LINE) IS NOT USED, ALSO MOTOR PHASE CAPACITOR C1, C15 AND RESISTOR R1, R4 ARE DIFFERENT AS SHOWN IN THE CHART. POWER TRANSFORMER IS DIFFERENT SHOWN AS ABOVE.
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN Ω 1/4W (J)
ALL CAPACITORS IN μF 50W.V. (J)
ALL CAPACITORS IN 0.1μ + 120Ω, 250V
GX-260D SCHEMATIC DIAGRAM
NO. 2-2 1460813A 2C

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