

INSTRUCTION MANUAL

**DISC TRAK DC-30
DISC TRAK DC-300
DIGITAL CARTRIDGE MACHINES
VERSION 1.42**

December, 1994

IM No. 597-1300-001

BROADCAST ELECTRONICS, INC.



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EQUIPMENT LOST OR DAMAGED IN TRANSIT

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4100 N. 24th St. P.O. BOX 3606

Quincy, Illinois 62305

Tel: (217) 224-9600 Digital Products (8 AM to 5 PM Central Time)

Tel: (217) 224-9617 RF/Studio Products (8 AM to 5 PM Central Time)

Tel: (217) 224-9600 (Non-Business Hours)

Telex: 25-0142

Fax: (217) 224-9607

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TECHNICAL MANUAL

BROADCAST ELECTRONICS

DISC TRAK DC-30

DISC TRAK DC-300

DIGITAL CARTRIDGE MACHINE

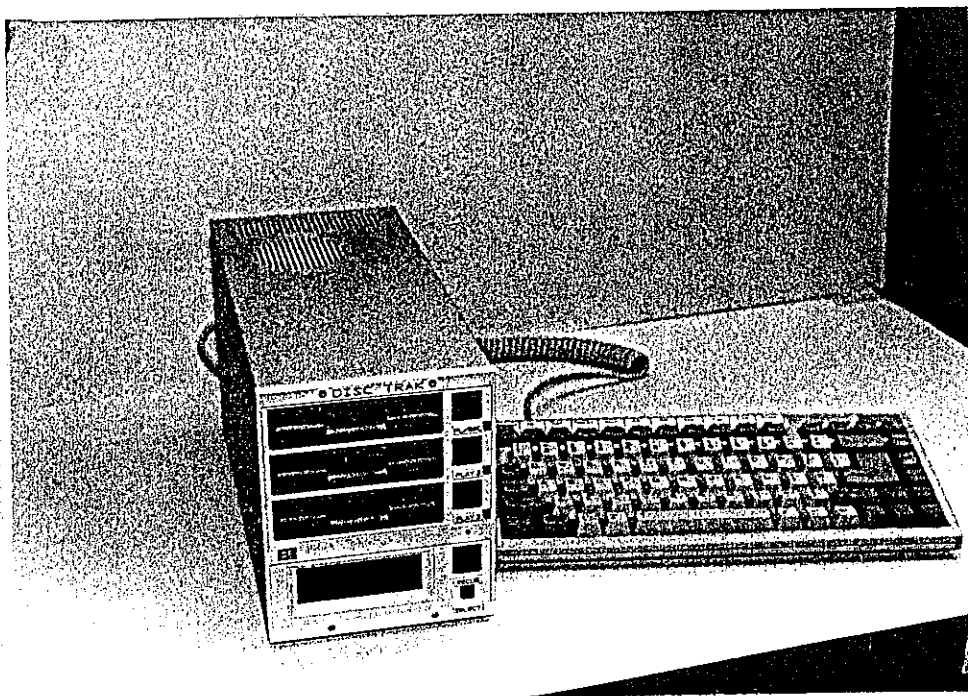
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TECHNICAL MANUAL
BROADCAST ELECTRONICS, INC.
DISC TRAK DC-30
DISC TRAK DC-300
DIGITAL CART MACHINE



SCOPE OF MANUAL

This manual presents information for the Broadcast Electronics Disc Trak DC-300 and DC-30 Digital Cart Machines. The DC-300 is a 3-deck Record/Playback unit. The DC-30 is a 3-deck Playback only unit. For DC-300 units, perform both the record and playback procedures presented in this manual. For DC-30 units, perform only the playback procedures.

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SECTION I INSTALLATION

1-1. INSTALLATION.

1-2. The following connections apply to the Broadcast Electronics DISC TRAK DC-300/DC-30 digital cart machine.

1-3. AUDIO INPUTS (LEFT & RIGHT).

Pin 1: Shield
Pin 2: +
Pin 3: -

1-4. AUDIO OUTPUTS (LEFT & RIGHT).

Pin 1: Shield
Pin 2: +
Pin 3: -

1-5. REMOTES (15-pin D-TYPE).

Pin 1:	0V	Common.
Pin 2:	PLAY 1 SWITCH	Momentary contact to Common to actuate.
Pin 3:	PLAY 1 LAMP	+15V during Play operation. Common return.
Pin 4:	PLAY 2 SWITCH	Momentary contact to Common to actuate.
Pin 5:	PLAY 2 LAMP	+15V During play operation. Common return.
Pin 6:	PLAY 3 SWITCH	Momentary contact to Common to actuate.
Pin 7:	PLAY 3 LAMP	+15V During play operation. Common return.
Pin 8:	RECUE SWITCH	Momentary contact to Common to actuate.
Pin 9:	RECUE LAMP	+15V During recue operation. Common return.
Pin 10:	RECORD TALLY	Open collector sinking 40mA during record operation.
Pin 11:	STUDIO ON LINE	See note below.
Pin 12:	SELECT SWITCH	Momentary contact to Common to actuate.
* Pin 13:	1. Secondary Cue 1	1. Open collector Drive 1
	# 2. Secondary Cue	2. Open collector sinking 40mA @35V.
* Pin 14:	1. Secondary Cue 2	1. Open collector Drive 2
	# 2. Tertiary Cue A	2. Closing contact to Pin 15.
* Pin 15:	1. Secondary Cue 3	1. Open collector Drive 3.
	# 2. Tertiary Cue B	2. Closing contact to Pin 14.
Shell:	0V	Common.

*Assigned by jumpers on the decoder circuit board.

Factory programmed configuration.



NOTE *THE STUDIO ON LINE IS AN ACTIVE LOW CONTROL LINE WHICH ENABLES DATA TRANSMISSION FROM THE DISC TRAK DURING ON-AIR PLAY. BILLING DATA WILL BE OUTPUT TO THE RS232 PORT WHEN PIN 11 IS LOW.*

NOTE

1-6. RS232 (9-PIN D-TYPE).

Pin 1: DCD
Pin 2: RXD
Pin 3: TXD
Pin 4: DTR
Pin 5: SG
Pin 6: DSR
Pin 7: RTS
Pin 8: CTS
Pin 9: Not Connected
Shell: 0V

1-7. KEYBOARD (5-PIN DIN).

Pin 1: KEY BOARD CLOCK
Pin 2: KEYBOARD DATA
Pin 3: KEYBOARD RESET
Pin 4: 0V
Pin 5: +5V

1-8. AES/EBU DIGITAL (9-PIN D-TYPE).

Pin 1: RESERVED FOR SYNC. INPUT
Pin 2: RESERVED FOR SYNC. INPUT
Pin 3: RX -
Pin 4: AES/EBU TRX +
Pin 5: 0V TRX SHIELD
Pin 6: RESERVED FOR SYNC. INPUT
Pin 7: RX +
Pin 8: 0V RX SHIELD
Pin 9: AES/EBU TRX -
Shell: 0V

1-9. FAST COMMUNICATIONS PORT (BNC SOCKET).

INNER CONDUCTOR : SIGNAL

OUTER CONDUCTOR : SHIELD (DO NOT CONNECT TO GROUND)

1-10. AC POWER CONNECTION.

FUSED IEC SOCKET

SECTION II

PRELIMINARY OPERATION

- 2-1. **PRELIMINARY OPERATION.**
- 2-2. **SETUP WITHOUT KEYBOARD.**
- 2-3. To initialize the machine, apply power to the unit while depressing the front panel **SELECT** switch. The machine performs a **DIAGNOSTIC ROUTINE** as described in **SECTION III, OPERATION.**
- 2-4. Alternatively, if power is already applied to the unit, initialize the unit by depressing all three play switches simultaneously and while depressing the select switch. The machine performs a **DIAGNOSTIC ROUTINE.**
- 2-5. When the execution of the **DIAGNOSTIC ROUTINE** is complete, the machine will enter the **SET UP ROUTINES.**
- 2-6. During the Setup Routines, the **RECUE** switch can be used to increment and review the options. The **SELECT** switch confirms the option and enables the next setup menu. A complete explanation of all of the following setups is located in **SECTION IV, ADVANCED EDITING OPERATIONS.** If the factory default assignments are desired, depress the debug switch **SW1** on the internal player circuit board (Refer to Figure 8-5B in **SECTION VIII, PARTS LIST AND DRAWINGS**).
- 2-7. Selecting the **OPERATING MODES** in the following text enables/disables front panel access to the modes. Selecting the **DEFAULTS** determines the operating parameters of the machine. The Single Play mode can only be disabled if any of the options before single play are enabled. The machine defaults to single play.
- 2-8. The display prompts for all the **SETUPS.** The **SETUPS** are as follows:
- 2-9. **OPERATING MODES.**
- 2-10. **SINGLE LOOP ENABLE/DISABLE.**

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Single Loop

Enable or Disable Single Loop

- 2-11. **SEQUENCE PLAY ENABLE/DISABLE.**

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Seq Play

Enable or Disable Seq. Play

2-12. SEQUENCE LOOP ENABLE/DISABLE.

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Seq Loop

Enable or Disable Seq. Loop

2-13. CUE NEXT TRACK ENABLE/DISABLE.

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Cue Next Trk

Enable/Disable Cue Next Track

2-14. CUE ALL TRACKS ENABLE/DISABLE.

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Cue All Trks

Enable/Disable Cue All Tracks

2-15. PLAY ALL ENABLE/DISABLE.

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Play All

Enable/Disable Playall

2-16. SINGLE PLAY ENABLE/DISABLE.

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Enable Single Play

Enable/Disable Single Play

2-17. ROTATING TRACK PLAYS.

Setup Routines
Recue=Step Select=OK
Select Play Modes...
Rotating Track <N>

- 2-18. POWER - ON DEFAULTS.
2-19. SWITCH ON DEFAULT.

Setup Routines
Recue=Step Select=OK
Switch On Default . . .
Single Play Mode

OPTIONS-

Single Play Mode
Single Loop Mode
Sequence Play Mode
Sequence Loop Mode
Cue Next Track Mode
Cue All Tracks Mode
Play All Mode

- 2-20. SHOW STATUS LINE.

Setup Routines
Recue=Step Select=OK
Switch On Default . . .
Show Status Line <Y>

- 2-21. SHOW OUTCUE.

Setup Routines
Recue=Step Select=OK
Switch On Default . . .
Show Outcue <N>

- 2-22. HARD DISK CONNECTED.

Setup Routines
Recue=Step Select=OK
Devices Connected
Hard Disk Fitted <Y>

- 2-23. RS232 BAUD RATE.

Setup Routines
Recue=Step Select=OK
Set RS232 parameters
Baud Rate <9600>

OPTIONS-

Recue for 9600
4800
2400
1200

- 2-24. RS232 PARITY.

Setup Routines
Recue=Step Select=OK
Set RS232 parameters
Parity Bit <None>

OPTIONS-

Recue for None
Even
Odd

2-25. SEND BILLING DATA.

Setup Routines
Recue=Step Select=OK
Billing Destination.
Send Billing <Y>

2-26. BILLING DESTINATION.

Setup Routines
Recue=Step Select=OK
Billing Destination.
RS232 or HDLC <R>

OPTIONS-

RECUE for RS232
HDLC

2-27. KILLDATE ENABLE.

Setup Routines
Recue=Step Select=OK
Out of Date Function
Killdates Enable <Y>

2-28. OUT OF DATE PLAY ENABLE.

Setup Routines
Recue=Step Select=OK
Out of Date Function
Allow Play <Y>

2-29. PLAY BAD CRC.

Setup Routines
Recue=Step Select=OK
Diagnostic Aids
Play Bad CRC <Y>

If Play Bad CRC is not selected,
play will stop when a Bad CRC is
detected.

2-30. MUTE BAD CRC.

Setup Routines
Recue=Step Select=OK
Diagnostic Aids
Mute Bad CRC <Y>

Select Mute Bad CRC to mini-
mize error effects when Play Bad
CRC is enabled.

2-31. CODED ERRORS.

Setup Routines	
Recue=Step Select=OK	
Diagnostic Aids	
Coded Errors	<N>

2-32. DATE AND TIME ENTRY.

2-33. DAY OF THE WEEK.

Setup Routines	
Recue=Step Select=OK	
Set Date and Time...	
Day of Week	<Tu>

2-34. MONTH.

Setup Routines	
Recue=Step Select=OK	
Set Date and Time...	
Month (1-12)	<06>

2-35. YEAR.

Setup Routines	
Recue=Step Select=OK	
Set Date and Time...	
Year (0-99)	<94>

2-36. DATE:

Setup Routines	
Recue=Step Select=OK	
Set Date and Time...	
Date (1-31)	<25>

2-37. HOUR.

Setup Routines	
Recue=Step Select=OK	
Set Date and Time...	
Hour (0-23)	<15>

2-38. MINUTE.

Setup Routines
Recue=Step Select=OK
Set Date and Time...
Minute (0-59) <07>

- 2-39. After depressing the SELECT switch to confirm the minutes, the machine will re-enter the DIAGNOSTIC ROUTINE. The screen will display:

BE DISC TRAK v1. 42
Tu 10/11/94 15: 07: 37
Power On 4hrs
Memory Check 5 0 6. 0K

- 2-40. At the end of the diagnostic routine, if the coded error function is disabled the machine LCD display will present:

**** BLANK DISK ****
* *
* *
Ste 32K Single Play

- 2-41. At the end of the diagnostic routine, if the coded error function is enabled and a blank disk is used in each drive the machine LCD display will present:

01000000460000000202
01010000460100000202
01020000460200000202
Ste 32k Single Play

- 2-42. After the running of the diagnostics the defaults that were setup should appear for review and if a change is needed then run setup procedure again to: 1) set the internal clock to local time 2) reset with seasonal changes, or 3) set various default play modes. The diagnostic routine will appear during normal turn-on operation.

2-43. SETTING THE LCD CONTRAST.

- 2-44. The LCD contrast is factory set for a half over head view. The contrasts of the DC-300/DC-30 may be adjusted at the front panel LCD contrast control. The control is accessed via the small hole above the red recue button.

2-45. CLEANING THE DISK DRIVES.

- 2-46. It is recommended that a drive cleaning disk be used every 2000 hours of operation. The cumulative running time of the machine is indicated at turn-on during the DIAGNOSTIC ROUTINE. Drive cleaning disks are available, from a local computer store.

2-47. **REPLACING THE MEMORY BACKUP BATTERY.**

2-48. The clock circuit is equipped with a battery backup. If the date and time is not displayed during power on, replace the battery.

SECTION III OPERATION

3-1. INTRODUCTION.



WARNING

ENSURE THE DISC TRAK IS CONNECTED TO THE APPROPRIATE AC LINE-VOLTAGE AND EARTH GROUND.

WARNING



CAUTION

THE DISC TRAK CONTAINS STATIC SENSITIVE DEVICES. STATIC PRECAUTIONS MUST BE PERFORMED TO PREVENT DAMAGE DURING ANY CIRCUIT BOARD PROCEDURES.

CAUTION

- 3-2. It is important the unit be connected to the appropriate AC line voltage and earth ground. Ensure the AC line voltage appearing on the rear-panel identification plate is identical to the station power supply voltage. In addition, ensure the fuse is rated for the AC power supply voltage.

3-3. CHECKS.



WARNING

ENSURE THE DISC TRAK MACHINE IS CONNECTED TO A GROUNDED AC OUTLET.

WARNING

- 3-4. The machine serial number and operating voltage is recorded on a rear-panel identification plate. Ensure the machine is configured for the correct operating voltage. Ensure the DISC TRAK AC line cord is connected to a grounded AC outlet.

3-5. POWER CONNECTION.

- 3-6. The AC input receptacle is designed for an AC line cord configured as follows:

Green - Ground
White - Neutral
Black - Voltage

- 3-7. If a different AC line cord configuration is required, connect the wires to an appropriate line cord connector using the wiring information presented in the preceding text.

3-8. FACILITIES CONNECTIONS.

- 3-9. The DISC TRAK is equipped with the following connectors. The mono signals are available at both the left and right channel connectors. The output signal is present at the analog output and the AES/EBU output.

AUDIO INPUTS L & R	XLR-3, Female
AUDIO OUTPUTS L & R	XLR-3, Male
AES EBU INPUTS/OUTPUTS	D TYPE 9-PIN PLUG, Male
FAST COMMUNICATION PORT	BNC SOCKET
RS232 PORT	D TYPE 9-PIN, Female
REMOTES	D TYPE 15-PIN, Female
KEYBOARD	5-PIN DIN, Female

- 3-10. Refer to SECTION I, INSTALLATION for specific information on the connectors.
- 3-11. **POWER UP.**
- 3-12. During initial operation of the DISC TRAK machine, the Real Time Clock must be set. Refer to SECTION II, PRELIMINARY OPERATION.
- 3-13. During initial operation, the machine initiates a DIAGNOSTIC ROUTINE. The DIAGNOSTIC ROUTINE provides the operator with information on machine conditions and a self check.
- 3-14. The LCD display indicates total elapsed running time. The LCD display at power on provides the following information:

```

BE DISC TRAK v1. 42
Tu 10/11/94 15: 07: 37
Power On           4hrs
Memory Check 5 0 6. 0K
  
```

- Software version.
- Date and time.
- Machine use.
- Memory check

- 3-15. At the end of the diagnostic routine, the machine LCD display will present:

```

*               *
*               *
*               *
Ste 32K Single Play
  
```

- 3-16. The first 3 display lines present the condition of each drive. The fourth display line indicates the status of the machine. The normal default mode is STEREO, 32KHz sample rate, and SINGLE play.
- 3-17. **TYPES OF DISKS.**
- 3-18. The Disctrak 300 uses 3.5" 4MB ED and 2MB HD disks. To prevent the accidental deletion of data from a disk, write protect the disk by moving a tab on the disk to reveal a window. (Refer to the Disk Label)
- 3-19. **PLAYING A DISK.**
- 3-20. Insert a pre-recorded disk into drive 1. The display will read track NUMBER, TITLE and RUNNING TIME for a correctly recorded disk. If 3 disks are loaded simultaneously, the three titles will be displayed.

Track	Title	Running time
1	Jingles	1: 03
1	Spots	0 :34
1	Inserts	0: 22
Ste 32K Single Play		

3-21. **MODE SELECTION.**

3-22. Depress and hold the SELECT button and use the RECUE button to review SINGLE PLAY, SINGLE LOOP, SEQUENCE, SEQUENCE LOOP, CUE NEXT TRACK, CUE ALL TRACKS, and PLAY ALL modes. See SECTION II, PRELIMINARY OPERATION to enable the play modes.

3-23. SINGLE PLAY mode will cue track 1 on each disk.

3-24. SINGLE LOOP will continuously loop and repeat a single track.

3-25. SEQUENCE PLAY configures: 1) Drive 1 to start drive 2 and 2) drive 2 to start drive 3.

3-26. SEQUENCE LOOP will continuously loop and repeat as in the SEQUENCE mode if all three decks are loaded.

3-27. CUE NEXT TRACK will cue the track following the current on-air track for the selected disk.

3-28. CUE ALL TRACKS will cue the track following the current on-air track. When the last track on disk 1 has been played, the first track on disk 2 will be cued and ready for on-air play. In a similar manner, when the last track on disk 2 has finished playing, the first track on disk 3 will be cued ready for on-air play.

3-29. Depressing any of the three PLAY buttons will start the next cued track. Depressing any one of the three PLAY buttons with the machine already in play will cause the machine to enter the pause mode. With no drives in operation, depressing the RECUE button, twice will cue each disk to track 1. When a cue mode is enabled and the play of a disk is terminated, the disk will be cued to the next track.

3-30. PLAY ALL will: 1) play all tracks on disk 1 in ascending order followed by, 2) all tracks on disk 2 in ascending order followed by, and 3) all tracks on disk 3 in ascending order.

3-31. Depressing any of the three PLAY buttons will start this function. Depressing any one of the three PLAY buttons with the machine already in operation will cause the machine to enter the pause mode. With no decks in operation, depressing the RECUE button will cue each disk to track 1.

3-32. **TRACK SELECTION.**

3-33. A recorded 4MB ED disk may have up to 8 tracks and a total 112 seconds of stereo material at a sampling rate of 32K on the disk. As an alternative, the unit can be configured to record only one track on a disk using the Re-Record Overwrite Mode. When a disk is inserted into the drive, the display presents TRACK 1, TITLE, and RUNNING TIME or TRACK 1, TRACK IDENTIFICATION NUMBER and RUNNING TIME. Depress the TRACK SELECT switch adjacent to each play switch to review the contents of a disk. Alternatively, depress the SELECT switch and use the PLAY switch to review the contents of a disk. Tracks on non-playing disks can be reviewed at any time. When a disk with multiple tracks is inserted, track 1 is selected except when the ROTATING TRACK mode is enabled. The track will not be available for selection when the SKIP TRACK feature is enabled.

3-34. **ROTATING TRACK PLAYS.**

3-35. If the ROTATING TRACK feature is enabled and the CUE NEXT TRACK mode is selected when multiple track disks are playing, the DISC TRAK will play the next track of a sequence when the disk has been removed and reloaded into the machine. This feature is used to emulate the operation of a cartridge tape.

3-36. **RUNNING TIME.**

3-37. The maximum run time of a DISC TRAK disk is dependent on the SAMPLE RATE and MONO or STEREO mode of operation.

- 3-38. The sample rates currently available within the equipment are: 1) 22.05KHz, 2) 32KHz, 3) 44.1KHz, and 4) 48KHz. 22.05KHz is used for 11KHz bandwidth mono recordings. 32KHz is used for 16KHz bandwidth stereo recordings and is the default sample rate for use in radio broadcast. 44.1KHz is used as Compact Disk sample rate. 48KHz is used as the professional audio recording rate.

Run times are as below :

TABLE 1. RUNNING TIMES FOR 2MB & 4MB DISKS.

DISK SIZE	MODE	SAMPLE RATE (KHZ)				UNITS
		22.05	32	44.1	48	
2MB	MONO	147	102	73	68	SECONDS
	STEREO	73	51	36	34	SECONDS
4MB	MONO	325	224	162	149	SECONDS
	STEREO	162	112	81	74	SECONDS

3-39. PLAYING.

- 3-40. To play a selected disk and track, depress the appropriate PLAY button. If the disk has just been inserted, the play instruction is retained until the machine is ready to play. The PLAY indicator will illuminate.

- 3-41. The RUNNING TIME display during PLAY is configured as a countdown timer indicating TIME REMAINING. This may be used to anticipate other program events. When the track has played, a TIMER COLON will flash to indicate a RECUE TRACK in the single play or sequence mode. When playing the selected disk and track the title will change to outcue if the show outcue mode is enabled. Disks recorded with an autoloop flag will play in the loop mode.

3-42. PAUSE.

- 3-43. Depress PLAY again to place the machine in PAUSE. Both PLAY and RECUE indicators are illuminated in the PAUSE mode. Depressing PLAY again restarts the machine from PAUSE. Depressing RECUE in the PAUSE mode RECUES the disk.

3-44. STOP/RECUE.

- 3-45. To stop the drive or recue the disk, depress RECUE. The disk is immediately ready to PLAY and the program is muted.

- 3-46. With one disk playing, depressing a different PLAY switch will configure the machine to play the selected disk. Depressing a different PLAY switch with one disk in pause will play the selected disk.

- 3-47. Disks are recued automatically in this process and are ready for replay instantly. Tracks are recued to the start of the selected track.

3-48. **KILLDATE FEATURES.**

3-49. Recordings can be made with a KILLDATE entered into the disk header. The dates are presented as a FIRST DATE and a LAST DATE. The dates allow the disks to be played during the FIRST and LAST dates. Playback machines can use this data for several operations. The killdate may be used for preventing the play of out of date recordings or for indicating the expiration of promotions. The killdate functions are available in the SETUP routines at power on. In the SETUP mode, KILLDATE ENABLE<Y> or <N> may be selected. <N> disables this feature and the killdate is ignored during play. The <Y> function will allow the killdate feature to be active. Disks recorded with a killdate will play normally during the FIRST and LAST dates. At 12 am, the killdate function will become active.

3-50. This feature can be configured by SETUP for two operations. The choice is ALLOW PLAY <Y> or <N>. The <N> selection prevents the track from being played. The display screen prompts with track 1 OUTDATED and prevents the PLAY button, remote, or RS232 command from starting play. All other tracks are not affected. The <Y> selection will produce track 1 OUTDATED. However, by depressing PLAY, the normal disk title track number and duration are displayed and the track will be validated. In this mode the track may be played by depressing the PLAY switch again. When the track is finished, the screen will show track 1 OUTDATED unless the SINGLE LOOP mode is selected or if the AUTOLOOP feature has been recorded on the disk header. Killdate data may be edited, removed, or changed using the ALT F6 edit mode.

3-51. **DISK STATUS.**

3-52. The LCD display line 4 presents the disk status. Recordings in MONO or alternative sample rates are recognized by DISC TRAK and the output and digital filtering are automatically configured to the type.

3-53. DISC TRAK FORMAT is used to generate the digital recordings on this equipment. Disks that are incorrectly recorded, damaged, or of the wrong type will result in the presentation of a prompt on the screen display.



NOTE *DISC TRAK WILL NOT ACCEPT 1MB DISKS.*

NOTE

3-54. The standard disk for the DISC TRAK machine is a 4MB ED disk. However, 2MB HD disks will provide recordings of half the duration. DISC TRAK will recognize 4MB or 2MB disks.

3-55. **DISK INFORMATION.**

3-56. Disks which are inappropriate for DISC TRAK will produce messages on the appropriate display line as follows:

3-57. **DISK NOT READY #.**

3-58. Either the disk has no format or has an incorrect format for DISC TRAK operation. Reformat to use with DISC TRAK.

3-59. **OLD DISK PLAY ONLY.**

3-60. Disks recorded using software versions prior to V1.3 may require processing before using with the latest V1.4 machines. Refer to SECTION VI, APPENDIX D.

3-61. **COMPUTER DISK.**

3-62. Disks previously formatted for computer use will be rejected and produce the message COMPUTER DISK on the display.

- 3-63. **BAD COMPRESSION.**
- 3-64. Compression errors which occur during formatting will produce BAD COMPRESSION on the display. Re-format the disk.
- 3-65. **1MB INVALID DISK.**
- 3-66. Incorrect storage size. Acceptable disks are 4MB ED and 2MB HD.
- 3-67. **DISK ERROR #.**
- 3-68. This may occur when playing to indicate an accumulation of read errors. A complete message inventory is presented in the appendix.
- 3-69. **RECORDING.**
- 3-70. The DISC TRAK is equipped with three record operations:
- | | |
|--------------------|---------------------------------------------------------|
| 1) RECORDING | No Keyboard. Standard Defaults. |
| 2) QUICK RECORDING | With Keyboard. Header Entry Only.
Standard defaults. |
| 3) FULL RECORDING | With Keyboard. Complete recording route. |
- 3-71. For all types of recording, use a formatted disk that provides a BLANK DISK message in the top drive of the unit. If a DISK NOT READY disk message appears, the disk must be formatted (REFER TO SECTION IV, ADVANCED EDITING OPERATIONS. If an OLD DISK ... PLAY ONLY message appears, additional disk processing maybe required (refer to SECTION VI, APPENDIX D). Only the top drive used for recording. Additional tracks may be recorded onto disks already containing data provided sufficient time is available and the machine is set to record more than one track. When all available disk space is used during recording, the machine will automatically exit the record mode. A total of 8 tracks may be recorded on any one disk using varying record modes and parameters. With an audio program source connected to the LEFT and RIGHT audio INPUTS, and a suitable monitor connected to the audio LEFT and RIGHT OUTPUTS, recordings can be executed.
- 3-72. **RECORDING TIME.**
- 3-73. Disk recording time is determined by the SAMPLE rate, MONO/STEREO mode, and DISK type. Disk record times are presented in Table 1 in the preceding text..
- 3-74. **WRITE PROTECTION.**
- 3-75. The 3.5 inch 2MB and 4MB disks are equipped with a write protect tab. Slide this tab to reveal the aperture to protect the data. For permanent write protection, remove the tab from the disk.
- 3-76. **RECORD INPUT AND DISPLAY.**



NOTE *SEVERE DIGITAL DISTORTION WILL BE PRODUCED AT RECORD LEVELS EXCEEDING +16dBu. ENSURE THE INPUT LEVEL DOES NOT EXCEED +16dBu.*

NOTE *THE INPUT LEVEL DOES NOT EXCEED +16dBu.*

- 3-77. The Disc Trak is a unity gain device. A 0dBu input will produce a 0dBm output. In order to maximize the available signal to noise level, use input levels up to a maximum of +16dBu. The LCD display stereo PPM meter provided is calibrated in 2dB increments with a reference line at 0dB and +16dB. The meter is provided as a guide when recording in the analog signals. The 0dB reference marker can be reset if desired (REFER TO SECTION IV). A stereo signal presented at the inputs will be recorded as stereo in the STEREO mode. In the mono mode, a signal at the Left input will be recorded in MONO and will be presented at the Left and Right Outputs. Digitally recorded data will be processed automatically for level, sample rate and mode.

3-78. FORMATTING.

3-79. Format the 4 MB disk before attempting any record operations. The following format steps apply only to an unformatted disk. 1. Insert disk into Drive 1. When formatting is required the unit will produce the message *DISK NOT READY 3* on the display. 2. Depress the RECUE and PLAY switches simultaneously. The display will produce the message *PRESS PLAY TO FORMAT*. 3. Depress the play switch to start formatting the disk. The display will produce the message FORMAT TRK 02 SIDE 0, FRONT PANEL RECORD. The disk will verify each track and will produce the message VERIFY TRK 02 SIDE 0, FRONT PANEL RECORD. Formatting is finished when the message *BLANK DISK* is displayed. The disk is now ready for recording.

3-80. FRONT PANEL RECORDING.

3-81. In the RECORD mode, all parameters are set to default values. Established in the SETUP routine the record mode can be used to record sequentially numbered cuts (refer to SECTION IV, ADVANCED EDITING OPERATIONS). The cuts contain numbers from A0000 to Z9999 and can be reset in the SETUP routine. The record mode is primarily designed as an engineering aid to check record levels. In this mode, the keyboard is not required.

3-82. RECORDING PROCEDURE.

3-83. To engage the RECORD READY mode, depress RECUE and PLAY 1. The PLAY and the RECUE indicators will be illuminated. The display will present the following:

-20dBu	0dBu	+16dBu
L		
R		
Record.. Manual		Start
1 Track	A 0000	0: 00
Ste 32K	Unused	1: 52

- L & R PPM Scale.
- Record status.
- Track title and time.
- Status and unused space.

3-84. The PPM bar graph has a Left and Right scale with an absolute peak level at +16dBu. The scale is in 2dB increments with a marker at 0dBu. The bar graph display is primarily provided as an alignment aid. It is recommended to check the program peak levels using an external calibrated meter.

3-85. For a Digital Recording the display will present the following:

100% 4Mb Disk Free
Record.. Manual Start
1 Track A 0000 0:00
Ste 32K Unused 1:52

- Disk Information.
- Digital record status.
- Track title and time.
- Status and unused space.

- 3-86. The free disk space and disk size are shown and the record start mode is manual. If automatic start is desired, the default must be changed (REFER TO SECTION IV). The track number displayed will be 1 and the cut number will be A0000 unless previous tracks have been recorded. The default title will be TRACK. The default time will be 0:00. The default mode and sampling rate will be Ste 32K. The time remaining on the disk is presented following the sampling rate. In the test record mode, manual start only is provided. Preview the source program on the PPM display and listen directly on the audio outputs.



NOTE **THE RECORD MODE CAN BE CANCELED WHEN THE MACHINE IS IN THE RECORD READY MODE BY DEPRESSING THE RECUE SWITCH.**

- 3-87. To initiate a record operation, depress PLAY 1. If the keyboard is connected, depress the SPACE BAR to initiate record operation. The LCD display will present elapsed time and the heading will indicate AUDIO RECORDING or DIGITAL RECORDING.

L		
R		
Audio Recording		
1 Track	A 0000	0:03
Ste 32K	Unused	1:52

OR

100% 4Mb Disk Free		
Digital Recording		
1 Track	A 0000	0:03
Ste 32K	Unused	1:52

- 3-88. At the end of record process, depress RECUE. The machine will exit the record mode and the disk will be ready to play. The track number, title, cut number, and the run time will be displayed.
- 3-89. Seven additional RECORD tracks may be added if required. The machine will present DISK FULL if the disk is full due to the number of tracks or available space. The disk must be removed and re-inserted to perform additional operations.
- 3-90. **QUICK RECORD.**
- 3-91. The quick record process: 1) allows for the assignment of TITLES and 2) assigns default values to all record parameters. Quick record is controlled by the keyboard or RS232 PC interface. At this time, the keyboard will be explained.

KEYBOARD FUNCTIONS F1 & F2

F1 EDIT

F2 QUICK RECORD

- 3-92. **QUICK RECORDING PROCEDURE.**
- 3-93. Insert a formatted disk into drive 1. Depress F1 to enter the edit mode. The LCD status line will indicate EDIT ENVIRONMENT.

- 3-94. Depress F2 to enter the quick record mode.
- 3-95. The screen will present the following information :

```

100% 4Mb Disk Free
Quick Record
Enter Title of Play

Title

```

- 3-96. Using up to 13 characters in upper or lower case, type the desired title and depress ENTER. The screen will display the Outcue prompt. Depress Enter to show a title or type in the Outcue message and depress enter. The machine enters the Record Ready Mode with the standard recording conditions : 1) STEREO and 2) 32K sample rate. The LCD bar graph display is monitoring the signal source as in the previous recording mode and the audio source can be monitored at the audio outputs. The screen will display:

```

100% 4Mb Disk Free
Quick Record
Enter Title of Play

OutCue

```

```

L      |      |
R      |      |
Record..Manual Start
1 Jingle      0:00
Ste 32K Unused 1:52

```

- 3-97. In the record ready mode, the screen display provides an indication of the free record time.
- 3-98. Depress PLAY 1 to initiate the record process. If the keyboard is connected, depress the SPACE BAR to initiate record operation. The LCD display will present elapsed time and the heading will indicate AUDIO RECORDING.

```

L      |      |
R      |      |
Audio Recording
1 Jingle      0:03
Ste 32K Unused 1:52

```

- 3-99. At the end of the record process, depress RECUE. If desired, depress the END key on the keyboard. The machine will exit the record mode and the disk will be ready to play. Depress the ESC or RECUE switch to exit the edit environment.
- 3-100. To terminate the recording and save the title for a restart, depress the HOME key on the keyboard.
- 3-101. Additional tracks may be recorded on the disk. A total of eight tracks can be assigned to a disk. If the disk is full, attempting to enter the QUICK RECORD mode will result in a DISK FULL message being presented on the status line of the display.

- 3-102. To exit the EDIT ENVIRONMENT, depress the ESC key on the keyboard or the RECUE switch.



NOTE

NOTE

THE QUICK RECORD MODE CAN BE CANCELED PRIOR TO ENTERING THE RECORD READY CONDITION BY DEPRESSING THE ESC KEY ON THE KEYBOARD OR THE RECUE SWITCH.



NOTE

NOTE

THE QUICK RECORD MODE CAN BE CANCELED AFTER ENTERING THE RECORD READY CONDITION BY DEPRESSING THE RECUE SWITCH.



NOTE

NOTE

THE MACHINE REMAINS IN THE EDIT ENVIRONMENT AFTER THE QUICK RECORD MODE IS CANCELED.



NOTE

NOTE

A RECORDING CAN BE ABORTED BY DEPRESSING THE ESC KEY ON THE KEYBOARD. THE MACHINE WILL ENTER THE EDIT ENVIRONMENT AND NO INFORMATION IS SAVED.



NOTE

NOTE

UNWANTED RECORDINGS CAN BE ABORTED AND THE TITLE INFORMATION RETAINED BY DEPRESSING THE HOME KEY ON THE KEYBOARD DURING RECORD OPERATION. THE MACHINE WILL ENTER THE RECORD READY CONDITION AND SAVE ALL DATA.

- 3-103. **FULL RECORDING (AUDIO).**

- 3-104. In the FULL RECORD mode, all record parameters are user selectable. Full recording is controlled by the keyboard or RS232 PC interface. At this time, only the use of the keyboard will be explained.

KEYBOARD FUNCTIONS F1 & ALT-F2

F1 EDIT

ALT-F2 FULL RECORD

- 3-105. **FULL RECORDING PROCEDURE (AUDIO INPUTS).**

- 3-106. Insert a formatted disk into drive 1. Depress F1 to enter the EDIT mode. The display status line will indicate EDIT ENVIRONMENT. Depress and hold the ALT key and depress F2 to enter FULL RECORD mode. The LCD presents the following information :

100% 4Mb Disk Free
Full Record
Enter Title of Play

Title..

- 3-107. Enter in the required title in upper and lower case and depress ENTER. The screen will display OUTCUE. Depress ENTER to use the title or enter an OUTCUE MESSAGE and depress ENTER. The screen will display:

100% 4Mb Disk Free
Full Record
Enter Title of Play

OutCue

- 3-108. Depress ENTER. The screen will display:

100% 4Mb Disk Free
Audio or digital

<A>

- 3-109. The option allows the selection of either analog audio inputs at the XLR connectors or a DIGITAL input at the AES-EBU input connector. Depress A and ENTER for AUDIO recordings. After entering an A, the screen will display:

100% 4Mb Disk Free
Audio or Digital

<A>

Mono or Stereo

<S>

- 3-110. Depress S and ENTER for STEREO. Depress M and ENTER for MONO. The screen will display:

100% 4Mb Disk Free
Audio or Digital

<A>

Mono or Stereo

<S>

Sample Freq KHz

<32>

- 3-111. Depress ENTER for 32KHz or enter the selected sample rates as follows:

22.05KHz	PRESS 1
32KHz	PRESS 2
44KHz	PRESS 3
48KHz	PRESS 4
	and PRESS ENTER.

- 3-112. Alternatively, use the up and down cursor keys to select the options and depress ENTER. The screen will display:

100% 4Mb Disk Free
Auto/Manual start <M>

- 3-113. To manually start the record process, depress M and ENTER. To automatically start the record process at the beginning of the record material, depress A and ENTER. Refer to SECTION IV, ADVANCED EDITING OPERATIONS to change audio trigger level if required. The screen will display:

100% 4Mb Disk Free
Sec Cue in secs 1.5

- 3-114. This establishes the leading edge of the secondary cue signal. The signal is placed at the end of the record material. This can be incremented in 0.1 second steps. Depress 0 for no secondary cue at the end of the program material. Use the numeral keys to enter the secondary cue time and depress ENTER.

- 3-115. Alternatively, the track may be recorded with an AUTO LOOP command. The command will produce Single Loop play when the machine is configured for Single Play. This AUTO LOOP command is assigned on the recorded track and disk and operates on any subsequent replay. Depress L and ENTER for an AUTO LOOP command. The screen will display:

100% 4Mb Disk Free
Enter Billing Data:
.....

- 3-116. Up to 25 ASCII characters can be entered as BILLING information. The information is reproduced each time the disk is played and is output to the RS232 port. Enter the BILLING information and depress ENTER. Depress ENTER to bypass the BILLING information. The screen will display:

100% 4Mb Disk Free
Enter First Date in
ddmmyy <None>

- 3-117. Enter the date when the disk is to be played. For example, enter 02 01 92 and depress ENTER. Depress ENTER for no first KILL date.

100% 4Mb Disk Free	
Enter Last Date in	
ddmmyy	<None>

- 3-118. Enter the date when the disk is not to be played on-the-air. For example, enter 02 06 92 and depress ENTER. Depress ENTER for NO LAST KILL DATE. When the kill date is used in conjunction with the real time clock, remove out-of-date recordings or the screen will display the message OUTDATED TRACK. The screen will display:

L		
R		
Record..Manual Start		
1 Spots		0:00
Ste 32K Unused		1:52

as an example.

- 3-119. The machine enters the record ready mode with the selected record assignments.
- 3-120. The LCD bar graph display will monitor the signal source as in the previous two record modes.
- 3-121. The selected title is presented on the display screen with the track number.
- 3-122. In the record ready condition, the LCD display provides an indication of the free record time.
- 3-123. To manually initiate the record process, depress PLAY 1. In addition, the SPACE BAR can be depressed to initiate the record operation. To automatically start the record process, route source program material to the audio inputs.
- 3-124. The LCD display will present elapsed time and the heading will indicate AUDIO RE-
CORDING.

L		
R		
Audio Recording		
1 Spots		0:03
Ste 32K Unused		1:52

- 3-125. At the end of the record process, depress RECUE. Alternatively, depress the END key on the keyboard. Depress ESC or RECUE to exit the EDIT ENVIRONMENT and to prepare the disk for play. Depress HOME to abort the recording and save all data and unit configuration.
- 3-126. Additional tracks may be recorded on the disk. Up to eight tracks can be assigned to a disk. If the disk is full, attempting to enter the FULL RECORD mode will result in the display of a DISK FULL message on the status line. Remove the disk and re-insert to continue.
- 3-127. To exit the EDIT ENVIRONMENT or ABORT THE RECORDING, depress the ESC key on the keyboard or the RECUE switch.



NOTE

THE FULL RECORD MODE CAN BE CANCELLED PRIOR TO ENTERING THE RECORD READY CONDITION BY DEPRESSING THE ESC KEY ON THE KEYBOARD OR THE RECUE SWITCH.

NOTE



NOTE

THE FULL RECORD MODE CAN BE CANCELLED AFTER ENTERING THE RECORD READY CONDITION BY DEPRESSING THE RECUE SWITCH.

NOTE



NOTE

THE MACHINE REMAINS IN THE EDIT ENVIRONMENT AFTER THE FULL RECORD MODE IS CANCELED.

NOTE



NOTE

A RECORDING CAN BE ABORTED BY DEPRESSING THE ESC KEY ON THE KEYBOARD. THE MACHINE WILL ENTER THE EDIT ENVIRONMENT AND NO INFORMATION IS SAVED.

NOTE



NOTE

TO RE-ENTER OPTIONS, DEPRESS THE PAGE UP KEY ANY TIME BEFORE ENTERING THE RECORD READY CONDITION. PREVIOUS SELECTIONS WILL BE RE-ASSIGNED WHEN USING THE PAGE UP FACILITY.

NOTE



NOTE

UNWANTED RECORDINGS CAN BE ABORTED AND ALL DATA AND SETTINGS CONFIRMED UP TO THE RECORD READY STATE IS RETAINED BY DEPRESSING THE HOME KEY ON THE KEYBOARD DURING RECORD OPERATION. THE MACHINE WILL ENTER THE RECORD READY CONDITION.

NOTE

3-128. FULL RECORD (DIGITAL).

3-129. The digital inputs are located at pins 3 and 7 on the AES-EBU connector. Digital signals presented at the above connector pins will be recorded by the machine in the Full Record Mode (digital) and also in the Quick Record Mode when digital Recording is selected.

3-130. The AES-EBU digital signal contains information which configures the unit to MONO or STEREO and selects the correct sample rate.

3-131. Similarly a SP/DIF signal routed to the above connector will be recorded in the digital mode.

3-132. The full record mode is controlled by the keyboard or RS232 PC interface. At this time, only the use of the keyboard will be explained.

KEYBOARD FUNCTIONS F1 & ALT-F2

F1 EDIT

ALT-F2 FULL RECORD

3-133. FULL RECORDING PROCEDURE (DIGITAL).

- 3-134. Insert a formatted disk into drive 1. Depress F1 to enter the EDIT mode. The LCD display will indicate EDIT ENVIRONMENT.
- 3-135. Hold down the ALT key and depress F2 to enter FULL RECORD mode. The screen will display the following:

100% 4Mb Disk Free
Full Record
Enter Title of Play
Title

- 3-136. Enter the required title in upper and lower case and depress ENTER. The screen will display:

100% 4Mb Disk Free
Full Record
Enter Title of Play
OutCue

100% 4Mb Disk Free
Audio or digital <A>

- 3-137. The option allows the selection of either analog audio inputs at the XLR connectors or a digital input at the AES/EBU input connector. Depress D and ENTER for digital recordings. After entering a D, the screen will display:

100% 4Mb Disk Free
Auto/Manual start <M>

- 3-138. To manually start the record process, depress M and ENTER. To automatically start the record process at the beginning of the record material, depress A and ENTER. Refer to SECTION IV, ADVANCED EDITING OPERATIONS to change audio trigger level if required. The screen will display:

100% 4Mb Disk Free
Sec Cue in secs 1.5

- 3-139. This establishes the leading edge of the secondary cue signal. This can be incremented in 0.1 second steps. Depress 0 for no secondary cue at the end of the program material. Use the numeral keys to enter secondary cue time and depress ENTER. The secondary cue default is 1.5 seconds.
- 3-140. Alternatively, the track may be recorded with an AUTO LOOP command. The command will produce Single Loop play when the machine is configured for Single Play. This AUTO LOOP command is assigned on the recorded track and disk and operates on any subsequent replay. Depress L and ENTER for an AUTO LOOP command.
The screen will display:

```

100% 4Mb Disk Free
Enter Billing Data :
.....

```

- 3-141. Up to 25 ASCII characters can be entered as BILLING information. The information is reproduced each time the disk is played and is output to the RS232 port as the track is started. Enter in the BILLING information and depress ENTER. Depress ENTER to bypass the BILLING information. The screen will display:

```

100% 4Mb Disk Free
Enter First Date in
ddmmyy      <None>

```

DATE FORMAT:
DAY - MONTH - YEAR

- 3-142. Enter the date when the disk is to be played. For example, enter 02 01 92 and depress ENTER. Depress ENTER for no first KILL date with <None> displayed.

```

100% 4Mb Disk Free
Enter Last Date in
ddmmyy      <None>

```

DATE FORMAT:
DAY - MONTH - YEAR

- 3-143. Enter the date after which the disk is not to be played on-the-air. For example, enter 02 06 92 and depress ENTER. Depress ENTER for no LAST KILL DATE with <None> displayed. When the kill date is used in conjunction with the real time clock, remove out-of-date recordings or the screen will display the message OUTDATED TRACK. The screen will display:

```

Track 1 Outdated
1 Special Value    0:30
1 Top Value        0:30
Ste 32K Single Play

```

- 3-144. After entering the last kill date, the machine will go directly to the record mode and indicate the following:

100% 4Mb Disk Free		
Record..Manual start		
1 Spots		0:00
Ste 32K	Unused	1:52

as an example.

- 3-145. The machine enters the record ready mode with the selected record assignments.
- 3-146. The selected title is presented on the display screen with the track number.
- 3-147. In the record ready condition, the LCD display provides an indication of the free record time.
- 3-148. To manually initiate the record process, depress PLAY 1. In addition, the SPACE BAR can be depressed to initiate the record operation. Automatic starting of the record cycle can take place with either analog or digital input signals if the auto start option is active.
- 3-149. The LCD display will present time elapsed and the heading will indicate DIGITAL RECORDING.

100% 4Mb Disk Free		
Digital Recording		
1 Spots		0:03
Ste 32K	Unused	1:52

- 3-150. At the end of the record process, depress RECUE. Alternatively, depress the END key on the keyboard. The machine will stop recording and exit the record mode and depress ESC or RECUE to exit the EDIT ENVIRONMENT and the disk will be ready to play. Depress HOME to abort the recording and save all data and machine configuration. Additional tracks may be recorded on the disk unless the machine is configured to record one track. Up to eight tracks can be assigned to a disk. If the disk is full, attempting to enter the FULL RECORD mode will result in the display of a DISK FULL message on the status line. To exit the EDIT ENVIRONMENT or abort the recording, depress the ESC key on the keyboard or the RECUE switch.



NOTE

THE FULL RECORD MODE CAN BE CANCELLED PRIOR TO ENTERING THE RECORD READY CONDITION BY DEPRESSING THE ESC KEY ON THE KEYBOARD OR THE RECUE SWITCH.



NOTE

THE FULL RECORD MODE CAN BE CANCELLED AFTER ENTERING THE RECORD READY CONDITION BY DEPRESSING THE RECUE SWITCH.



NOTE

THE MACHINE REMAINS IN THE EDIT ENVIRONMENT AFTER THE FULL RECORD MODE IS CANCELLED.



NOTE

NOTE

A RECORDING CAN BE ABORTED BY DEPRESSING THE ESC KEY ON THE KEYBOARD. THE MACHINE WILL ENTER THE EDIT ENVIRONMENT AND NO INFORMATION IS SAVED.



NOTE

NOTE

TO RE-ENTER OPTIONS, DEPRESS THE PAGE UP KEY ANY TIME BEFORE ENTERING THE RECORD READY CONDITION. PREVIOUS SELECTIONS WILL BE RE-ASSIGNED.



NOTE

NOTE

DEPRESS THE HOME KEY DURING AN UNWANTED RECORDING TO: 1) ABORT THE RECORDING, 2) KEEP ALL DATA AND SETTINGS THAT HAVE BEEN CONFIRMED UP TO THE RECORD READY STATE, AND 3) READY THE MACHINE TO RESTART RECORDING.

SECTION IV

ADVANCED EDITING OPERATIONS

- 4-1. Depress F1 to access the edit environment. Depress ESC to exit the edit environment. The edit mode may be configured for a preset time and may exit the edit environment if not used (REFER TO SETUPS). Unless otherwise indicated, editing operations can be performed only on drive 1 with non-write-protected disks.



NOTE SEVERAL OF THE EDITING FUNCTIONS PRESENTED IN THE FOLLOWING TEXT ARE USED TO CHANGE DATA STORED WITHIN THE DISK HEADER. THE UNIT STORES ALL CHANGES USING THESE FUNCTIONS IN MEMORY AND DOES NOT AUTOMATICALLY UPDATE THE DISK WITH THE EDITED HEADER INFORMATION. TO SAVE ALL CHANGES IN THE HEADER INFORMATION, FOLLOW THE UPDATE DISK WITH EDIT CHANGES PROCEDURE PRESENTED IN THE FOLLOWING TEXT.



- 4-2. UPDATE DISK WITH EDIT CHANGES (SAVE EDITS F7).
- 4-3. Depress F1 to enter the EDIT mode. The LCD status line display will indicate EDIT ENVIRONMENT. Depress F7 to initiate UPDATE DISK 1 WITH EDIT CHANGES. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Save Edits Disk 1	<Y>

- 4-4. Depress ENTER or Y and ENTER to save any changes made to the disk header information. Depress ESC, N on the keyboard, or RECUE on the machine to abort the function.
- 4-5. CLEAR EDIT MEMORY (ALT-F7).
- 4-6. Depress F1 to enter EDIT ENVIRONMENT. Hold the ALT key and depress F7. The screen will Display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Clear Edit Memory	<Y>

- 4-7. To clear the machine memory of all EDIT CHANGES, depress ENTER or Y and ENTER. This will only clear changes: 1) entered prior to the insertion of the disk or 2) prior to the UPDATE DISK WITH EDIT CHANGES operation.

- 4-8. Depress ESC, N on the keyboard, or RECUE on the machine to abort the function prior to depressing ENTER.
- 4-9. An alternative method of re-installing the original disk header for drive 1 into the machine memory is to remove and re-insert the disk. Track 1 is selected when the disk is re-inserted.
- 4-10. **PLAYBACK (F3).**
- 4-11. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F3 to playback disk 1. The LCD status line will indicate the machine is in the playback mode as shown below :

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Ste 32K Playback	

- 4-12. In the playback mode, secondary and tertiary cues on the track will be indicated on the display when encountered with a corresponding S and T as shown below :

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Ste 32K Playback	S T

- 4-13. To stop the PLAYBACK operation, depress END on the keyboard or RECUE on the machine.
- 4-14. **PLAYBACK LAST 10 SECONDS (ALT-F3).**
- 4-15. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold down the ALT key and depress F3 to PLAYBACK disk 1. The LCD status line will indicate the machine is in the PLAYBACK mode as shown below :

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Ste 32K Playback	

- 4-16. In the PLAYBACK mode, the last 10 seconds of the selected track in drive 1 will be played. As described in the previous PLAYBACK mode, an on-screen indication is provided for secondary and tertiary cues.
- 4-17. To stop PLAYBACK operation, depress END on the keyboard or RECUE on the machine.
- 4-18. **RECORD TERTIARY CUES DURING PLAYBACK (F4).**
- 4-19. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F4 to access the INSERT TERTIARY CUES DURING PLAYBACK function. The display will indicate:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Set Tertiary Cues	<Y>

- 4-20. Depress Y and ENTER to configure drive 1 in the PLAYBACK mode. Tertiary cues can be inserted on the track by depressing the front panel SELECT switch. Up to 5 tertiary cues of varying lengths can be inserted onto the track. An on-screen indication is provided: 1) as tertiary cues are inserted and 2) the location of existing secondary cue signals.
- 4-21. To stop PLAYBACK operation, depress END on the keyboard or RECUE on the machine.
- 4-22. To erase all tertiary cues on the selected track, depress END on the keyboard or RECUE on the machine immediately after depressing ENTER.



NOTE *TO SAVE THE CHANGES, DEPRESS F7 AND ENTER.*

NOTE



NOTE *TO RESTORE THE ORIGINAL, DEPRESS ALT-F7 AND ENTER.*

NOTE

- 4-23. **RECORD SECONDARY CUE DURING PLAYBACK (ALT-F4).**
- 4-24. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold the ALT key and depress F4 to access the INSERT SECONDARY CUES DURING PLAYBACK function. The display will indicate:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Set Secondary Cue	<Y>

- 4-25. Depress Y and ENTER to configure drive 1 to the PLAYBACK mode. Only the last 10 seconds of the selected track is played. A secondary cue can be inserted on the track by depressing the front panel SELECT switch. An on-screen indication is provided: 1) as the secondary cue is inserted and 2) if any existing tertiary cues on the track are detected.
- 4-26. To stop the PLAYBACK operation, depress END on the keyboard or RECUE on the machine.
- 4-27. To erase the secondary cue on the selected track, depress END on the keyboard or RECUE on the machine immediately after depressing ENTER at the start of the sequence.



NOTE *TO SAVE THE CHANGES, DEPRESS F7 AND ENTER.*

NOTE



NOTE *TO RESTORE THE ORIGINAL, DEPRESS ALT-F7 AND ENTER.*

NOTE

4-28. EDIT START (F5).

- 4-29. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F5 to access the EDIT START. The display will indicate:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Start Offset	000.000

- 4-30. The start point of the selected track on disk 1 can be moved forward by specifying the Start Offset. Use one of the following three methods to edit the start point: 1) Depress HOME to start playing the track and depress END to specify a new start point. 2) Enter the desired figure using the numeral and cursor keys on the keyboard. 3) Depress Up-Down cursor keys on keyboard to specify time in ten millisecond increments or depress Page Up-Page Down keys on keyboard to specify time in one hundred millisecond increments. After editing the start point, depress the space bar to replay the first two seconds from the revised start. To play through a loop transition depress the L key on the keyboard. Depress ENTER to confirm changes. Depress F3 to playback and check the edited material. To delete incorrect entries use the back space key or the left and right cursor keys to select the figure to be changed and enter the correct figure.
- 4-31. If the entered figure exceeds the selected track size, the machine will display the total time used by the track and wait for a correct entry.
- 4-32. The EDIT START function can be aborted prior to depressing ENTER by depressing ESC on the keyboard or the RECUE button on the machine.

PROCEDURE

DESCRIPTION

DEPRESS F1 THEN F5	ACCESS EDIT START MODE
DEPRESS HOME THEN END	ENTER AND EDIT BY LISTENING
START OFFSET 000.000	ENTER A NUMERICAL VALUE
UP-DOWN CURSOR KEYS	0.01 SECONDS INTERVALS
PAGE UP-DOWN KEYS	0.1 SECOND INTERVALS
DEPRESS SPACE BAR	PLAY FIRST TWO SECONDS
DEPRESS L KEY	PLAY THROUGH A LOOP TRANSITION
DEPRESS ENTER	CONFIRM THE START POINT
DEPRESS F7 AND ENTER	SAVE EDITS
DEPRESS ALT F7 AND ENTER	CLEAR EDIT AND RESTORE



NOTE *TO SAVE THE CHANGES, DEPRESS F7 AND ENTER.*

NOTE



NOTE *TO RESTORE THE ORIGINAL, DEPRESS ALT-F7 AND ENTER.*

NOTE



NOTE *CHANGES SAVED USING THE SAVE EDIT FUNCTION CAN BE DELETED BY USING APPLICABLE EDIT MODE. THE ORIGINAL FILE IS RECOVERED AFTER EDIT AND SAVE. COPIES OF EDITED MATERIAL WILL NOT ALLOW THIS RECOVERY.*

NOTE

4-33. EDIT END OFFSET (ALT-F5).

- 4-34. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold down the ALT key and depress F5 to access the EDIT END OFFSET function. The display will indicate:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
End Offset	000.000

- 4-35. The end point of the selected track on disk 1 can be moved backwards by specifying the End Offset. Use one of the following three methods to edit the end point: 1) Depress HOME to start playing the track and depress END to specify a new end point. 2) Enter the desired figure using the numeral and cursor keys on the keyboard. 3) Depress Up-Down cursor keys on keyboard to specify time in ten millisecond increments or depress Page Up-Page Down keys on keyboard to specify time in one hundred millisecond increments. After editing the end point, depress the space bar to replay the last two seconds to the revised end. To play through a Loop transition, depress the L key on the keyboard. Depress ENTER to confirm the changes. Depress F3 to playback and check the edited material. To delete incorrect entries use the backspace key or use the left and right cursor keys to select the figure to be changed and enter the correct figure.
- 4-36. If the entered figure exceeds the selected track size, the machine will display the total time used by the track and wait for a correct entry.
- 4-37. The EDIT END OFFSET function can be aborted prior to depressing ENTER by depressing ESC on the keyboard or the RECUE button on the machine.

PROCEDURE

DEPRESS F1 THEN ALT F5
DEPRESS HOME THEN END
END OFFSET 000.000
UP-DOWN CURSOR KEYS
PAGE UP-DOWN KEYS

DESCRIPTION

ACCESS EDIT END MODE
ENTER AND EDIT BY LISTENING
ENTER A NUMERICAL VALUE
0.01 SECONDS INTERVALS
0.1 SECOND INTERVALS

PROCEDURE	DESCRIPTION
DEPRESS SPACE BAR	PLAY FIRST TWO SECONDS
DEPRESS L KEY	PLAY THROUGH A LOOP TRANSITION
DEPRESS ENTER	CONFIRM THE END POINT
DEPRESS F3	PLAYBACK ALL EDITS
DEPRESS F7 AND ENTER	SAVE EDITS
DEPRESS ALT F7 AND ENTER	CLEAR EDIT AND RESTORE



NOTE *TO SAVE THE CHANGES, DEPRESS F7 AND ENTER.*

NOTE



NOTE *TO RESTORE THE ORIGINAL, DEPRESS ALT-F7 AND ENTER.*

NOTE



NOTE *CHANGES SAVED USING THE SAVE EDIT FUNCTION CAN BE DELETED BY USING APPLICABLE EDIT MODE. THE ORIGINAL FILE IS RECOVERED AFTER EDIT AND SAVE. COPIES OF EDITED MATERIAL WILL NOT ALLOW THIS RECOVERY.*

NOTE

4-38. **EDIT TITLE (F6).**

4-39. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F6 to access the EDIT TITLE function. The display will indicate:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Title:Jingles	

4-40. The TITLE of the selected track in drive 1 can be changed or replaced. Use the keyboard to enter a new TITLE or use the left and right cursor keys to highlight the characters to be changed and then depress ENTER. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
OutCue _	

4-41. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

4-42. Depress ENTER to bypass the outcue feature and retain the title or type outcue message and depress ENTER.



NOTE *TO SAVE THE CHANGES, DEPRESS F7 AND ENTER.*

NOTE



NOTE *TO RESTORE THE ORIGINAL DEPRESS ALT-F7 AND ENTER.*

NOTE

4-43. EDIT SECONDARY CUE LENGTH AND MAKE A LOOP (ALT-F6).

4-44. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold down the ALT key and depress F6 to access the EDIT SECONDARY CUE LENGTH function. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Sec Cue in secs	1.5

4-45. To retain the existing secondary cue and edit the billing data, depress ENTER.

4-46. To change the secondary cue length, enter the new figure using the numeral keys or use the up and down cursor keys to select the required figure and depress ENTER. The maximum secondary cue length is 9.9 seconds. The existing secondary cue can be erased by entering 0.0 for the secondary cue length. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

4-47. LOOP.

4-48. AUTO LOOP playback can be assigned to any track by depressing L and ENTER. The screen will present a request for billing information and kill date data. Depress ESC to exit the requests or ENTER to bypass. To retain the existing secondary cue signals and edit the billing data, depress ENTER.

4-49. EDIT BILLING DATA.

4-50. The screen will display:

1 Jingles	1:03
Enter Billing Data :	
.....	

4-51. Depress ENTER to clear the data or enter the required billing information and depress ENTER. Up to 25 ASCII characters can be entered for the billing information. Any previous information will be changed.

4-52. EDIT START AND FINISH KILLDATES.

4-53. The screen will display:

1 Jingles	1:03
Enter First Date in ddmmyy	<None>

- 4-54. Enter the date when the disk is to be played. For example, enter 02 01 92 and depress ENTER. Depress ENTER for no first KILL DATE.

1 Jingles	1:03
Enter Last Date in ddmmyy	<None>

- 4-55. Depress ENTER if the killdate feature is not required or enter the required date and depress ENTER. The date can be changed by inserting characters as necessary.



NOTE *TO SAVE THE CHANGES, DEPRESS F7 AND ENTER.*

NOTE



NOTE *TO RESTORE THE ORIGINAL, DEPRESS ALT-F7 AND ENTER.*

NOTE

- 4-56. COPY TRACK (F8).

- 4-57. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F8 to access the COPY TRACK function. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Copy Trk1-Disk2	<Y>

- 4-58. Use the numeral keys to select the track from disk 1 to be copied to disk 2 as shown below :

Copy Track 1	PRESS 1
Copy Track 2	PRESS 2
Copy Track 3	PRESS 3
etc depending on number of Tracks	
	..and PRESS ENTER.

- 4-59. Alternatively, use the up and down cursor keys to review the options. Depress ESC on the keyboard, N or RECUE on the machine to abort the function prior to depressing ENTER.

- 4-60. COPY DISK (ALT-F8).

- 4-61. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold the ALT key and depress F8 to access the COPY DISK function. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Copy Disk 1-2	<Y>

- 4-62. Use the numeral keys (1, 2 & 3) to select the COPY DISK mode required as shown below :

Copy 1 to 2	PRESS 1
Copy 1 to 3	PRESS 2
Copy 1 to 2 & 3	PRESS 3
	...and PRESS ENTER.

- 4-63. Alternatively, use the up and down cursor keys to review the options. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

- 4-64. **ERASE A TRACK (F9).**

- 4-65. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F9 to access the ERASE LAST TRACK function. The screen will indicate:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Erase Trk8 Disk 1	<Y>

For a disk with 8 tracks.

- 4-66. The machine defaults to the last track of disk 1. Depress ENTER to erase the last track of disk 1. To erase any other track, use the numerical keys and access the skip track feature.

- 4-67. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

- 4-68. **SKIP TRACK.**

- 4-69. Use the numeral keys (1, 2 & 3) or the up and down cursor keys to change track numbers and the Y or N option. Depressing Y or N will change the Y or N option for each track. The following screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Skip Trk1 Disk 1	<N>

- 4-70. Alternatively, use the up and down cursor keys to review the options. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

- 4-71. **ERASE DISK (ALT-F9).**

- 4-72. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold the ALT key and depress F9 to access the ERASE DISK function. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Erase Disk 1	<Y>

4-73. Use the numeral keys (1, 2 & 3) to select the disk to be erased as shown below :

Erase Disk 1	PRESS 1
Erase Disk 2	PRESS 2
Erase Disk 3	PRESS 3
Erase All Disks	PRESS 4

...and PRESS ENTER.

4-74. Alternatively, use the up and down cursor keys to review the options. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

4-75. **FORMAT DISK (F10).**

4-76. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Depress F10 to access the FORMAT DISK function. The screen will display:

1 Jingles	1:03
1 Spots	0:34
1 Inserts	0:22
Format Disk 1	<Y>

4-77. Use the numeral keys (1, 2, 3 & 4) to select the disk to be formatted as shown below :

Format Disk 1	PRESS 1
Format Disk 2	PRESS 2
Format Disk 3	PRESS 3
Format All Disks	PRESS 4

...and PRESS ENTER.

4-78. The screen will momentarily display the following:

Format Trk 01 Side	0
*	*
*	*
Format Disk 1	<Y>

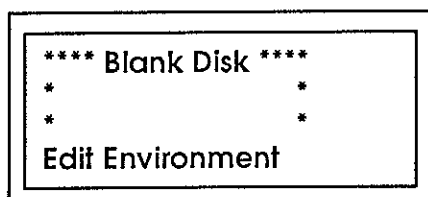
The display will increment the track numbers from 01 to 80 and the side number will change back and forth between 0 and 1.

4-79. The screen will then display:

Verify Trk 01 Side	0
*	*
*	*
Format Disk 1	<Y>

When the unit has finished formatting the disk, it automatically starts a verify cycle. The track and side numbers operate the same as in the format cycle.

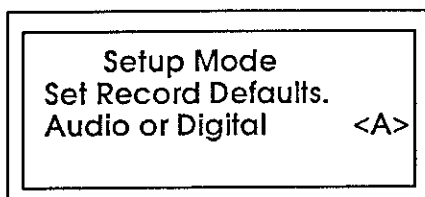
- 4-80. When finished with format procedures the screen will display:



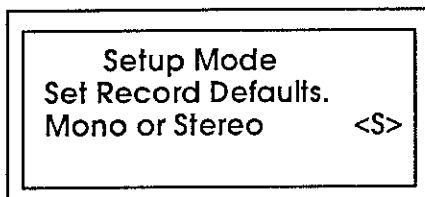
- 4-81. If the system is unable to complete the format cycle, the display will show a "Bad Compression" or "Damaged Disk" message. Try to reformat the disk in a different drive. If the disk fails again, discard it. See Appendix B for alternate messages.
- 4-82. Alternatively, use the up and down cursor keys to review the options. Depress ESC on the keyboard or RECUE on the machine to abort the function prior to depressing ENTER.

4-83. **SET-UP (ALT-F10).**

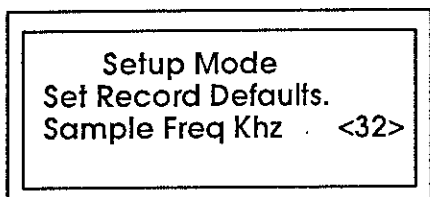
- 4-84. Depress F1 to enter the EDIT mode. The LCD status line will indicate EDIT ENVIRONMENT. Hold the ALT key and depress F10 to access the SET-UP function. The screen will display:



- 4-85. Depress A and ENTER to configure the record default to AUDIO Recording. Depress D and ENTER to configure the record default to DIGITAL recording. The screen will display:



- 4-86. Depress M and ENTER to configure the record default to MONO. Depress S and ENTER to configure the record default to STEREO. The screen will display:



OPTIONS-

22KHz
32KHz
44KHz
48KHz

- 4-87. Use the numeric keys (1- 4) or the up and down cursor keys and depress ENTER to select the required default recording SAMPLE FREQUENCY. The screen will display:

Setup Mode
Set Record Defaults.
Auto/Manual start <M>

- 4-88. Depress A and ENTER to configure the record default to AUTO START. Depress M and ENTER to configure the record default to MANUAL START. The screen will display:

Setup Mode
Set Record Defaults.
Auto Threshold -35dB

OPTIONS-

-17dB
-23dB
-29dB
-35dB
-41dB

- 4-89. Use the numeric keys (1- 5) or the up and down cursor keys and depress ENTER to select the record default AUTO START THRESHOLD LEVEL. The level increments and decrements in 6dB steps. The screen will display:

Setup Mode
Set Record Defaults.
Sec Cue in secs 1.5

- 4-90. Use the numeric keys or the up and down cursor keys and depress ENTER to select the default SECONDARY CUE LENGTH in seconds. The screen will display:

Setup Mode
Set Record Defaults.
Meter 0dB Level: 11

- 4-91. Use the numeric keys (1-19) or the up and down cursor keys and depress ENTER to select the meter 0dB mark position on the scale. The screen will display:

Setup Mode
Set Record Defaults.
Reset Track Count <N>

- 4-92. The track number associated with the simple record mode may be set to zero by depressing Y and ENTER.

- 4-93. Depress Y and ENTER to enable the clear track count. The screen will display:

Setup Mode
Set Record Defaults.
Track I.D. Letter ■

- 4-94. Type a machine prefix letter from the keyboard to identify an untitled recording and depress ENTER. The screen will display:

Setup Mode
Set Record Defaults.
Record Overwrite <N>

- 4-95. Depress the Up and Down cursor keys and Enter to enable or disable the RECORD OVERWRITE function. Depress Y and ENTER to make only single track recordings on a disk and enable the OVERWRITE function. To re-record a track will cause the machine to overwrite the previous track and produce one recording on each disk. The screen will display:

Setup Mode
Set Record Defaults.
Edit Timeout 0 Mins.

- 4-96. Use the numeric keys (0-9) and depress ENTER to select a timeout. The machine will switch from the edit mode to the play mode if the keyboard is not used for the selected time period. Enter 0 to disable the timeout function. The screen will display:
- 4-97. SELECT PLAY MODES.

Setup Mode
Select Play Modes...
Enable Single Loop

- 4-98. Use up and down cursor keys and depress ENTER to enable SINGLE LOOP in normal play. Alternatively, depress the Y and ENTER to enable the SINGLE LOOP mode. Use up and down cursor keys and depress ENTER to disable the SINGLE LOOP function. Alternatively, depress N and ENTER to disable the SINGLE LOOP mode. See SECTION III, OPERATION for a description of the LOOP play modes. The screen will display:

Setup Mode
Select Play Modes...
Enable Seq Play

- 4-99. Use up and down cursor keys and depress ENTER to enable SEQUENCING in normal play. Alternatively, depress the Y and ENTER to enable the SEQUENCING mode. Use up and down cursor keys and ENTER to disable the SEQUENCING function. Alternatively, depress the N and ENTER to disable the SEQUENCING mode. Refer to SECTION III, OPERATION for a description of the Sequence Play Modes. The screen will display:

Setup Mode
Select Play Modes...
Enable Seq Loop

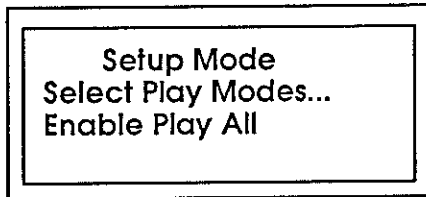
- 4-100. Use up and down cursor keys and depress ENTER to enable LOOP MODE on normal play. Alternatively, depress the Y and ENTER to enable the LOOP MODE. Use up and down cursor keys and ENTER to disable the LOOP MODE. Alternatively, depress the N and ENTER to disable the LOOP MODE. The screen will display:

Set up Mode
Select Play Modes...
Enable Cue Next Trk

- 4-101. Use the up and down cursor keys and depress ENTER to enable CUE NEXT TRACK MODE in normal play. Alternatively, depress the Y and ENTER to enable the track mode. Use up and down cursor keys and depress ENTER to disable the TRACK MODE function. Alternatively, depress N and ENTER to disable the track mode. See SECTION III, OPERATIONS for a description of the TRACK MODES. The screen will display:

Set up Mode
Select Play Modes...
Enable Cue All Trks

- 4-102. Use the up and down cursor keys and depress ENTER to enable CUE ALL TRACKS function. Alternatively, depress the Y and ENTER to enable the track mode. Use the up and down cursor keys and depress ENTER to disable the CUE ALL TRACKS mode. Alternatively, depress N and ENTER to disable the track mode. The screen will display:



- 4-103. Use up and down cursor keys and depress ENTER to enable PLAY ALL in normal play. Alternatively, depress Y to enable the PLAY ALL function. Use up and down cursor keys and depress ENTER to disable the PLAY ALL function. Alternatively, depress N to disable the play all function. Refer to SECTION III, OPERATIONS for a description of the PLAY ALL function. The screen will display:

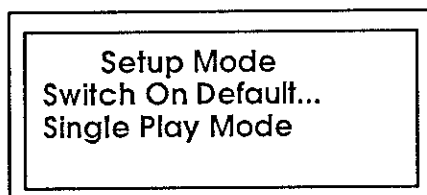


- 4-104. Use up and down cursor keys and depress ENTER to enable SINGLE PLAY function. Alternatively, depress Y to enable the SINGLE PLAY function. Use up and down cursor keys and depress ENTER to disable the SINGLE PLAY function. Alternatively, depress N to disable the SINGLE PLAY FUNCTION. The single play function can only be disabled if any one of the above options is enabled. The screen will display:



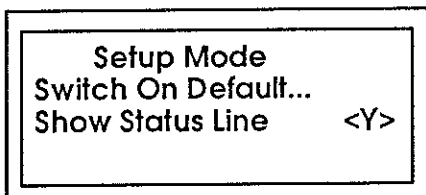
- 4-105. Depress Y and ENTER to enable the ROTATING TRACK feature. Alternatively, use the up and down cursor keys and depress ENTER to enable the ROTATING TRACK feature. Depress N and ENTER to disable the feature. Alternatively, use the up and down cursor keys and depress ENTER to disable the feature. The screen will display:

- 4-106. SELECTING SWITCH ON DEFAULTS.

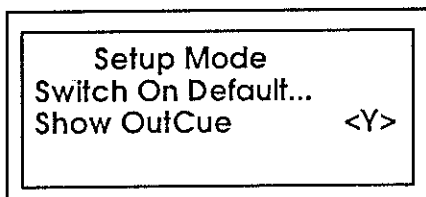


OPTIONS—
Single Play Mode
Single Loop Mode
Sequence Play Mode
Sequence Loop Mode
Cue Next Track Mode
Cue All Tracks Mode
Play All Mode

- 4-107. Use the numeric keys (1 – 7) or the up and down cursor keys and depress ENTER to select the required default PLAY MODE. The screen will display:

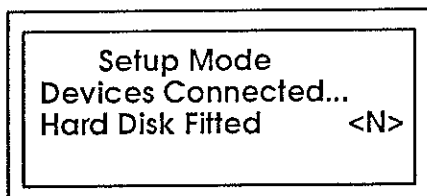


- 4-108. Depress Y and ENTER to enable the Show Status Line feature. Alternatively, use the up and down cursor keys and ENTER to enable the feature. Depress N and ENTER to disable the Show Status Line Feature. Alternatively, use the up and down cursor keys and ENTER to disable the feature. The screen will display:

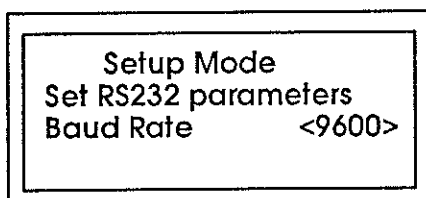


- 4-109. Depress Y and ENTER to enable the SHOW OUTCUE feature. Alternatively, use the up and down cursor keys and ENTER to enable the SHOW OUTCUE feature. Depress N and ENTER to disable the SHOW OUTCUE feature. Alternatively, use the up and down cursor keys and ENTER to disable the SHOW OUTCUE feature. If the SHOW OUTCUE feature is disabled only the title will be displayed during play. The screen will display:

- 4-110. **SELECTING MACHINE CONFIGURATION.**



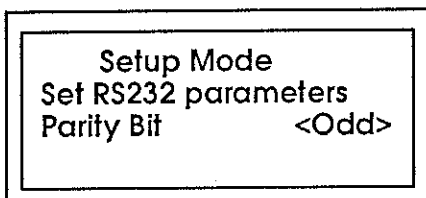
- 4-111. Depress Y and ENTER if a HARD DISK is installed in the system. Depress N and ENTER if no HARD DISK is installed in the system. The screen will display:



OPTIONS-

1200
2400
4800
9600

- 4-112. Use the numeric keys (1- 4) or the up and down cursor keys and ENTER to select the required RS232 BAUD RATE. The screen will display:



OPTIONS-

None
Even
Odd

- 4-113. Use the numeric keys (1- 3) or the up and down cursor keys and depress ENTER to select the required RS232 PARITY. The screen will display:

Setup Mode
Billing Destination.
Send Billing <Y>

- 4-114. Depress Y and ENTER to enable the SEND BILLING INFORMATION function. Depress N and ENTER to disable the BILLING INFORMATION function. If BILLING INFORMATION is disabled, the following display will not be presented. If the SEND BILLING INFORMATION function is enabled, the screen will display:

Setup Mode
Billing Destination.
RS232 or HDLC <H>

- 4-115. Depress R and ENTER to select the RS232 as the destination for the BILLING INFORMATION. Depress H and ENTER to select the hard drive as the destination for the BILLING INFORMATION. The screen will display:

Setup Mode
Out of Date Function
Killdates Enable <Y>

- 4-116. Depress Y and ENTER to enable the KILLDATES function. Depress N and ENTER to disable the KILLDATES function. If the KILLDATES function is disabled, the following display will not be presented. If the KILLDATES is enabled, the screen will display:

Setup Mode
Out of Date Function
Allow Play <N>

- 4-117. Depress Y and ENTER to allow the playing of out of date material. Depress N and ENTER to not allow the playing of out of date material. The screen will display:

Setup Mode
Diagnostic Aids
Play Bad CRC <Y>

- 4-118. Depress Y and ENTER to allow disks with a CRC error to play.
Depress N and ENTER to show coded errors on the display and prevent play when bad data is read. The screen will display:

Setup Mode
Diagnostic Aids
Mute Bad CRC <Y>

- 4-119. Depress Y and ENTER to enable the function and select audio mute to minimize the effects of CRC errors when present and play bad CRC function is enabled.
Depress N and ENTER to disable the MUTE BAD CRC function. The screen will display:

Setup Mode
Diagnostic Aids
Coded Errors <N>

- 4-120. Depress Y and ENTER to display individual coded error messages.
Depress N and ENTER to display standard error code messages. The screen will display:

Setup Mode
Set Date and Time...
Year (0-99) <94>

- 4-121. Use the numeric keys to enter the correct YEAR and depress ENTER. Alternatively, use the up and down cursor keys to review and select the correct YEAR and depress ENTER. The screen will display:

Setup Mode
Set Date and Time...
Month (1-12) <09>

- 4-122. Use the numeric keys to enter the correct MONTH and depress ENTER. Alternatively, use the up and down cursor keys to the correct MONTH and depress ENTER. The screen will display:

Setup Mode
Set Date and Time...
Date (1-31) <09>

- 4-123. Use the numeric keys to enter the correct DATE and depress ENTER. Alternatively, use the up and down cursor keys to review and select the correct DATE and depress ENTER. The screen will display:

```
Setup Mode
Set Date and Time...
Day of Week      <Mo>
```

- 4-124. Use the numeric keys (1-7) to select the correct DAY OF WEEK and depress ENTER. Alternatively, use the up and down cursor keys to review and select the correct DAY OF WEEK and depress ENTER. The screen will display:

```
Setup Mode
Set Date and Time...
Hour (0-23)      <15>
```

- 4-125. Use the numeric keys to enter the correct HOUR and depress ENTER. Alternatively, use the up and down cursor keys to review and select the correct HOUR and depress ENTER. The screen will display:

```
Setup Mode
Set Date and Time...
Minute (0-59)    <50>
```

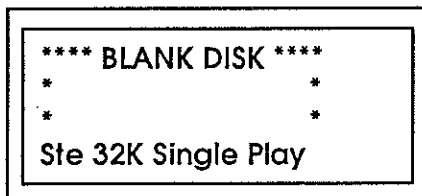
- 4-126. Use the numeric keys to enter the correct MINUTE and depress ENTER. Alternatively, use the up and down cursor keys to review and select the correct MINUTE and depress ENTER.

- 4-127. To review and re-assign SETUP options, depress the Page Up key. The review must be done before the last ENTER and the Diagnostic Routine performs.

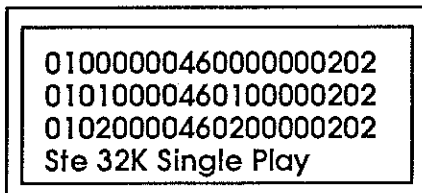
- 4-128. The machine now performs a DIAGNOSTIC ROUTINE as described in SECTION III, OPERATION. The LCD will display:

```
BE DISC TRAK v1. 42
Tu 10/11/94 15: 07: 37
Power On          4hrs
Memory Check 5 0 6. 0K
```

- 4-129. At the end of the diagnostic routine, with the coded errors function disabled the machine LCD display will present:



- 4-130. At the end of the diagnostic routine, with coded errors function enabled and a blank disk is used in each drive the machine LCD display will present:



- 4-131. The SETUP mode can be terminated at any time by depressing the ESC key. If SETUP is terminated, all changes performed during SETUP will be saved. All other parameters will be retained.

4-132. SUMMARY OF ALL EDIT FACILITIES.

KEY	FUNCTION
F1	ENTER EDIT ENVIRONMENT.
F2	QUICK RECORD MODE.
ALT-F2	FULL RECORD MODE.
F3	PLAYBACK.
ALT-F3	PLAYBACK LAST 10 SECONDS.
F4	INSERT TERTIARY CUES DURING PLAYBACK.
ALT-F4	INSERT SECONDARY CUE DURING PLAYBACK.
F5	EDIT START OFFSET.
ALT-F5	EDIT END OFFSET.
F6	EDIT TITLE AND OUTCUE.
ALT-F6	EDIT SECONDARY CUE, BILLING AND KILLDATE
F7	UPDATE DISK WITH EDIT CHANGES.
ALT-F7	CLEAR EDIT MEMORY.
F8	COPY TRACK.
ALT-F8	COPY DISK.
F9	ERASE TRACK AND SKIP A TRACK.
ALT-F9	ERASE DISK.
F10	FORMAT DISK.
ALT-F10	SET-UP.

SUMMARY OF FACTORY DEFAULT SETTINGS.

ANALOGUE. <A>	ENABLE: SINGLE PLAY
STEREO <S>	ROTATING TRACK <N>
32K SAMPLING. <32>	POWER ON SINGLE PLAY
MANUAL START. <M>	SHOW STATUS <Y>
-41 dB THRESHOLD.	SHOW OUTCUE <N>
1.5 SEC. SECONDARY 1.5	HARD DISK <N>
METER LEVEL 11.	BAUD RATE <9600>
RESET TRK COUNT <N>	PARITY <NONE>
RECORD OVERWRITE <N>	BILLING <Y>
EDIT TIME OUT 0 MIN.	RS232-HDLC <R>
ENABLE: LOOP	KILLDATES <Y>
SEQUENCE	ALLOW PLAY <N>
SEQUENCE LOOP	PLAY BAD CRC <Y>
CUE NEXT TRACK	MUTE BAD CRC <Y>
CUE ALL TRACKS	CODED ERRORS <N>
PLAY ALL	

SECTION V

SPECIFICATIONS

- 5-1. **MEDIUM.**
TYPE – Optimally formatted low cost 3.5" ED or HD type floppy disks.
RUNNING TIME – 112 seconds stereo, 224 seconds mono per disk at 32KHz sample rate using an ED diskette.
- 5-2. **EQUIPMENT.**
FORMAT – 16 bit linear, compressed digital stereo.
COMPRESSION – APT-X100. 4:1 Compression.
- 5-3. **AUDIO**
- | | |
|-----------------------|----------------------------------------|
| INPUT IMPEDANCE | Greater Than 10k Ohms |
| MAX. INPUT LEVEL | +16dBu |
| FREQUENCY RESPONSE | ± 0.5 dB, 40Hz –15KHz |
| DISTORTION | Less Than 0.1% At 1KHz, +10 dBu Output |
| SIGNAL TO NOISE RATIO | 80 dB |
| WOW AND FLUTTER | Unmeasurable |
| PHASE ERROR @ 10KHz | Unmeasurable |
| OUTPUT IMPEDANCE | Less Than 50 Ohms Balance/Floating |
| MAX. OUTPUT LEVEL | +16 dBu |
- 5-4. **DIGITAL OUTPUTS**
AES-EBU PROFESSIONAL MODE IEC 958.
- 5-5. **H.D.L.C.**
HIGH LEVEL DATA LINK CONTROL.
BI-DIRECTIONAL DATA LINK.
- 5-6. **FACILITIES.**
DATA LABEL – 25 characters routed to RS232 when playing.
SAMPLING RATE – 22.05KHz, 32KHz, 44.1KHz, 48KHz by selection.
- 5-7. **AC POWER REQUIREMENTS**
115V 60Hz fused 500mA.
220V 50Hz fused 250mA.
240V 50Hz fused 250mA.
40 VA nominal.
- 5-8. **CONNECTOR.**
Fused IEC.
- 5-9. **DIMENSIONS.**
6.5 inches HIGH x 5.5 inches WIDE x 12 inches DEEP.
16.5cm x 14.0cm x 30.0cm.
- 5-10. **WEIGHT.**
11.0 pounds unpacked
5.0 kg unpacked.

5-11. **RACK MOUNTING.**

3 DC 300 units require 4 rack units of a standard 19 inch EIA rack (BE P/N 954-1300).

SECTION VI
APPENDIX A
DISC TRAK FORMAT (c) 1991

- 6-1. The following text provides information for the DISC TRAK digital cart machine format coding. The information presented is copyrighted by SONIFEX LTD and is released subject to formal acknowledgement when used in commercial applications.
- 6-2. **FORMAT OF DISKS FOR DISCART**
1. ED 4MB DISKS – 80 Tracks per side, 11 Sectors per Track, 2048 Bytes per Sector. (Track 0 Side 0, 36 Sectors per Track, 512 Bytes per Sector).
 2. HD 2MB DISKS – 80 Tracks per side, 5 Sectors per Track, 2048 Bytes per Sector. (Track 0 Side 0, 18 Sectors per Track, 512 Bytes per Sector).
 3. GAP3 SIZE – 83 Bytes for 4MB & 2MB disks.
 4. HEADER TRACK – Track 0, Side 0. The header is contained in the first two sectors and audio data starts in track 0 side 1.
 5. HEADER FORMAT–Header information uses 1024 Bytes arranged as follows :

Byte(s)	Definition
0	Compression System 01=APT4:1 +128 If Non-Autosync 02=APT 12:1
1	Number of Plays on disk (0-8)
2	Number of Bad Tracks (0=OK, otherwise an error)
3	Format Version (1=old, 2=new)
4	Keydisk (0=no, 255=yes)
5	Reserved
6	Rotating Track Pointer
7	Number of skipped tracks, 0 to 8.
8-15	Reserved
16-141	Play 1 Information
142-267	Play 2 Information
268-393	Play 3 Information
394-519	Play 4 Information
520-645	Play 5 Information
646-771	Play 6 Information
772-897	Play 7 Information
898-1023	Play 8 Information

6. **PLAY INFORMATION**– Each play uses 126 Bytes arranged as follows:

Byte(s)	Definition
0	Start Track (1-159)
1	Start Sector (2MB 1-5,4MB 1-11)
2	End Track
3	End Sector (2MB 1-5,4MB 1-11)
4-16	Title
17	Reserved
18-21	Duration in 0.01 seconds

Byte(s)	Definition
22	Mono/Stereo Flag (0=mono, 255=stereo)
23	Frequency Flag (0=22KHz, 1=32KHz, 2=44KHz, 3=48KHz)
24-48	Billing Information (ASCII nul character to end)
49	Reserved
50-62	Outcue
63-65	Reserved
66-68	Killdate 1. dd/mm/yy (first date)
69	Reserved
70-72	Killdate 2.dd/mm/yy (last date)
73	Reserved
74-77	Cue 1 Start in 0.01 seconds
78-81	Cue 1 Finish in 0.01 seconds
82-85	Cue 2 Start in 0.01 seconds
86-89	Cue 2 Finish in 0.01 seconds
90-93	Cue 3 Start in 0.01 seconds
94-97	Cue 3 Finish in 0.01 seconds
98-101	Cue 4 Start in 0.01 seconds
102-105	Cue 4 Finish in 0.01 seconds
106-109	Cue 5 Start in 0.01 seconds
110-113	Cue 5 Finish in 0.01 seconds
114-117	Sec Cue Length
118	Start Offset (in 8 byte units from start sector)
119	End Offset (in 8 byte units from start sector)
120	Original un-edited start track.
121	Original un-edited start sector.
122	Original un-edited end track.
123	Original un-edited end sector.
124	Flag the Track to be Skipped
125	Reserved.
01 12 92	LAST REVISION.

SECTION VI

APPENDIX B

SCREEN MESSAGES

6-3. TITLE PAGE MESSAGES.

"BE DISC TRAK V1.42"
 "Record..Manual Start"
 "Record....Auto Start"
 "Digital Recording"
 "Audio Recording"
 "Full Record"
 "Quick Record"
 "Memory Check"
 "Power On 00000 HRS"

6-4. DISK MESSAGES.

"* *"

***** BLANK DISK *****

** DISK NOT READY 1 **

** DISK NOT READY 2 **

"DISK WRITE PROTECTED"

** DISK NOT READY 3 **

*** DISK ERROR 01 ***

*** DISK ERROR 02 ***

*** DISK ERROR 03 ***

*** DISK ERROR 04 ***

*** DISK ERROR 05 ***

*** DISK ERROR 06 ***

*** DISK ERROR 07 ***

*** DISK ERROR 08 ***

*** DISK ERROR 09 ***

***** DISK FULL *****

*** DISK ERROR 10 ***

*** DISK ERROR 11 ***

***DISK ERROR 12 ***

*** DISK ERROR 13 ***

** 1Mb INVALID DISK **

*** DISK ERROR 14 ***

*** DISK ERROR 15 ***

"OLD DISK - PLAY ONLY"

***DISK ERRO 16 ***

** COMPUTER DISK **

"ALL TRACKS SKIPPED"

DAMAGED DISK
 BAD COMPRESSION

TRACK 0 READ ERROR
 DISK READ ERROR
 DISK WRITE ERROR
 INTERRUPT TIME OUT
 FDC DISK CONTR. TIME OUT
 SEEK ERROR
 CRC ERROR
 DATA ERROR
 INVALID FORMAT
 FDC COMMAND ERROR

BUFFER OVERFLOW
 IDMA ERROR
 HEADER WRITE ERROR
 DISK ERROR

FORMATTING ERROR
 TRACK 0 WRITE ERROR

DART TYPE DISK

6-5. TEMPORARY ERROR MESSAGES.

"TRACK OUTDATED"

6-6. STATUS LINE MESSAGES.

"Ste"
"Mon"
"32k"
"22k"
"44k"
"48k"
"Single Play"
"Single Loop"
"Seq Play"
"Seq Loop"
"Cue Next Trk"
"Cue All Trks"
"Play All"
"HDX Play"
"Record Ready"
"Recording"
"Unused "
"Play back"
"Sel Ter "
"Sel Sec "
"S"
"T"
"Play Start"
"Play End"
"Play Loop"
"Play and Mark"
"Format Trk Side"
"Verify Trk Side"
"Press Play to Format"
"Track 0000"
"Title"
"Outcue"
"% Mb Disk Free"

6-7. DIALOGUE QUESTIONS.

"Erase Disk 1 <Y>"
"Format Disk 1 <Y> "
"Format All Disks <Y>"
"Erase Trk1 Disk1 <Y>"
"Skip Trk1 Disk 1 <Y>"
"Skip Trk1 Disk 1 <N>"
"Copy Trk1 Disk2 <Y>"
"Save Edits Disk1 <Y>"
"Clear Edit Memory<Y>"
"Set Tertiary Cues<Y>"
"Set Secondary Cue<Y>"
"Copy Disk 1-2 <Y>"
"Copy Disk 1-3 <Y>"
"Copy Disk 1-2-3 <Y>"
"Enter Title of Play "
"Audio or Digital <A>"
"Audio or Digital <D>"

DIALOGUE QUESTIONS (CON'T).

"Sample Freq KHz <22>"
"Sample Freq KHz <32>"
"Sample Freq KHz <44>"
"Sample Freq KHz <48>"
"Mono or Stereo <M>"
"Mono or Stereo <S>"
"Auto/Manual start<M>"
"Auto/Manual start<A>"
"Sec Cue in secs"
"Loop"
"Enter Billing Data :"
"Enter First Date in"
"Enter Last Date in"
"ddmmyy < None>"
"Start Offset..."
"000.000"
"End Offset....."
"000.000"

6-8. DIALOG ANSWERS.

"YyNn"
"AaDd"
"MmSs"
"AaMm"
"MoTuWeThFrSaSu"

6-9. SETUP QUESTIONS.

" Setup Mode"
"Set Date and Time..."
"Set Record Defaults."
"Auto Threshold -41dB"
"Auto Threshold -35dB"
"Auto Threshold -29dB"
"Auto Threshold -23dB"
"Auto Threshold -17dB"
"Reset Track Count <N>"
"Reset Track Count <Y>"
"Track I.D. Letter A"
"Record Overwrite <N>"
"Record Overwrite <Y>"
"Edit Timeout 0 Mins"
"Enable"
"Disable"
"Devices Connected..."
"Hard Disk Fitted <N>"
"Hard Disk Fitted <Y>"
"Select Play Modes..."
"Switch On Default..."
"Single Play Mode "
"Single Loop Mode "
"Seq Play Mode"

SETUP QUESTIONS (CON'T).

"Seq Loop Mode"
"Cue Next Trk Mode "
" Cue All Trks Mode "
" Play All Mode"
"Rotating Track <N>"
"Rotating Track <Y>"
"Show Status Line <N>"
"Show Status Line <Y>"
"Show Outcue <Y>"
"Show Outcue <N>"
"Set RS232 parameters"
"Baud Rate <1200>"
"Baud Rate <2400>"
"Baud Rate <4800>"
"Baud Rate <9600>"
"Parity Bit <Odd>"
"Parity Bit <None>"
"Parity Bit <Even>"
"Billing Destination."
"Send Billing <N>"
"Send Billing <Y>"
"RS232 or HDLC <R>"
"RS232 or HDLC <H>"
"Out Of Date Function"
"Killdate Enable <N>"
"Killdate Enable <Y>"
"Allow Play <Y>"
"Allow Play <N> "
"Diagnostic Aids"
"Play Bad CRC <N>"
"Play Bad CRC <Y>"
"Mute Bad CRC <N>"
"Mute Bad CRC <Y>"
"Meter 0dB Level: 11"

6-10. SETUP ANSWERS.

"RrHh"

6-11. POWER ON SETUP MESSAGES.

" Setup Routines "
"Recue=Step Select=OK"
"Day of Week"
"<Mo>"
"Date (1-31)"
" <01> "
"Month (1-12)"
" <01> "
"Year (0-99)"
" <92> "

POWER ON SETUP MESSAGES (CON'T).

"Hour (0-23)"

"<00>,"

"Minute (0-59)"

"<00>"

6-12. ERROR MESSAGES FOR EDIT ENVIRONMENT.

"Edit Environment"

"Invalid Source Drive"

"Source Drive Error"

"Invalid Trk Number"

"Invalid Copy Drive"

"Copy Drive Error"

"Copy Space too Small"

"Source Not Ready"

"Copy Drive Not Ready"

"Invalid Trk Data"

"Disk Write Protected"

"Cannot Copy Itself"

"Different Size Disks"

"Disk Full"

"Frequency too High"

"No Trk Data to edit "

"other error"

"Old Disk-Play Only"

SECTION VI

APPENDIX C

RS232 INTERFACE

- 6-13. RS232 commands have been implemented to allow a remote device to control a DISC TRAK.
- 6-14. The RS232 port must be set to 8 DATA bits and 1 STOP bit. The BAUD rate is selectable from 9600, 4800, 2400 and 1200. The PARITY can be set to EVEN, ODD, or NONE.
- 6-15. The commands: 1) contain 2 uppercase characters plus argument or data as applicable and 2) are terminated by a NUL character.
- 6-16. The billing information is output and external device when the confirmation bit is routed to the remote port. The control features must be enabled by requesting the machine identification.

6-17. COMMANDS TO DISC TRAK.

GPn REQUEST PLAY INFORMATION FROM DISK
 DESIGNATED BY n (Value 1- 7).
 SET BIT 0 = DRIVE 1
 SET BIT 1 = DRIVE 2
 SET BIT 2 = DRIVE 3

GS REQUEST STATUS FROM DISCART.

ID REQUEST MACHINE IDENTIFICATION.

MA SELECT PLAY ALL MODE.

ML SELECT SINGLE LOOP MODE.

MN SELECT CUE TO NEXT TRACK MODE.

MP SELECT SINGLE PLAY MODE.

MQ SELECT CUE ALL TRACKS MODE *.

MR SELECT SEQUENCE LOOP (REPEAT) MODE *.

MS SELECT SEQUENCE MODE *.

PLd PLAY/PAUSE CUED TRACK DRIVE 1- 3.
 d = ASCII 1- 3 (Value 49, 50, 51)

ST STOP PLAY.

TRdt SELECT TRACK t ON DISK DRIVE d.
 t = ASCII 1- 8 (Value 49 - 56)
 d = ASCII 1- 3 (Value 49 - 51)
 *NOT AVAILABLE ON DC 10

6-18. DATA FROM DISC TRAK

DXabc DISC TRAK IDENTIFICATION.
 {10
 abc= {30
 {300

PI dt + data PLAY INFORMATION REQUESTED BY 'GP' COMMAND.
 d = DRIVE 1- 3
 t = NUMBER OF TRACKS 0 - 8
 data is 20 BYTES PER TRACK
 13 BYTES FOR TITLE
 6 BYTES FOR DURATION IN 1/100 SECONDS (999999 MAX)

DATA FROM DISC TRAK (CON'T).

SB + data	BILLING INFORMATION. data is mm:hh DD/MM/YY BILLING INFORMATION = UP TO 40 CHARACTERS PROGRAMMED DURING RECORD
SI + data	STATUS INFORMATION. data BYTES: MACHINE MODE EDIT ERROR PLAY STATUS DISK 1 STATUS DISK 2 STATUS DISK 3 STATUS

MACHINE MODE

HEX VALUE

10	PLAYING DRIVE 1
11	PLAYING DRIVE 2
12	PLAYING DRIVE 3
18	PAUSED DRIVE 1
19	PAUSED DRIVE 2
1A	PAUSED DRIVE 3
20	RECORD WAITING FOR START
21	RECORDING
80	EDIT ENVIRONMENT
90	PLAYBACK RECORDED TRACK
91	PLAYBACK LAST 10 SECONDS
92	PLAYBACK AND SET TERTIARY CUES
93	PLAYBACK LAST 10 SECONDS AND SET SECONDARY CUE
98	PLAYSTART
99	PLAY END
9A	PLAY AND MARK
9B	PLAY LOOP
FF	STANDBY MODE

EDIT ERROR

HEX VALUE

01	NO ERROR	(ALWAYS FOR DC 10)
02	INVALID SOURCE DRIVE	
03	SOURCE DRIVE ERROR	
04	INVALID TRACK NUMBER	
05	INVALID COPY DRIVE	
06	COPY DRIVE ERROR	
07	COPY SPACE TOO SMALL	
08	SOURCE NOT READY	
09	COPY DRIVE NOT READY	
0A	INVALID TRACK DATA	
0B	DISK WRITE PROTECTED	
0C	CANNOT COPY TO ITSELF	
0D	DIFFERENT SIZE DISKS	
0E	DISK FULL	
0F	FREQUENCY TOO HIGH	

EDIT ERROR (CON'T).

HEX VALUE

10	NO TRACK DATA TO EDIT
11	OTHER ERROR

PLAY STATUS

BITS 1, 0 = FREQUENCY	
00	= 22.05KHz SAMPLE FREQUENCY
01	= 32KHz SAMPLE FREQUENCY
10	= 44.1KHz SAMPLE FREQUENCY
11	= 48KHz SAMPLE FREQUENCY
BIT 2 = STEREO/MONO	
0	= MONO
1	= STEREO
BITS 7, 6, 5 = PLAY MODE	
001	= SINGLE PLAY
010	= SINGLE LOOP
011	= SEQUENCE
100	= SEQUENCE LOOP
101	= CUE NEXT TRACK
110	= CUE ALL TRACKS
111	= PLAY ALL

DISK STATUS

BITS 7 - 4	= 0001-1000 NUMBER OF PLAYS
BITS 3 - 0	= 0001-1000 SELECTED TRACK
IF BITS 7, 6 = 11, BITS 4 - 0	= ERROR NUMBER (0 -31)

ERROR NUMBER

0	NO DISPLAY
1	BLANK DISK
2	DISK NOT READY 1
3	DISK NOT READY 2
4	DISK WRITE PROTECTED
5	DISK NOT READY 3
6	DISK ERROR 01
7	DISK ERROR 02
8	DISK ERROR 03
9	DISK ERROR 04
10	DISK ERROR 05
11	DISK ERROR 06
12	DISK ERROR 07
13	DISK ERROR 08
14	DISK ERROR 09
15	DISK FULL
16	DISK ERROR 10
17	DISK ERROR 11
18	DISK ERROR 12
19	DISK ERROR 13
20	1MB INVALID DISK
21	DISK ERROR 14
22	DISK ERROR 15

DISK STATUS (CON'T).

ERROR NUMBER

23	OLD DISK – PLAY ONLY
24	DISK ERROR 16
25	COMPUTER DISK
26	ALL TRACKS SKIPPED

SECTION VII

FAULT MODES AND ERROR CORRECTION

- 7-1. The disks should not be removed from the equipment during play or read operation. Read operation is when the disk operating indicator is illuminated.
- 7-2. In the event of an equipment LOCK-UP due to a fault, the equipment may be reset by disconnecting primary AC power supply.
- 7-3. Equipment LOCK-UP can be cleared from the front panel by depressing the three PLAY buttons simultaneously.
- 7-4. Software versions prior to V1.3 use an autosync facility of the APT-X encoder. Limitations in the speed of access and product compatibility have required a change at version V1.3 to non-autosync operation. This produces very tight editing capability and segueway (sequencing) operation.
- 7-5. Disks recorded on version V1.0 , V1.1 and V1.2 will PLAY on the V1.3 machine and V1.42 with no adverse effect.
- 7-6. Disks recorded on versions prior to V1.3 can not be edited or have additional tracks recorded by any version V1.42 machine with the exception of ERASE and FORMAT.
- 7-7. If the screen message "Old Disk -- Play Only" is observed when a previously recorded disk is loaded into a version V1.42 machine, the tracks of that disk can be copied to a new disk which has been formatted on the version V1.42 machine. This will produce a new disk which can be edited if required.
- 7-8. The method of copying tracks is provided in SECTION IV, ADVANCED EDITING OPERATIONS. Refer to SECTION IV and the COPY TRACK F8 procedures as required.

SECTION VIII

PARTS LIST AND DRAWINGS

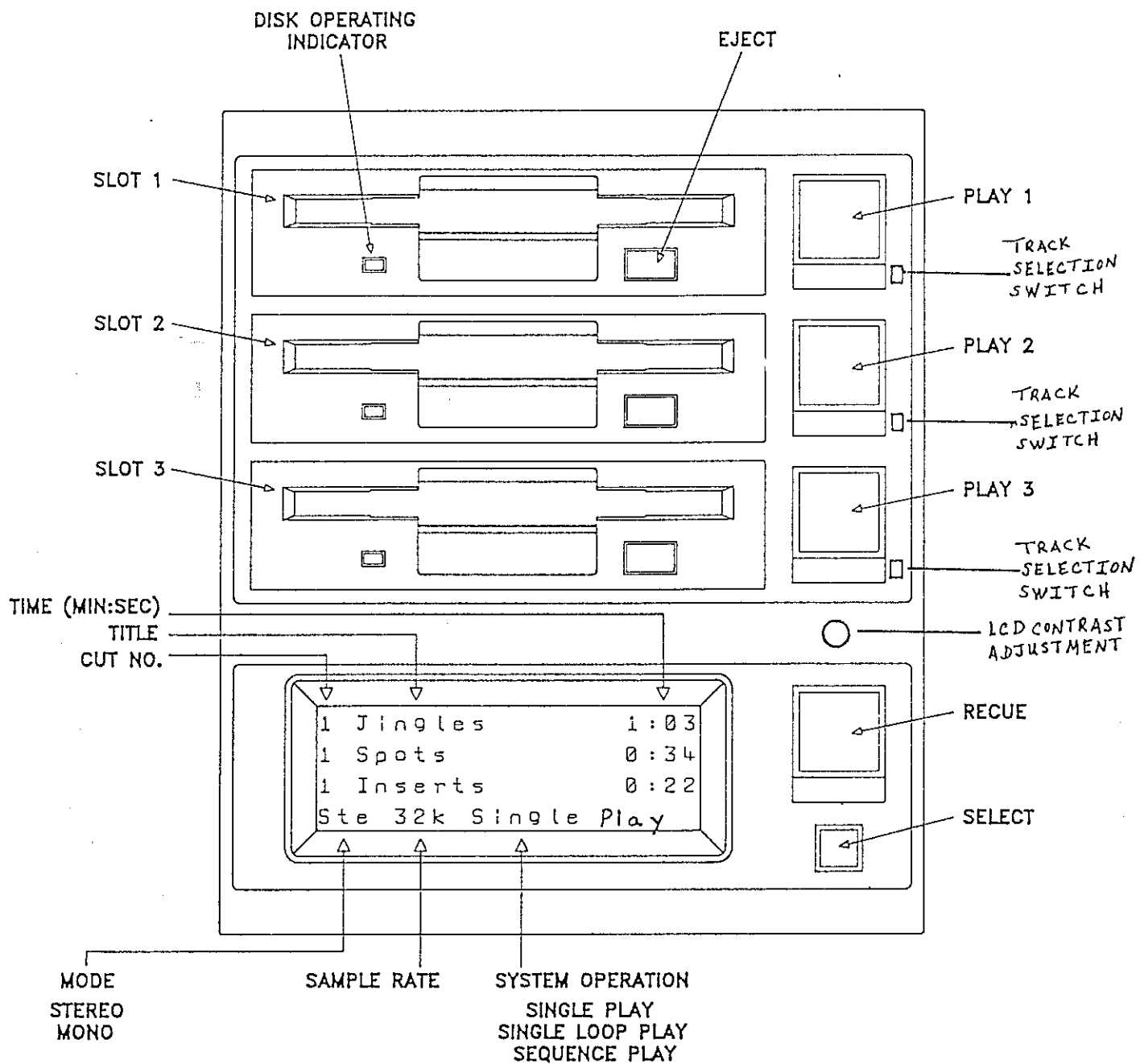
- 8-1. INTRODUCTION.
- 8-2. This section provides parts lists and drawings for the Broadcast Electronics DC-300/DC-30 Digital Cart Machine. The parts lists provide descriptions and part numbers of electrical components, assemblies, and selected mechanical parts required for maintenance. Each parts list entry in this section is indexed by reference designators appearing on the applicable schematic diagrams.
- 8-3. Table 8 presents the parts lists and drawings contained in the section. The section is organized by assemblies. Each assembly contains all applicable drawings and parts lists.

TABLE 8. PARTS LISTS AND DRAWINGS
(Sheet 1 of 2)

ASSEMBLY	DESCRIPTION	PART NO.
OVERALL ASSEMBLY		
FIGURE 8-1.	DISC TRAK CONTROLS	597-1300-1
FIGURE 8-1A.	4 MB AND 2 MB DISK	597-1300-2
FIGURE 8-1B.	DISC TRAK DC-300 MECHANICAL DETAIL SIDE ELEVATION - DECODER	597-1300-3
FIGURE 8-1C.	DISC TRAK DC-300 MECHANICAL DETAIL TOP ELEVATION	597-1300-4
FIGURE 8-1D.	DISC TRAK DC-300 MECHANICAL DETAIL BOTTOM ELEVATION - ENCODER	597-1300-5
FIGURE 8-1E.	DISC TRAK DC-300 MECHANICAL DETAIL REAR PANEL	597-1300-6
FIGURE 8-1F.	REMOTE BOX DC-300 - CONNECTIONS TO 15 WAY REMOTE DISC TRAK	597-1300-7
TABLE 8-1.	PARTS LIST, DISC TRAK DC-300	904-1300
TABLE 8-1A.	DISC TRAK DC-30	904-1030
TABLE 8-1B.	BASIC UNIT DC-300	904-1300-010
TABLE 8-1C.	BASIC UNIT DC-30	904-1030-010
TABLE 8-1D.	MAIN CABLE ASSEMBLY, DC-300	944-1300
ENCODER CIRCUIT BOARD ASSEMBLY		
FIGURE 8-2.	SCHEMATIC DIAGRAM, ENCODER CIRCUIT BOARD	SB914-0202
FIGURE 8-2A.	ASSEMBLY DIAGRAM, ENCODER CIRCUIT BOARD	AA914-0202
TABLE 8-2.	PARTS LIST, ENCODER CIRCUIT BOARD ASSEMBLY	914-0202
TABLE 8-2A.	PARTS LIST, CABLE INTERLINK CIRCUIT BOARD ASSEMBLY	944-0251

TABLE 8. PARTS LISTS AND DRAWINGS
(Sheet 1 of 2)

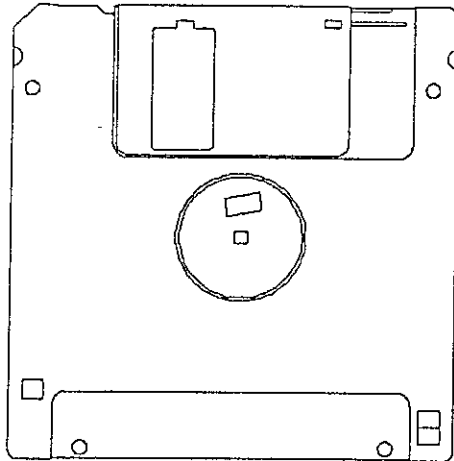
ASSEMBLY	DESCRIPTION	PART NO.
POWER SUPPLY CIRCUIT BOARD ASSEMBLY		
FIGURE 8-3.	SCHEMATIC DIAGRAM, POWER SUPPLY CIRCUIT BOARD	SB914-0302
FIGURE 8-3A.	ASSEMBLY DIAGRAM, POWER SUPPLY CIRCUIT BOARD	AA914-0302
TABLE 8-3.	PARTS LIST, POWER SUPPLY CIRCUIT BOARD ASSEMBLY	914-0302
AUDIO OUTPUT TRANSFORMER CIRCUIT BOARD ASSEMBLY		
FIGURE 8-4.	SCHEMATIC DIAGRAM, AUDIO OUTPUT TRANSFORMER CIRCUIT BOARD	SB914-0402
FIGURE 8-4A.	ASSEMBLY DIAGRAM, AUDIO OUTPUT TRANSFORMER CIRCUIT BOARD	AA914-0402
TABLE 8-4.	PARTS LIST, AUDIO OUTPUT TRANSFORMER CIRCUIT BOARD ASSEMBLY	914-0402
TABLE 8-4A.	PARTS LIST, OUTPUT TRANSFORMER CABLE CIRCUIT BOARD ASSEMBLY	944-0231
RECORD CIRCUIT BOARD ASSEMBLY		
FIGURE 8-5.	SCHEMATIC DIAGRAM, RECORD CIRCUIT BOARD	SB914-0102-061
FIGURE 8-5A.	ASSEMBLY DIAGRAM, RECORD CIRCUIT BOARD	AB914-0102-061
TABLE 8-5.	PARTS LIST, RECORD CIRCUIT BOARD ASSEMBLY	914-0102-061
FIGURE 8-5B.	ASSEMBLY DIAGRAM, PLAYER CIRCUIT BOARD	AB914-0102-060
TABLE 8-5A.	PARTS LIST, PLAYER CIRCUIT BOARD ASSEMBLY	914-0102-060
MODIFIED SWITCH CIRCUIT BOARD ASSEMBLY		
FIGURE 8-6.	SCHEMATIC DIAGRAM, MODIFIED SWITCH CIRCUIT BOARD	SB914-1002
FIGURE 8-6A.	ASSEMBLY DIAGRAM, MODIFIED SWITCH CIRCUIT BOARD	AA914-1002
TABLE 8-6.	PARTS LIST, MODIFIED SWITCH CIRCUIT BOARD ASSEMBLY	914-1002
CABLE ASSEMBLY, LCD POT		
TABLE 8-7.	PARTS LIST, CABLE ASSEMBLY, LCD POT	944-0241



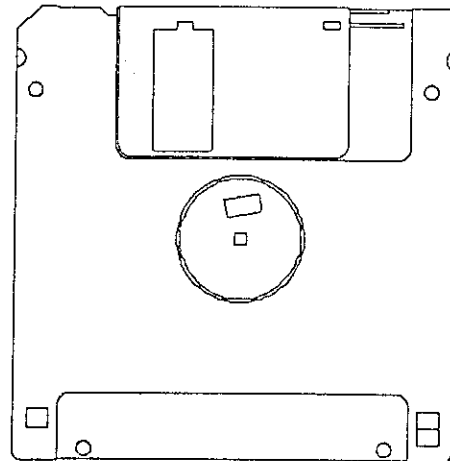
597-1300-1

FIGURE 8-1. DISC TRAK CONTROLS

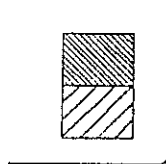
4MB DISKETTE



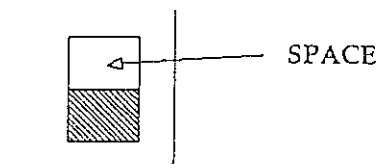
2MB DISKETTE



WRITE
UNPROTECTED

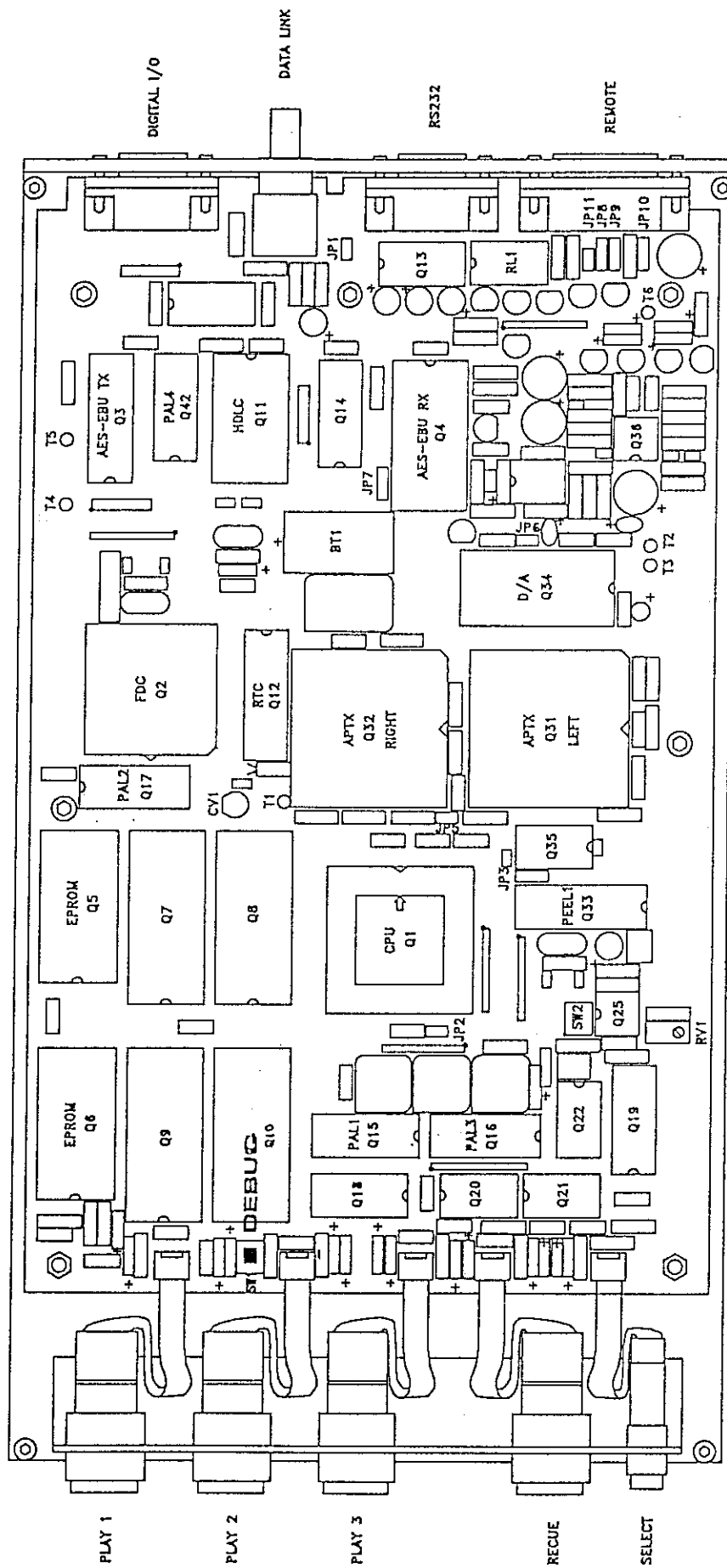


WRITE
PROTECTED



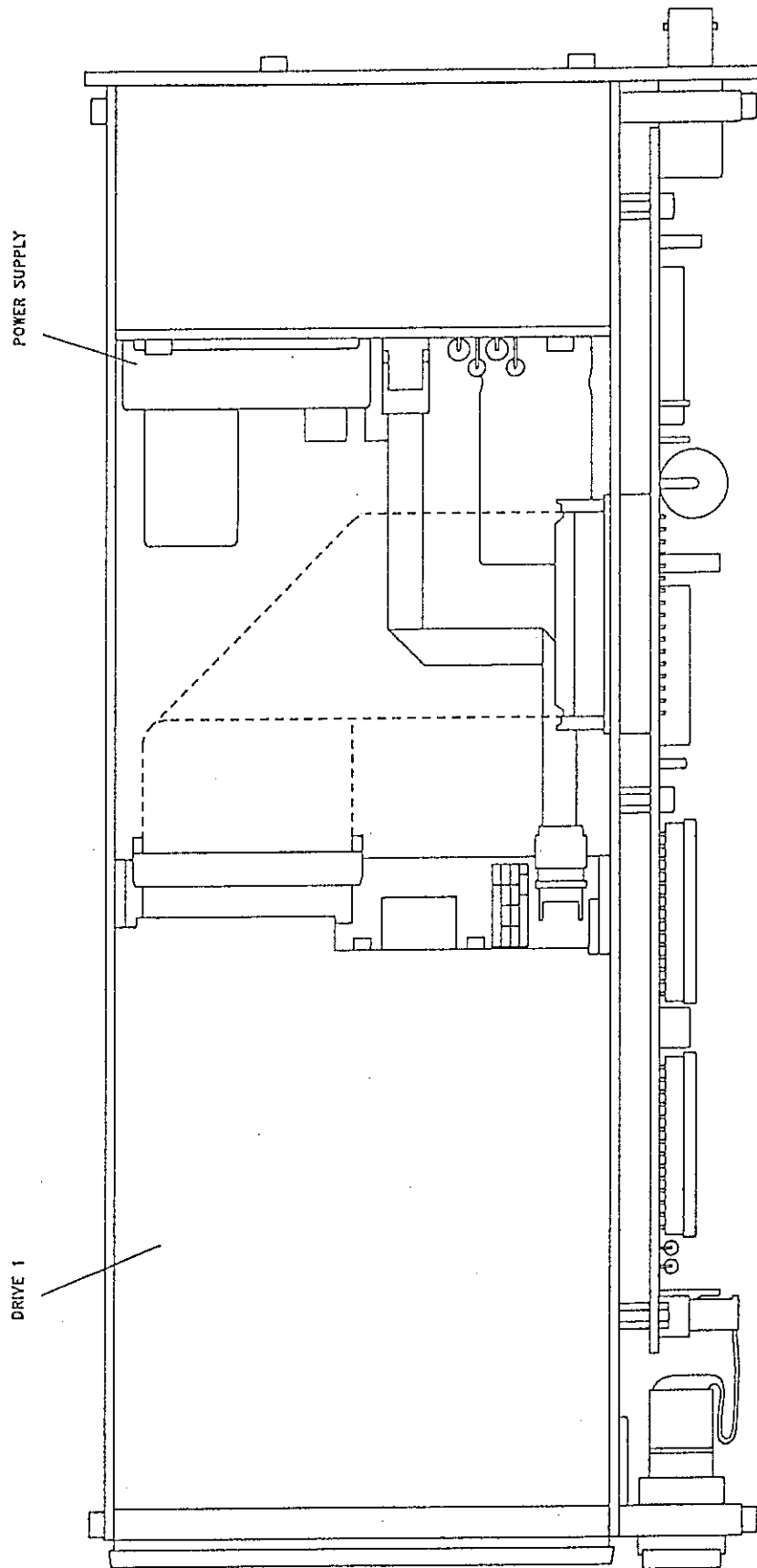
597-1300-2

FIGURE 8-1A. 4MB AND 2MB DISK



597-1300-3

FIGURE 8-1B. DISC TRAK DC-300 MECHANICAL DETAIL SIDE ELEVATION - DECODER



597-1300-4

FIGURE 8-1C. DISC TRAK DC-300 MECHANICAL DETAIL TOP ELEVATION

Jumper Connection Data

Player 914-0102-060 PCB AND Record 914-0102-061 PCB

SW1

Debug Push-Switch

SW2

Reset Push-Switch

JP1, JP2, JP6 and JP7 are not required.

JP3



Normal Operation



Install as shown to encode data direct to de-code, bypassing main CPU. For test only.

JP5



Install for non-autosync operation. Software V1.3 and onwards.



Remove for software V1.2 and before.

Default:

JP8-JP11 govern remote cue functionality:

JP11



Sets JP8 - JP10 as Sec Cue, Ter Cue A and Ter Cue B respectively.

JP8



Sec Cue assign Pin 13

JP9



Ter Cue A assign Pin 14

JP10



Ter cue B assign Pin 15

OR:

JP11



Sets JP8-JP10 as Sec Cue 1 - 3 respectively.

JP8



Sec Cue 1 assign Pin 13

JP9



Sec Cue 2 assign Pin 14

J10



Sec Cue 3 assign Pin 15

Note for JP8-JP11: All jumpers must be together on one side or the other. Combinations of jumper connections may give spurious results.

Encoder 914-0202 PCB

JP1 and JP2 are linked permanently for audio hum reduction.

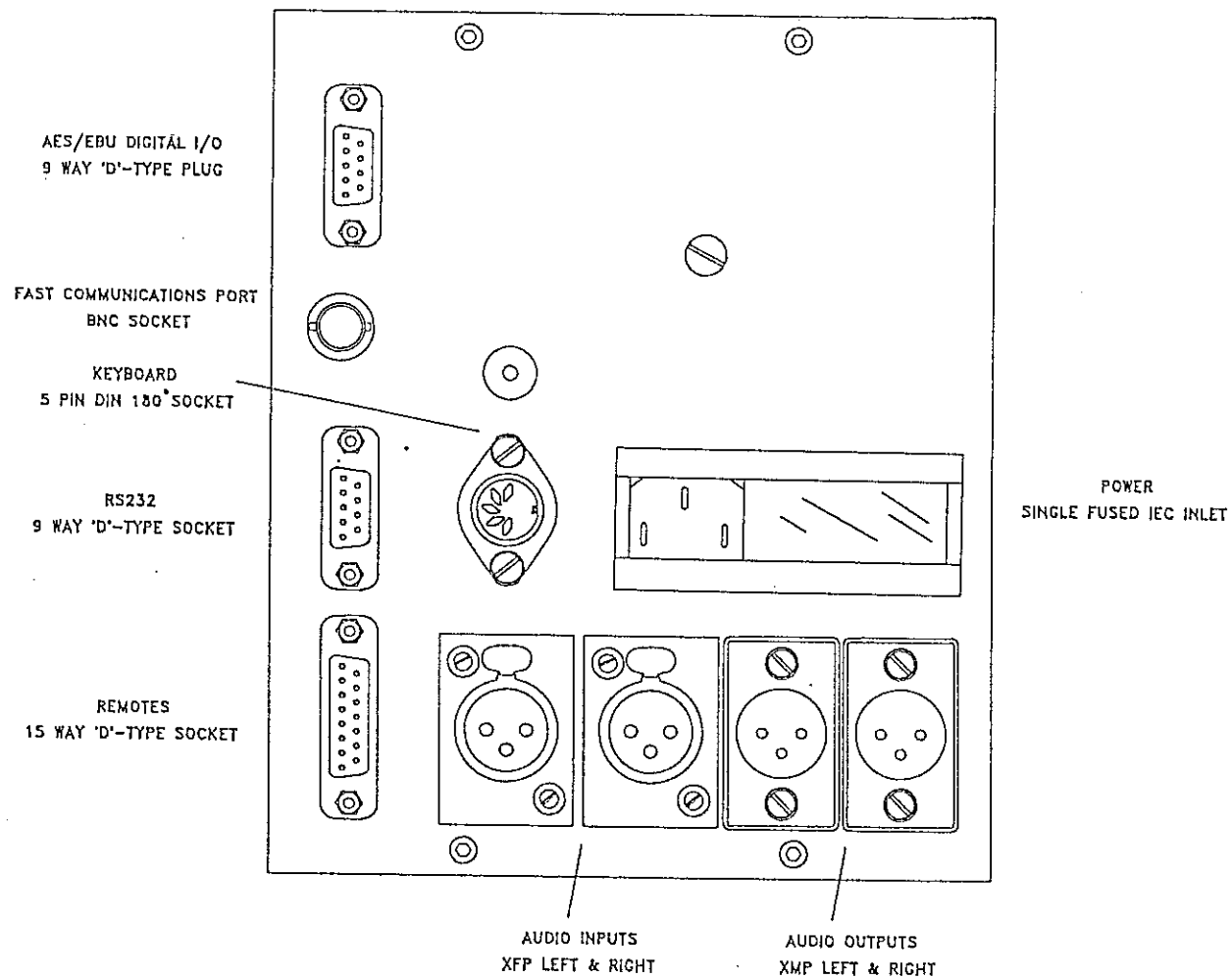
JP3 selects keyboard type:

No Connection – Normal Operation for XT keyboard supplied.

Connected – For future update to AT keyboard. Software V1.3 does not currently support AT keyboard input.

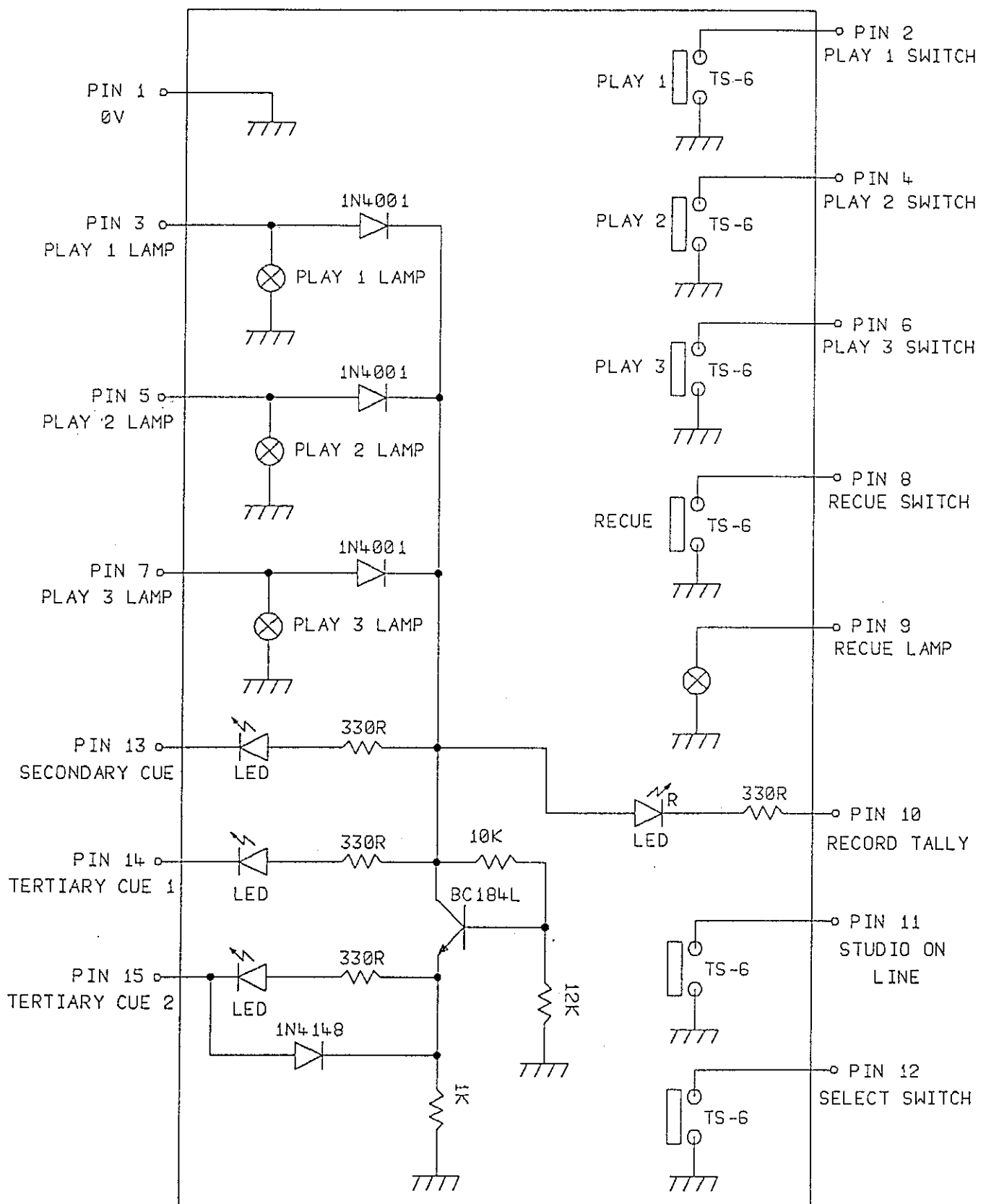
Power Supply 914-0302 PCB

JP1 is installed permanently for audio hum reduction.



597-1300-6

FIGURE 8-1E. DISC TRAK DC-300 MECHANICAL DETAIL REAR PANEL



597-1300-7

FIGURE 8-1F. REMOTE BOX DC-300 - CONNECTIONS TO 15 WAY REMOTE DISC TRAK

Remote Box DC-300

The remote box duplicates the front panel switches and indicators and provides power to drive LED'S via diode connection of the play indicator outputs.

Studio On Line Switch Pin 11:

Studio on line is an active low control line intended to enable data transmission from the DISC TRAK when playing on air. This line needs to be held low throughout play to enable the data output via the RS232 port.

Cue Outputs Pins 13, 14 & 15:

DX decoder boards version 04 and onwards have cue output configuration jumpers JP8, JP9, JP10 and JP11.

Option 1 Pin 13 Sec Cue Drive 1
 Pin 14 Sec Cue Drive 2
 Pin 15 Sec Cue Drive 3

Option 2 Pin 13 Sec Cue Any Drive
 Pin 14 Ter Cue Any Drive (Switched to Pin 15)
 Pin 15 Ter Cue

The transistor in the remote box automatically enables the cue LED'S to work with either option 1 or option 2. In option 2, the pin 14 LED illuminates, showing a tertiary output. The Pin 15 LED is bypassed by a diode and will not illuminate.

TABLE 8-1. DISC TRAK DC-300 - 904-1300

REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Label, Keyboard Overlay	471-1720	1
—	AC Line Cord, N.E.M.A. 3-Wire North American Plug	682-0001	1
—	Receptacle, Female, 3-Pin, XLR Type	829-4216	1
—	Plug, Male, 3-Pin, XLR Type	829-4217	1
—	Keyboard, Compact, 101 Key	804-0064	1
—	Floppy Disk, Prog, 2MB, 3.5 Size	970-1001	1
—	Disc Trak 30/300 Instruction Manual	597-1300-001	1
—	Basic Unit, DC-300	904-1300-010	1

TABLE 8-1A. DISC TRAK DC-30 - 904-1030

REF. DES.	DESCRIPTION	PART NO.	QTY.
—	AC Line Cord, N.E.M.A. 3-Wire North American Plug	682-0001	1
—	Receptacle, Female, 3-Pin, XLR Type	829-4216	1
—	Keyboard, Compact, 101 Key	804-0064	1
—	Basic Unit, DC-30	904-1030-010	1
—	Floppy Disk, Prog, 2MB, 3.5 Size	970-1001	1
—	Disc Trak 30/300 Instruction Manual	597-1300-001	1

TABLE 8-1B. BASIC UNIT DC-300 - 904-1300-010

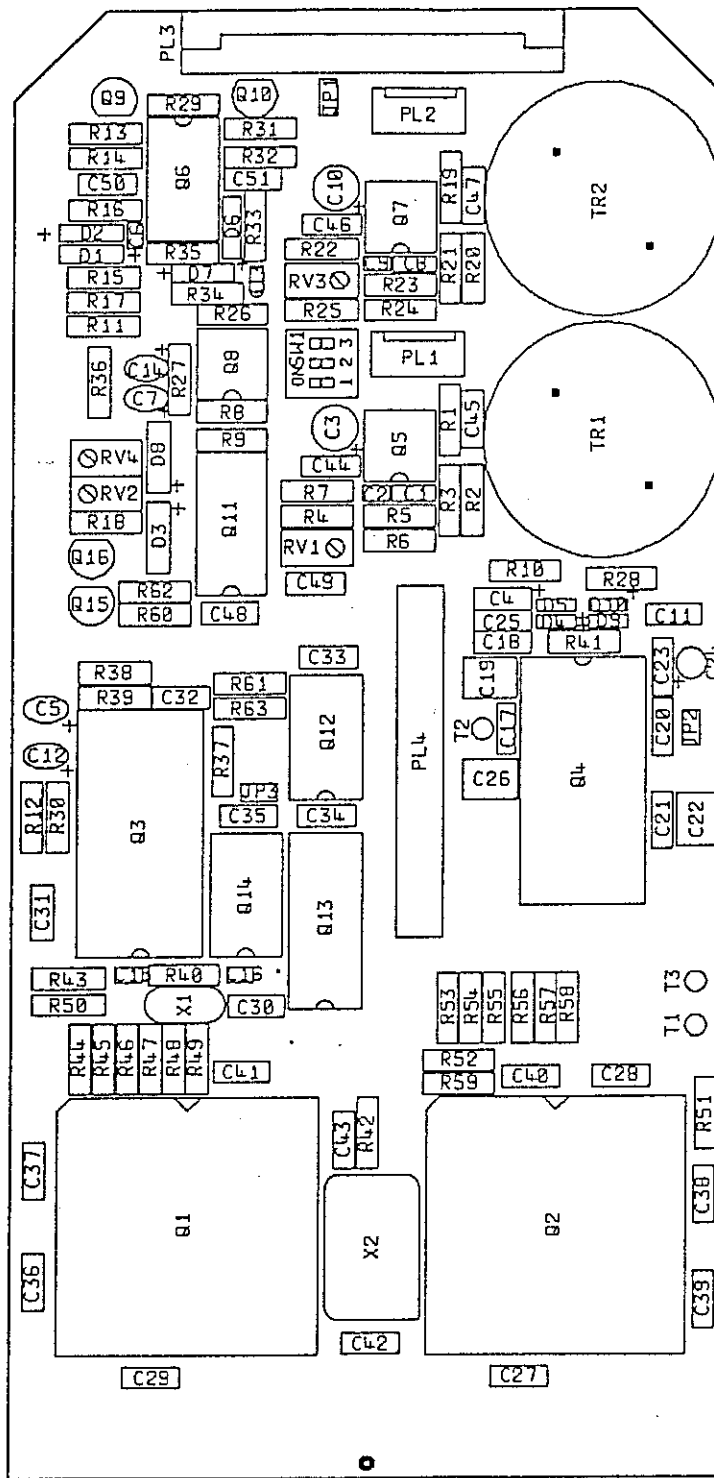
REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Fan, 12 V dc, 11.3 cu. ft/min. Air Flow, 32 dBA @ 1m Noise Level, 1.3W	380-0021	1
—	Connector, 3-Pin, IDT, .100" Center Connector	417-0503	1
—	Fuse, AGC, 1/2A, 250V, Slow-Blow	334-0050	1
—	Connector, Male, 6 Terminal	418-0046	1
—	Fused Power Connector/Voltage Selector/EMI Filter, 120/240V	360-6504	1
—	Display, LCD, 20 Characters X 4 Lines	320-0034	1
—	Connector, Circular Din Connectors, 5-Pin, Receptacle, Panel Mount	417-0248	1
—	Receptacle, Female, 3-Pin, XLR Type	829-4216	1
—	Receptacle, Male, 3-Pin, XLR Type	829-4213	1
—	Floppy Disk Drive, 3.5", 4mb	804-0113	1
—	Toroidal Transformer, Power Supply	370-3012	1
—	Main Cable Assembly, DC-300	944-1300	1
—	Encoder Circuit Board Assembly	914-0202	1
—	Power Supply Circuit Board Assembly	914-0302	1
—	Audio Output Transformer Circuit Board Assembly	914-0402	1
—	Record Circuit Board Assembly	914-0102-061	1
—	Modified Switch Circuit Board Assembly	914-1002	1

TABLE 8-1C. BASIC UNIT DC-30 - 904-1030-010

REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Display, LCD, 20 Characters X 4 Lines	320-0034	1
—	Fuse, AGC, 1/2A, 250V, Slow-Blow	334-0050	1
—	Fused Power Connector/Voltage Selector/EMI Filter, 120/240V	360-6504	1
—	Toroidal Transformer, Power Supply	370-3012	1
—	Fan, 12 V dc, 11.3 cu. ft/min. Air Flow, 32 dBA @ 1m Noise Level, 1.3W	380-0021	1
—	Connector, 3-Pin, IDT, .100" Center Connector	417-0503	1
—	Connector, Male, 6 Terminal	418-0046	1
—	Floppy Disk Drive, 3.5", 4mb	804-0113	1
—	Receptacle, Male, 3-Pin, XLR Type	829-4213	1
—	Player Circuit Board Assembly	914-0102-060	1
—	Power Supply Circuit Board Assembly	914-0302	1
—	Audio Output Transformer Circuit Board Assembly	914-0402	1
—	Modified Switch Circuit Board Assembly	914-1002	1
—	Main Cable Assembly, DC-30	944-1300	1

TABLE 8-1D. MAIN CABLE ASSEMBLY, DC-300 - 944-1300

REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Cable, Webbing, Flat, 16 Conductors, .100" Center Line	600-1600	1
—	Connector, 4-Pin, IDT	417-0504	4
—	Strain Relief for 417-3403 AMP, 34 Positions	417-3404	1
—	Cable Ribbon, 34 Conductors, AWG 28	600-0034	1
—	Connector, 16-Pin, IDT	417-0516	1
—	Connector, 3-Pin, IDT	417-0503	9
—	Cable Ribbon, 16 Conductor, 28 Gauge Stranded	600-0016	1
—	Socket, 34-Pin, Female Transition	417-3403	4
—	Connector, 5-Pin, IDT	417-0505	1



AA914-0202

FIGURE 8-2A. ASSEMBLY DIAGRAM,
ENCODER CIRCUIT BOARD

TABLE 8-2. ENCODER CIRCUIT BOARD ASSEMBLY - 914-0202
(Sheet 1 of 3)

REF. DES.	DESCRIPTION	PART NO.	QTY.
C1	Capacitor, Ceramic, 100 pF $\pm 2\%$, 100V	003-1063	1
C2	Capacitor, Ceramic Monolythic, 10 pF $\pm 5\%$, 100V	000-1013	1
C3	Capacitor, Electrolytic, 100 uF, 6.3V Radial Leaded	020-1086	1
C4	Capacitor, Monolythic Ceramic, 0.01 uF $\pm 5\%$, 100V	003-1013	1
C5	Capacitor, Tantalum Dipped, 4.7 uF, 35V	064-4763	1
C6	Capacitor, Ceramic Monolithic, 10 pF $\pm 5\%$, 100V	000-1013	1
C7	Capacitor, Tantalum, 1.0 uF, 35V	064-1063	1
C8	Capacitor, Ceramic, 100 pF, 100V $\pm 2\%$	003-1063	1
C9	Capacitor, Ceramic Monolythic, 10 pF $\pm 5\%$, 100V	000-1013	1
C10	Capacitor, Electrolytic 100 uF, 6.3V Radial Leaded	020-1086	1
C11	Capacitor, Monolythic Ceramic, 0.01 uF $\pm 5\%$, 100V	003-1013	1
C12	Capacitor, Tantalum Dipped, 4.7 uF, 35V	064-4763	1
C13	Capacitor, Ceramic Monolythic, 10 pF $\pm 5\%$, 100V	000-1013	1
C14	Capacitor, Tantalum, 1.0 uF, 35V	064-1063	1
C15, C16	Capacitor, Ceramic, 33 pF $\pm 2\%$, 100V	003-3353	2
C17	Capacitor, Ceramic, 2.2 uF $\pm 20\%$, 50V	003-2203	1
C20, C21	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	2
C22	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$, 50V	030-1064	1
C23	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	1
C24	Capacitor, Electrolytic, 10 uF, 35V	023-1076	1
C25	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	1
C26	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$ 50V	030-1064	1
C27 thru C51	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	25
D1, D2	Diode, 1N4148, Silicon, 75V @ 0.3 Amperes	203-4148	2
D3	Diode, Zener, 5.6V $\pm 5\%$, 1.3W	200-4736	1
D4, D5	Diode, Schottky, 30V, 200 mA	200-0020	2
D6, D7	Diode, 1N4148, Silicon, 75V @ 0.3 Amperes	203-4148	2
D8	Diode, Zener, 5.6V $\pm 5\%$, 1.3W	200-4736	1
D9, D10	Diode, Schottky, 30V, 200 mA	200-0020	2
JP1 thru JP3	Receptacle, Male, 2-Pin In-line	417-4004	3
P1, P2	Jumper, Programmable, 2-Pin	340-0004	2
PL1, PL2	Connector, 5-Pin, IDT	417-0505	2
PL1, PL2	Connector Header, 20-Pin	417-0200	.5
PL3	Connector, Male, 32-Pin, Right Angle, Printed Circuit Board Mount	417-3202	1
PL4	Cable Interlink, Circuit Board Assembly	944-0251	1
Q1, Q2	Integrated Circuit, APT X100ED-33, Encoding/Decoding Chip	229-0100	2
Q3	Integrated Circuit, XC68HC705P9P programmed with P9V1-31E Version Program	220-0039-001	1
Q4	Integrated Circuit, CS5338-KP, Stereo A/D Converters for Digital Audio	220-0036	1

TABLE 8-2. ENCODER CIRCUIT BOARD ASSEMBLY - 914-0202
(Sheet 2 of 3)

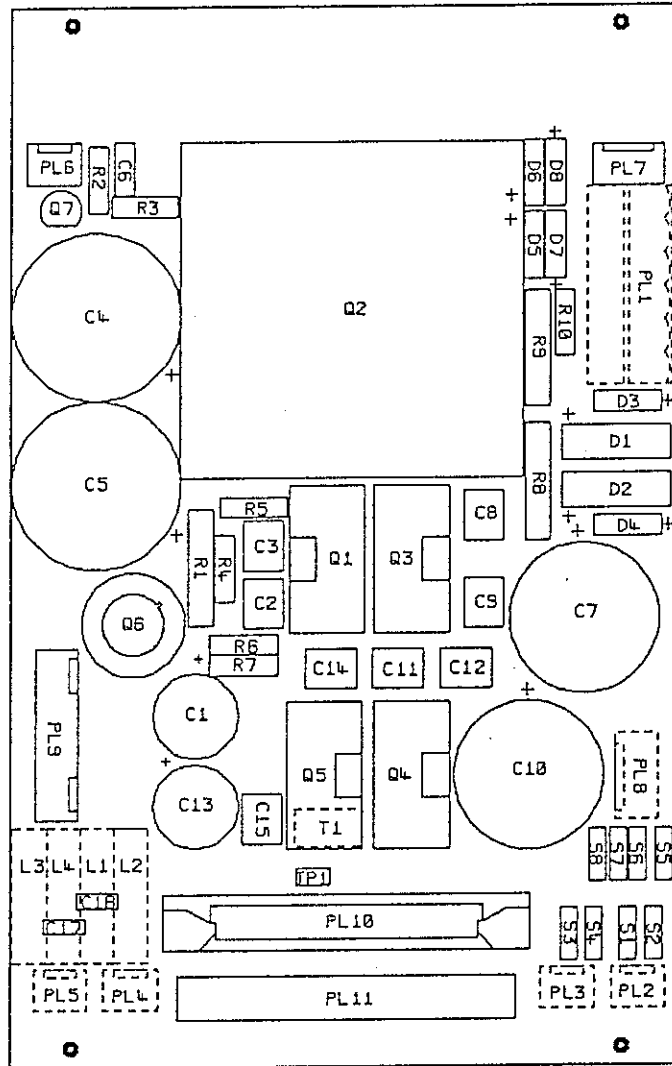
REF. DES.	DESCRIPTION	PART NO.	QTY.
Q5	Integrated Circuit, NE5534AN, Low Noise Operational Amplifier, 8-Pin DIP	221-5534	1
Q6	Integrated Circuit, 34004, Quad Trim FET Operational Amplifier 14-Pin Plastic Package Case 646	222-4004	1
Q7	Integrated Circuit, NE5534AN, Low Noise Operational Amplifier, 8-Pin DIP	221-5534	1
Q8	Integrated Circuit, 34002, Dual Trimfet Operational Amplifier, 8-Pin Plastic Package Case 626	222-4002	1
Q9, Q10	Transistor, BC184L, NPN, TO-92	210-0184	2
Q11	Integrated Circuit, Quad, SPST, CMOS Analog Switches	220-0213	1
Q12	Integrated Circuit, PC74HCT04P, 14-Pin	220-0021	1
Q13	Integrated Circuit, PRGMD, Q13V1-2E	220-0029-008	1
Q14	Integrated Circuit, PC74HCT74P, Dual D-Type Flip-Flop with Set and Reset, Positive-Edge Trigger, 14-Pin	220-0023	1
Q15, Q16	Transistor, BC184L, NPN, TO-92	210-0184	2
R1	Resistor, 5.11 k Ohm $\pm 1\%$, 1/4W	103-5141	1
R2, R3	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	2
R4	Resistor, 100 Ohm $\pm 1\%$, 1/4W	100-1031	1
R5, R6	Resistor, 5.11 k Ohm $\pm 1\%$, 1/4W	103-5141	2
R7	Resistor, 22.1 k Ohm $\pm 1\%$, 1/4W	103-2211	1
R8, R9	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	2
R10	Resistor, 51.1 Ohm $\pm 1\%$, 1/4W	103-5112	1
R11	Resistor, 100 Ohm $\pm 1\%$, 1/4W	100-1031	1
R12	Resistor, 47.5 k Ohm $\pm 1\%$, 1/4W	103-4755	1
R13 thru R16	Resistor, 100 k Ohm $\pm 1\%$, 1/4W	103-1062	4
R17	Resistor, 75 k Ohm $\pm 1\%$, 1/4W	103-7505	1
R18	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	1
R19	Resistor, 5.11 k Ohm $\pm 1\%$, 1/4W	103-5141	1
R20, R21	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	2
R22	Resistor, 100 Ohm $\pm 1\%$, 1/4W	100-1031	1
R23, R24	Resistor, 5.11 k Ohm $\pm 1\%$, 1/4W	103-5141	2
R25	Resistor, 22.1 k Ohm $\pm 1\%$, 1/4W	103-2211	1
R26, R27	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	2
R28	Resistor, 51.1 Ohm $\pm 1\%$, 1/4W	103-5112	1
R29	Resistor, 100 Ohm $\pm 1\%$, 1/4W	100-1031	1
R30	Resistor, 47.5 k Ohm $\pm 1\%$, 1/4W	103-4755	1
R31 thru R34	Resistor, 100 k Ohm $\pm 1\%$, 1/4W	103-1062	4
R35	Resistor, 75 k Ohm $\pm 1\%$, 1/4W	103-7505	1
R36	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	1
R37	Resistor, 4.75 k Ohm $\pm 1\%$, 1/4W	103-4741	1
R38	Resistor, 1.82 k Ohm $\pm 1\%$, 1/4W	100-1841	1
R39	Resistor, 392 Ohm $\pm 1\%$, 1/4W	103-3923	1

TABLE 8-2. ENCODER CIRCUIT BOARD ASSEMBLY - 914-0202
(Sheet 3 of 3)

REF. DES.	DESCRIPTION	PART NO.	QTY.
R40	Resistor, 4.7 Meg Ohm $\pm 5\%$, 1/4W	100-4773	1
R41	Resistor, 51.1 Ohm $\pm 1\%$, 1/4W	103-5112	1
R42 thru R59	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	18
R60 thru R63	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	4
RV1 thru RV4	Resistor, Trimmer, 10 k Ohm, Multi-Turn	177-1056	4
SW1	Switch, 3 Position DIP	340-0149	1
TR1, TR2	Transformer, Line Input, S&B JB.720C	370-0720	2
X1	Crystal, 4.0 MHz AT, HC-18V, M68701S	390-0022	1
X2	Crystal, 60.00 MHz, 14-Pin DIP	390-0028	1
XQ1, XQ2	Socket, 84-Pin, Square	417-8400	1
XQ3, XQ4	Receptacle, 28-Pin DIP	417-2804	2
XQ5	Socket, 8-Pin DIP	417-0804	1
XQ6	Socket, 14-Pin DIP	417-1404	1
XQ7, XQ8	Socket, 8-Pin DIP	417-0804	2
XQ11	Socket, 16-Pin DIP	417-1604	1
XQ12	Socket, 14-Pin DIP	417-1404	1
XQ13	Socket, 20-Pin DIP	417-2004	1
XQ14	Socket, 14-Pin DIP	417-1404	1
—	Blank, Encoder, Circuit Board	514-0202	1

TABLE 8-2A. CABLE INTERLINK CIRCUIT BOARD ASSEMBLY - 944-0251

REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Strain Relief for 417-3403 AMP	417-3404	1
—	Connector, 34-Pin, Transition, Circuit Board Mount	417-3405	1
—	Socket, 34-Pin, Female Transition	417-3403	1
—	Cable Ribbon, 34 Conductor, AWG 28	600-0034	1



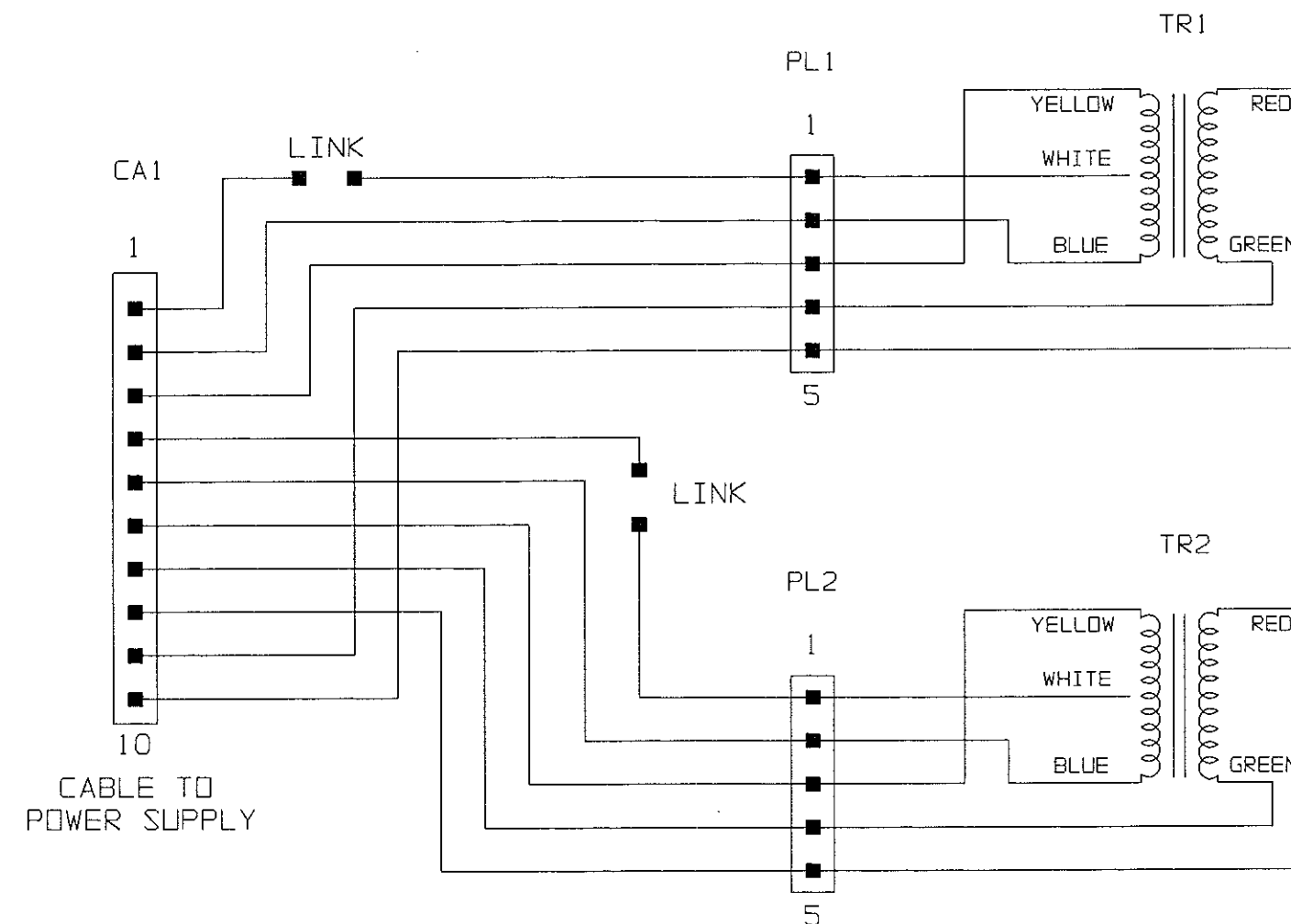
AA914-0302
FIGURE 8-3A. ASSEMBLY DIAGRAM,
POWER SUPPLY CIRCUIT BOARD

TABLE 8-3. POWER SUPPLY CIRCUIT BOARD ASSEMBLY - 914-0302
(Sheet 1 of 2)

REF. DES.	DESCRIPTION	PART NO.	QTY.
C1	Capacitor, Electrolytic, 1000 uF, 35V, Radial	020-1026	1
C2, C3	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$, 50V	030-1064	2
C4, C5	Capacitor, Electrolytic, 22000 uF, 16V, Radial	020-2235	2
C6	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	1
C7	Capacitor, Electrolytic, 10000 uF, 16V, Radial	020-1035	1
C8, C9	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$, 50V	030-1064	2
C10	Capacitor, Electrolytic, 4700 uF, 35V, Radial	020-4725	1
C11, C12	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$, 50V	030-1064	2
C13	Capacitor, Electrolytic, 1000 uF, 35V, Radial	020-1026	1
C14, C15	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$, 50V	030-1064	2
C16, C17	Capacitor, Mylar Film, 0.01 uF $\pm 10\%$, 200V	030-1043	2
D1, D2	Diode, MR502, Silicon, 200V @ 3 Amperes	202-0502	2
D3 thru D8	Diode, 1N4005, Silicon, 600V @ 1 Ampere	203-4005	6
JP1	Receptacle, Male, 2-Pin In-line	417-4004	1
PL1	Header, Open End, Vertical, 6-Pin, Circuit Board Mount	417-0128	1
PL2 thru PL5	Header, 3-Pin, Friction Locking	418-0503	4
PL6	Receptacle, Male, 3-Pin In-Line	417-0003	1
PL7	Header, 4-Pin, Friction Locking	418-0504	1
PL8	Header, 5-Pin, Friction Locking	418-0505	1
PL9	Header, 10-Pin, Friction Locking	418-0510	1
PL10	Connector, Female, 32-Pin Printed Circuit Board Mount	417-3201	1
PL11	Cable Interlink, DXCA14, Circuit Board Assembly	944-0251	1
Q1	Integrated Circuit, MC1805CT, Voltage Regulator, 5V @ 1.0 Ampere, TO-220 Case	227-7805	1
For Q1	Heatsink, TO-220 Case, Low Profile	455-7805	1
Q2	Switch Mode Regulator	220-0019	1
Q3	Heatsink, TO-220 Case, Low Profile	455-7805	1
Q3	Integrated Circuit, Voltage Regulator, -5V, TO-220 Package Input Voltage = (-7.2V) - (-20V) Output Current = 1.5 Amps	227-7905	1
Q4	Heatsink, TO-220 Case, Low Profile	455-7805	1
Q4	Integrated Circuit, 15V, 1 Amp, TO-220	227-7815-C	1
Q5	Heatsink, TO-220 Case, Low Profile	455-7805	1
Q5	Integrated Circuit, -15V, 1 Amp, TO-220	227-7915-C	1
Q6	Transistor, BC303-6, PNP, TO-39	210-0303	1
For Q6	Heatsink, 5784B AAVID	455-0024	1
Q7	Transistor, BC184L, NPN, TO-92, $\pm 30\%$	210-0184	1
R1	Resistor, 4.7 Ohm $\pm 5\%$, 2.5W, WW, Vitreous Enamel	130-4713	1
R2	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	1
R3	Resistor, 1.82 k Ohm $\pm 1\%$, 1/4W	100-1841	1
R4	Resistor, 1 k Ohm $\pm 1\%$, 1/4W	100-1041	1
R5	Resistor, 475 Ohm $\pm 1\%$, 1/4W	103-4753	1

TABLE 8-3. POWER SUPPLY CIRCUIT BOARD ASSEMBLY - 914-0302
(Sheet 2 of 2)

REF. DES.	DESCRIPTION	PART NO.	QTY.
R6, R7	Resistor, 20 Ohm $\pm 5\%$, 1/4W	100-2023	2
R8, R9	Resistor, 1 Ohm $\pm 5\%$, 2.5W, WW, Vitreous Enamel	130-1004	2
R10	Resistor, 51.1 Ohm $\pm 1\%$, 1/4W	103-5112	1
S1 thru S4	Filter, EMI Suppression, 10,000 pF, 3-Pin	411-0001	4
S5, S6	Capacitor, EMI Suppression Filters, 1000 pF, 3-Pin	047-1035	2
S7, S8	Filter, EMI Suppression, 10,000 pF, 3-Pin	411-0001	2
T1	Terminal, Male Disconnect	410-0025	1
—	Transistor Mounting Insulator, TO-220 Case	409-7403	1
—	Blank, Power Supply Circuit Board	514-0302	1

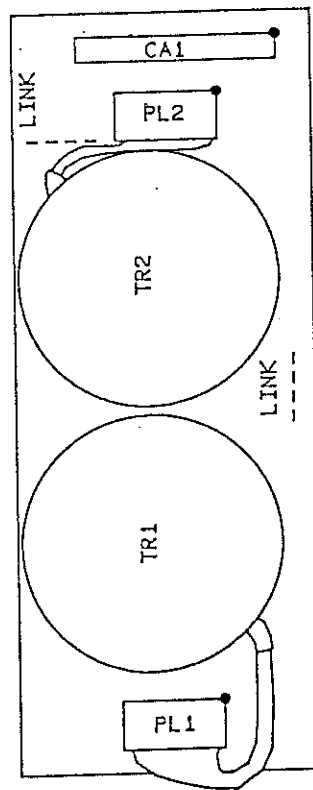


LINK TO BALANCE ABOUT GROUND

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		DESIGNER(S)		FINISH			
TOLERANCE (DECIMAL) U.O.S. .x ± .030 .xxx ± .005 .xx ± .015 ANGLES ± 1°		PROJ. LEADER		SEE DWG RA592-0000		TITLE AUDIO OUTPUT TRANSFORMER CIRCUIT BOARD SCHEMATIC	
MFG.		NEXT ASSY.		TYPE S SIZE B DWG. NO. 914-0402		REV A	
				MODEL		SCALE 1/1 SHEET 1 OF 1	



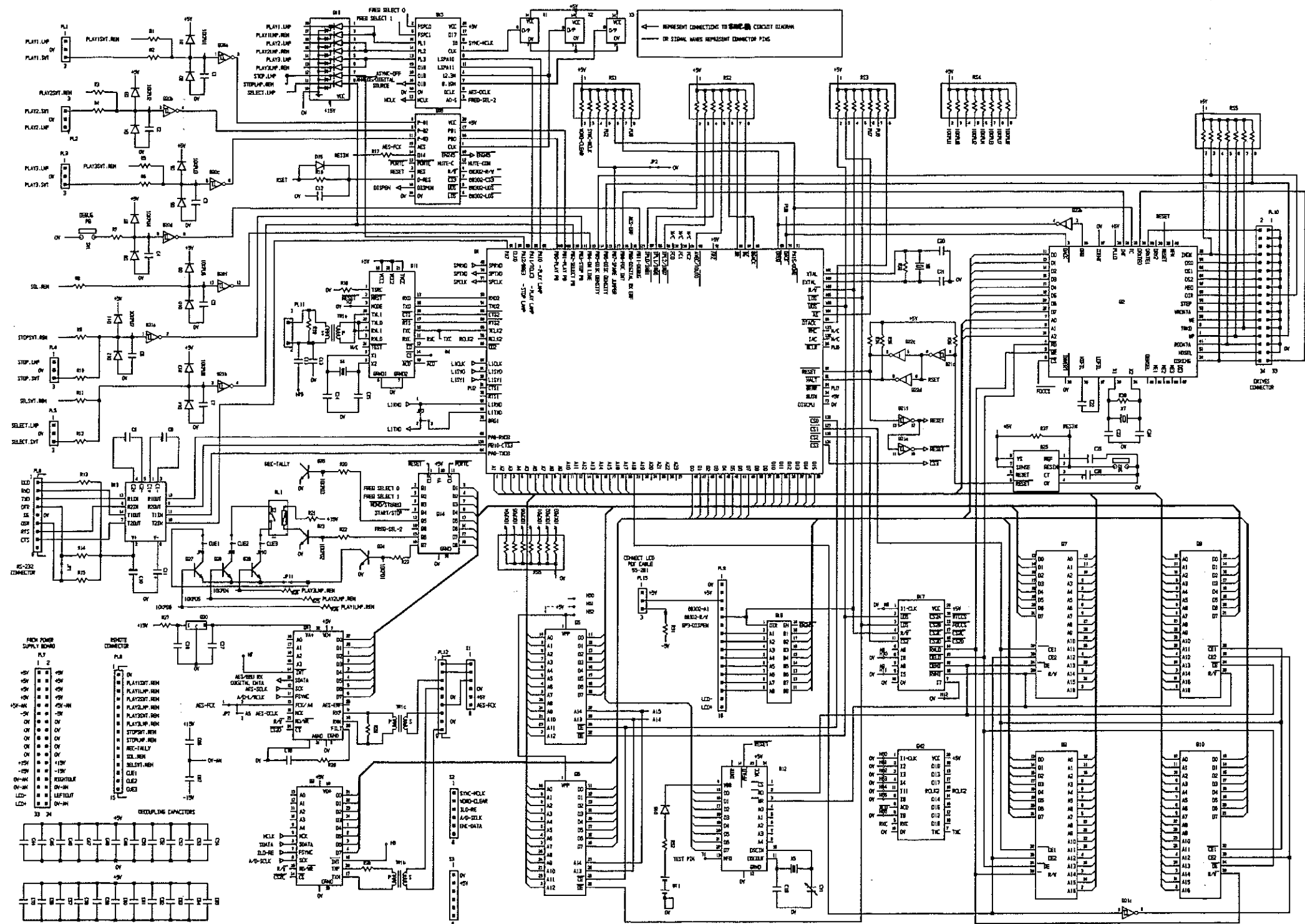
AA914-0402
 FIGURE 8-4A. ASSEMBLY DIAGRAM
 AUDIO OUTPUT TRANSFORMER
 CIRCUIT BOARD

TABLE 8-4. AUDIO OUTPUT TRANSFORMER CIRCUIT BOARD ASSEMBLY - 914-0402

REF. DES.	DESCRIPTION	PART NO.	QTY.
CA1	Output Transformer Cable Circuit Board Assembly	944-0231	1
PL1	Connector, 5-Pin, IDT	417-0505	1
PL1	Header, 5-Pin, Friction Locking	418-0505	1
PL2	Connector, 5-Pin, IDT	417-0505	1
PL2	Header, 5-Pin, Friction Locking	418-0505	1
—	Blank, Audio Output Transformer Circuit Board	914-0402	1

TABLE 8-4A. OUTPUT TRANSFORMER CABLE CIRCUIT BOARD ASSEMBLY - 944-0231

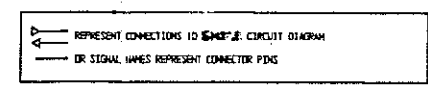
REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Connector, 10-Pin, IDT	417-0510	1
—	Cable Webbing, 16 Conductors, .100" Center Line	600-1600	1



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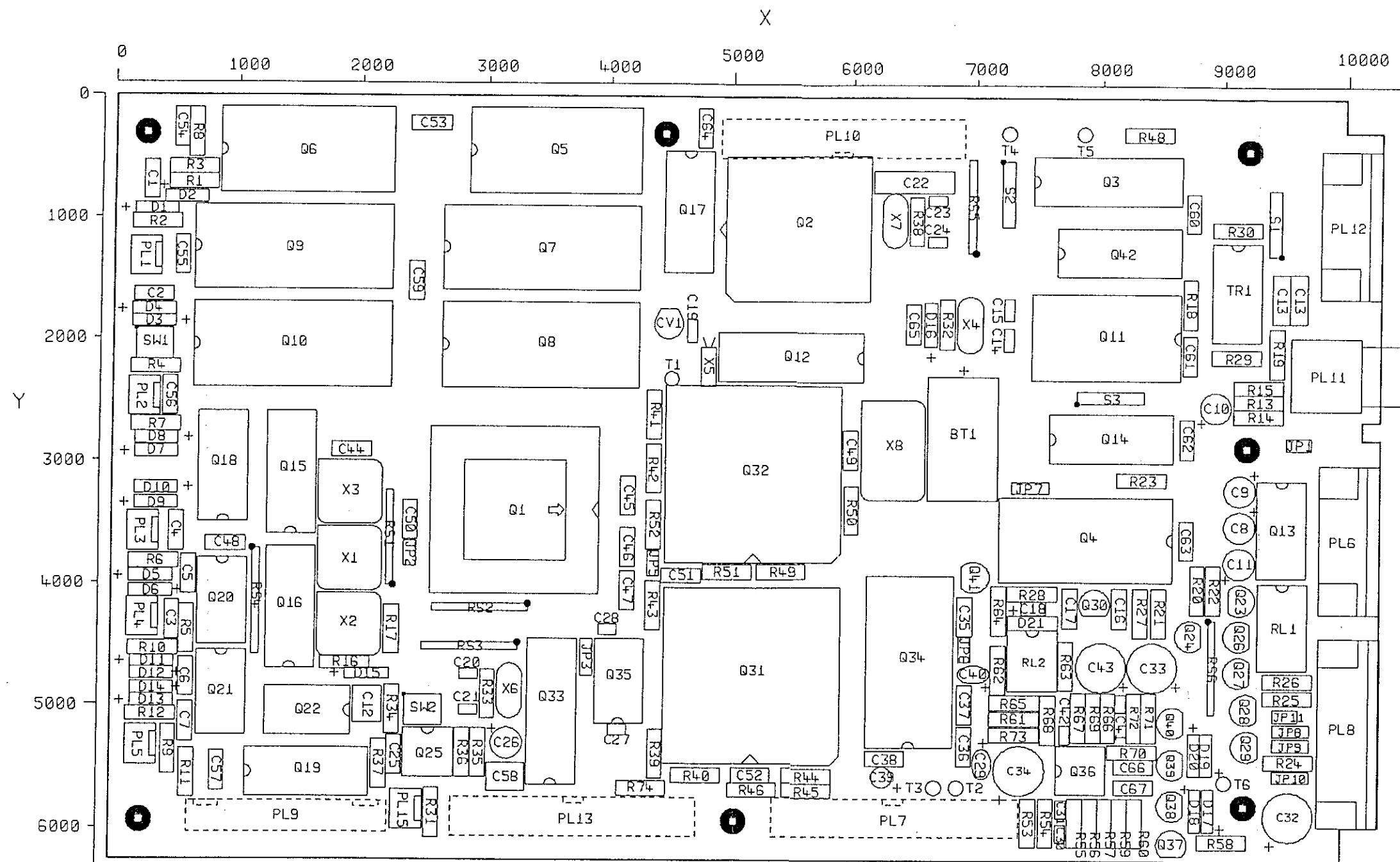
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TOLERANCE (DECIMAL) U.S.S. .1 ± .030 .01 ± .005 .001 ± .001		PROJ. LEADER: HFG.		TITLE: RECORD CIRCUIT BOARD SCHEMATIC	
SCALE: 1/1 SHEET: 1 OF 2		PWS. NO.: 914-0102-061		REV. F	



MODE	SCALE 1/1	SHEET 2 OF 2
	8	

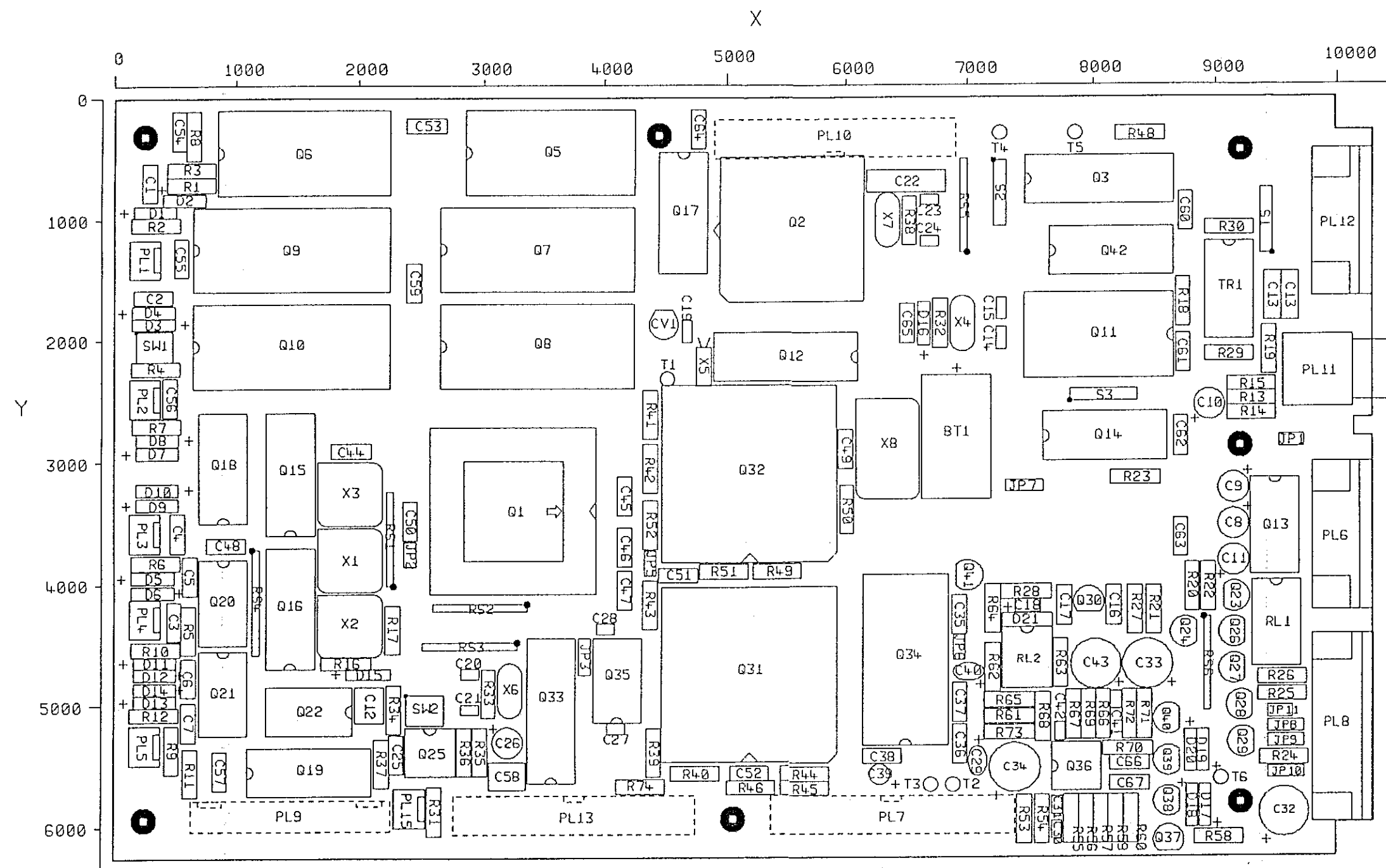
TOLERANCE (DECIMAL) U.S.	
.M ± .030	.XXX ± .005
.XX ± .015	ANGLES ± 1°



AB914-0102-061
 FIGURE 8-5A. ASSEMBLY DIAGRAM,
 RECORD CIRCUIT BOARD
 (8-35/8-36)

TABLE 8-5. RECORD CIRCUIT BOARD ASSEMBLY - 914-0102-061

REF. DES.	DESCRIPTION	PART NO.	QTY.
Q4	Integrated Circuit, CS8411CP	220-0037	1
—	Player, Circuit Board Assembly	914-0102-060	1



AB914-0102-060

FIGURE 8-5B. ASSEMBLY DIAGRAM,
PLAYER CIRCUIT BOARD
8-39/8-40

TABLE 8-5A. PLAYER CIRCUIT BOARD ASSEMBLY - 914-0102-060
(Sheet 1 of 5)

REF. DES.	DESCRIPTION	PART NO.	QTY.
BT1	Battery, 3.7V, 1/2AA Size	350-0007	1
C1 thru C7	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	7
C8 thru C11	Capacitor, Electrolytic, 22 uF, 35V, Radial	020-2273	4
C12	Capacitor, Metal Polyester, 1 uF $\pm 10\%$, 50V	030-1064	1
C13	Capacitor, Ceramic, Disc, .0047 uF, 1 KV	030-4734	1
C14, C15	Capacitor, Ceramic, 56 pF $\pm 2\%$, 100V	003-5653	2
C16, C17	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	2
C18	Capacitor, Ceramic, .047 uF, 50V	003-4734	1
C19	Capacitor, Ceramic, 47 pF $\pm 5\%$, 50V	003-4712	1
C20, C21	Capacitor, Ceramic, 27 pF $\pm 2\%$, 100V	003-2753	2
C22	Capacitor, Polyester, 4700 pF $\pm 1\%$, 160V	030-4731	1
C23, C24	Capacitor, Ceramic, 27 pF $\pm 2\%$, 100V	003-2753	2
C25	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	1
C26	Capacitor, Electrolytic, 22 uF, 35V, Radial	020-2273	1
C27, C28	Capacitor, Ceramic, 27 pF $\pm 2\%$, 100V	003-2753	2
C29	Capacitor, Tantalum, 2.2 uF, 35V	064-2263	1
C31	Capacitor, Ceramic, 33 pF $\pm 2\%$, 100V	003-3353	1
C32, C33	Capacitor, Electrolytic, 470 uF, 16V, Radial	020-4782	2
C34	Capacitor, Electrolytic, 1000 uF, 10V, Radial	020-1025	1
C35 thru C38	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	1
C39	Capacitor, Electrolytic, 10 uF, 35V	023-1076	1
C40	Capacitor, Tantalum, 2.2 uF, 35V	064-2263	1
C42	Capacitor, Ceramic, 33 pF $\pm 2\%$, 100V	003-3353	1
C43	Capacitor, Electrolytic, 1000 uF, 10V, Radial	020-1025	1
C44 thru C57	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	14
C58	Capacitor, Metalized Polyester, 1 uF $\pm 10\%$, 50V	030-1064	1
C59 thru C67	Capacitor, Monolythic Ceramic, 0.1 uF $\pm 20\%$, 50V	003-1054	9
CV1	Capacitor, Trimmer, Ceramic, 4.2-20 pF	090-0003	1
D1 thru D20	Diode, 1N4148, Silicon, 75V @ 0.3 Amperes	203-4148	20
D21	Diode, 1N4005, Silicon, 600V @ 1 Ampere	203-4005	1
JP1, JP2	Receptacle, Male, 2-Pin In-line	417-4004	2
JP3	Receptacle, Male, 3-Pin In-line	417-0003	1
JP5, JP6	Receptacle, Male, 2-Pin In-line	417-4004	2
JP7 thru JP10	Receptacle, Male, 3-Pin In-line	417-0003	4
JP11	Receptacle, Male, 2-Pin In-line	417-4004	1
P3, P5	Jumper, Programmable, 2-Pin	340-0004	2
P8 thru P11	Jumper, Programmable, 2-Pin	340-0004	4

TABLE 8-5A. PLAYER CIRCUIT BOARD ASSEMBLY – 914-0102-060
(Sheet 2 of 5)

REF. DES.	DESCRIPTION	PART NO.	QTY.
PL1 thru PL5	Header, 3-Pin, Friction Locking	418-0503	5
PL6	Connector, 9-Pin, D-Type, Printed Circuit Board Mount	417-0288	1
PL7	Connector, Header, 34-Pin, Male, Printed Circuit Board Mount	417-3402	1
PL8	Connector, 15-Pin, D-Type, Socket, Printed Circuit Board Mount	417-0289	1
PL9	Header, 16-Pin, Friction Locking	418-0516	1
PL10	Connector, Header, 34-Pin, Male, Printed Circuit Board Mount	417-3402	1
PL11	Connector, BNC, 90° Angle	417-0037	1
PL12	Connector, 9-Pin, D-Type, Plug, Printed Circuit Board Mount	417-0287	1
PL13	Connector, Header, 34-Pin, Male, Printed Circuit Board Mount	417-3402	1
PL14, PL15	Header, 3-Pin, Friction Locking	418-0503	2
Q1	Integrated Circuit, Microprocessor, MC68302FE16B	220-8302	1
Q2	Integrated Circuit, N82077-1	220-0033	1
Q3	Integrated Circuit, CS8401CP	220-0038	1
Q5	Kit, Software, EPROM, Q5	974-0512-001	1
Q6	Kit, Software, EPROM, Q6	974-0512-002	1
Q7 thru Q10	Integrated Circuit, UPD 431000 CZ-8511, 85 nS, 0.05 mA, 32-Pin	220-0040	4
Q11	Integrated Circuit, AM7960DC	220-0031	1
Q12	Integrated Circuit, DP8572AN	220-0027	1
Q13	Integrated Circuit, MAX 232 CPE 9026, Dual RS-232 Transceiver, 16-Pin DIP	220-0025	1
Q14	Integrated Circuit, PC74HCT273P, Octal D-Type Flip-Flop, 20-Pin DIP	220-0041	1
Q15	Integrated Circuit, 18CV8P-15, Programmed with Q15V1-1D Version Program	220-0029-001	1
Q16	Integrated Circuit, 18CV8P-15, Programmed with Q16V1-3D Version Program	220-0029-002	1
Q17	Integrated Circuit, 18CV8P-15, Programmed with Q17V1-1D Version Program	220-0029-003	1
Q18	Integrated Circuit, UDN2981A, 350MA, 50V, Octal	220-2981	1
Q19	Integrated Circuit, PC74HCT245P, Octal Bus Transceiver, 20-Pin DIP	220-0024	1
Q20, Q21	Integrated Circuit, PC74HCT14P, Hex Inverting Schmitt Trigger 14-Pin DIP	220-0022	2
Q22	Integrated Circuit, N74LS05N, Buffer Gate Inverting, 14-Pin DIP	220-0032	1
Q23, Q24	Transistor, BC184L, NPN, TO-92	210-0184	2
Q25	Integrated Circuit, TL7705ACP, Supply Voltage Supervisors, 8-PIN	220-0026	1
Q26 thru Q29	Transistor, BC184L, NPN, TO-92	210-0184	4
Q30	Voltage Regulator, 78L05AC, +5V, TO-92	227-7805-1	1
Q31, Q32	Integrated Circuit, APT X100ED-33	229-0100	2
Q33	Integrated Circuit, PA7024P-1, Programmed with Q33V1-0D Version Program	220-0028-001	1

TABLE 8-5A. PLAYER CIRCUIT BOARD ASSEMBLY - 914-0102-060
(Sheet 3 of 5)

REF. DES.	DESCRIPTION	PART NO.	QTY.
Q34	Integrated Circuit, CS4328-KP, 18-Bit, Stereo D/A Converter for Digital Audio	220-0034	1
Q35	Integrated Circuit, PC74HCT04P, Buffer Gate, 14-Pin DIP	220-0021	1
Q36	Integrated Circuit, 34002, Dual Trimfet Operational Amplifiers, 8-Pin DIP	222-4002	1
Q37	Transistor, BC184L, NPN, TO-92	210-0184	1
Q38	Transistor, BC214L, PNP, TO-92	210-0214	1
Q39	Transistor, BC184L, NPN, TO-92	210-0184	1
Q40	Transistor, BC214L, PNP, TO-92	210-0214	1
Q41	Transistor, BC184L, NPN, TO-92	210-0184	1
Q42	Integrated Circuit, 18CV8P-15, Programmed with Q42V1-0D Version Program	220-0029-004	1
R1 thru R12	Resistor, 100 Ohm $\pm 1\%$, 1/4W	100-1031	12
R13 thru R15	Resistor, 3 k Ohm $\pm 1\%$, 1/4W	103-3004	3
R16	Resistor, 1.5 Meg Ohm $\pm 5\%$, 1/4W	100-1573	1
R17	Resistor, 100 Ohm $\pm 1\%$, 1/4W	100-1031	1
R18	Resistor, 3.92 k Ohm $\pm 1\%$, 1/4W	103-3924	1
R19	Resistor, 150 Ohm $\pm 1\%$, 1/4W	100-1531	1
R20	Resistor, 4.75 k Ohm $\pm 1\%$, 1/4W	103-4741	1
R21	Resistor, 332 Ohm $\pm 1\%$, 1/4W	103-3323	1
R22, R23	Resistor, 4.75 k Ohm $\pm 1\%$, 1/4W	103-4741	2
R24 thru R26	Resistor, 22.1 k Ohm $\pm 1\%$, 1/4W	103-2211	3
R27	Resistor, 150 Ohm $\pm 1\%$, 1/4W	100-1531	1
R28	Resistor, 1 k Ohm $\pm 1\%$, 1/4W	100-1041	1
R29, R30	Resistor, 110 Ohm $\pm 1\%$, 1/4W	103-1103	2
R31	Resistor, 1.21 k Ohm $\pm 1\%$, 1/4W	103-1214	1
R32	Resistor, 1 k Ohm $\pm 1\%$, 1/4W	100-1041	1
R33	Resistor, 1 Meg Ohm $\pm 1\%$, 1/4W	103-1007	1
R34	Resistor, 1.21 k Ohm $\pm 1\%$, 1/4W	103-1214	1
R35 thru R37	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	3
R39 thru R45	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	7
R46	Resistor, 1 k Ohm $\pm 1\%$, 1/4W	100-1041	1
R48 thru R50	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	3
R51	Resistor, 1 k Ohm $\pm 1\%$, 1/4W	100-1041	1
R52	Resistor, 2.21 k Ohm $\pm 1\%$, 1/4W	103-2241	1
R53	Resistor, 3.92 k Ohm $\pm 1\%$, 1/4W	103-3924	1
R54	Resistor, 5.62 k Ohm $\pm 1\%$, 1/4W	103-5624	1
R55	Resistor, 4.75 k Ohm $\pm 1\%$, 1/4W	103-4741	1

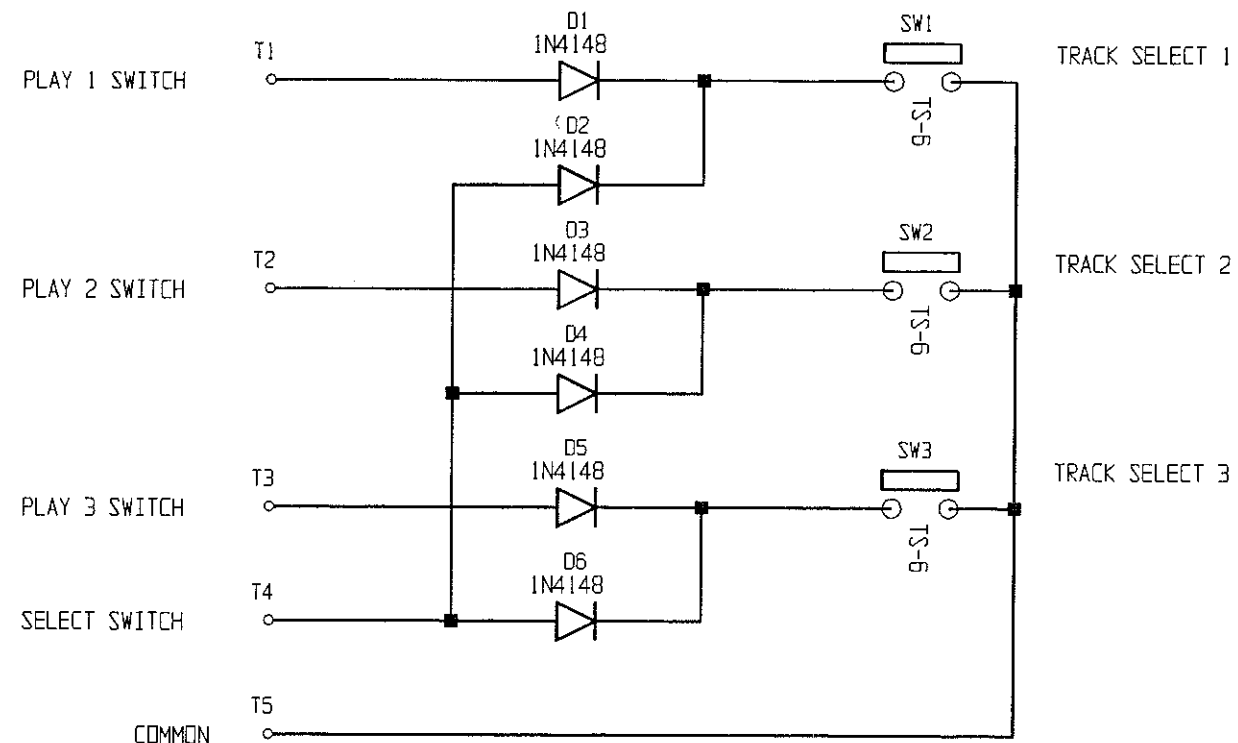
TABLE 8-5A. PLAYER CIRCUIT BOARD ASSEMBLY - 914-0102-060
(Sheet 4 of 5)

REF. DES.	DESCRIPTION	PART NO.	QTY.
R57	Resistor, 47.5 k Ohm $\pm 1\%$, 1/4W	103-4755	1
R58	Resistor, 6.19 k Ohm $\pm 1\%$, 1/4W	103-6194	1
R59, R60	Resistor, 10 Ohm $\pm 1\%$, 1/4W	103-1021	2
R61	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	1
R62, R63	Resistor, 150 Ohm $\pm 1\%$, 1/4W	100-1531	2
R64	Resistor, 4.75 k Ohm $\pm 1\%$, 1/4W	103-4741	1
R65	Resistor, 3.92 k Ohm $\pm 1\%$, 1/4W	103-3924	1
R66	Resistor, 5.62 k Ohm $\pm 1\%$, 1/4W	103-5624	1
R67	Resistor, 4.75 k Ohm $\pm 1\%$, 1/4W	103-4741	1
R69	Resistor, 47.5 k Ohm $\pm 1\%$, 1/4W	103-4755	1
R70	Resistor, 6.19 k Ohm $\pm 1\%$, 1/4W	103-6194	1
R71, R72	Resistor, 10 Ohm, $\pm 1\%$, 1/4W	103-1021	2
R73, R74	Resistor, 10 k Ohm $\pm 1\%$, 1/4W	100-1051	2
RL1	Relay, SPST, 1000 Ohms, 1 Amp, 12V dc, 14-Pin DIP, With Diode Suppressor	270-0063	1
RL2	Relay, G6H-2-100, 5V dc, Printed Circuit Board	270-0064	1
RS1, RS2	Resistor Network, 4.7 k, BOU 4308R-101-472, 8-Pin	226-4732	2
RS3	Resistor Network, 10 k $\pm 2\%$, 8-Pin SIP	226-1051	1
RS4	Resistor Network, 10 k Ohm $\pm 2\%$, 9-Pin, Bussed, SIP	226-1053	1
RS5	Resistor Network, 1 k Ohm $\pm 2\%$, 8-Pin, Bussed, SIP	226-1032	1
RS6	Resistor Network, 10 k Ohm $\pm 2\%$, 8-Pin SIP	226-1051	1
S1 thru S3	Receptacle, 32-Pin In-Line	417-3200	3
SW1, SW2	Switch, 50 mA @ 24V dc Printed Circuit Board Mount, SPNO, 6x6MM, Flat Plunger	340-0148	2
TR1	Integrated Circuit, Network Node Isolators, 16-Pin DIP	220-0020	1
X1	Oscillator, Crystal 11.2896MHZ	390-0025	1
X2	Oscillator, Crystal 12.288MHZ	390-0026	1
X3	Oscillator, Crystal 8.192MHZ	390-0024	1
X4	Crystal, 12.00MHZ, HC49	390-0029	1
X5	Oscillator, Crystal, NTF3238C, 10.5 pF, 32.768 kHz	390-0011	1
X6	Crystal, 16.384MHZ	390-0030	1
X7	Crystal, 24.00MHZ, 18U	390-0027	1
X8	Crystal, 60.00MHZ, 14-Pin DIP	390-0028	1
XQ1	Converter, Ceramic Quad Flat Packs Package to be used with Plastic Quad Flat Pack Sockets. This part to be used with 417-1320	417-1321	1
XQ1	Socket, 132-Pin Plastic Quad Flat Pack, Housing and Cover	417-1320	1
XQ2	Socket, I.C. for 68-Pin Plastic Leaded Chip Carrier	417-0191	1
XQ3	Socket, 24-Pin DIP, .3" Wide	417-2408	1
XQ4 thru XQ6	Receptacle, 28-Pin DIP	417-2804	3
XQ7 thru XQ10	Socket, 32-Pin DIP, .6" Wide	417-3203	4
XQ11	Socket, 24-Pin DIP	417-2404	1

TABLE 8-5A. PLAYER CIRCUIT BOARD ASSEMBLY - 914-0102-060
(Sheet 5 of 5)


REF. DES.	DESCRIPTION	PART NO.	QTY.
XQ12	Socket, 24-Pin DIP, .3" Wide	417-2408	1
XQ13	Socket, 16-Pin DIP	417-1604	1
XQ14 thru XQ17	Socket, 20-Pin DIP	417-2004	4
XQ18	Socket, 18-Pin DIP	417-1804	1
XQ19	Socket, 20-Pin DIP	417-2004	1
XQ20 thru XQ22	Socket, 14-Pin DIP	417-1404	3
XQ25	Socket, 8-Pin DIP	417-0804	1
XQ31, XQ32	Socket, 84-Pin, Plastic Leaded Chip Carrier	417-8400	2
XQ33	Socket, 24-Pin DIP, .3" Wide	417-2408	1
XQ34	Receptacle, 28-Pin DIP	417-2804	1
XQ35	Socket, 14-Pin DIP	417-1404	1
XQ36	Socket, 8-Pin DIP	417-0804	1
XQ42	Socket, 20-Pin DIP	417-2004	1
—	Blank, Record/Play, Circuit Board	514-0102-060	1
—	Finger Stock, 9-Pin Connector	469-0380-002	1

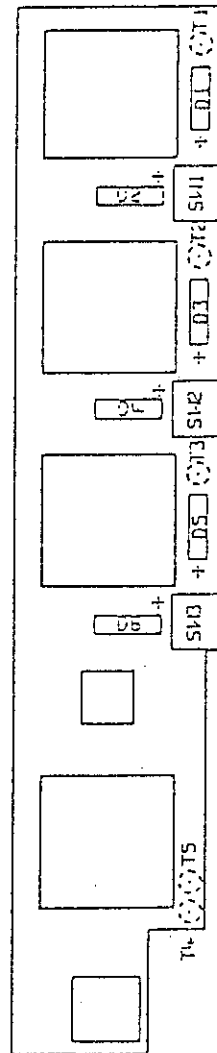
DISCART TRACK SELECT SWITCHING PCB
DX-SWT-01 ISSUE 1 8.10.92



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	DESIGNER(S)	FINISH				TITLE MODIFIED SWITCH CIRCUIT BOARD SCHEMATIC
	PROJ. LEADER	SEE DWG RA592-0000 NEXT ASSY.	TYPE S	SIZE B	DWG. NO. 914-1002	REV A
	MFG.		MODEL	SCALE 1/1	SHEET 1	OF 1
TOLERANCE (DECIMAL) U.S. .x ± .030 .xxx ± .005 .xx ± .015 ANGLES ± 1°						



AA914-1002

FIGURE 8-6A. ASSEMBLY DIAGRAM, MODIFIED SWITCH CIRCUIT BOARD

TABLE 8-6. MODIFIED SWITCH CIRCUIT BOARD ASSEMBLY - 914-1002

REF. DES.	DESCRIPTION	PART NO.	QTY.
D1 thru D6	Diode, 1N4148, Silicon, 75V @ 0.3 Amperes	203-4148	6
SW1 thru SW3	Switch, Projected-Plunger, SPST	340-0154	3
—	Blank, Modified Switch Circuit Board	514-1002	1
—	Lens, Switch, Square, Yellow	340-0092	1
—	Lamp, 11-903-1, 12V, 0.7W, T-1 Bi-Pin	320-0024	1
—	Switch, Miniature, Square Pushbutton, Momentary Action	340-0090	1
—	Cap, Projected-Plunger, 4 X 4 MM, ORG	340-0153	1
—	Switch, Pushbutton, Square, Momentary	340-0145	1
—	Lamp, 346, 18V, 40MA	320-0035	1
—	Lens, Square, Green, EAO 31-952.5	340-0147	1
—	Lens, Square, Red, EAO 31-952.2	340-0146	1
—	Potentiometer, 10 k Ohm $\pm 10\%$, 3/4 W	178-1057	1
—	Cable Assembly, LCD Pot	944-0241	1

TABLE 8-7. CABLE ASSEMBLY, LCD POT - 944-0241

REF. DES.	DESCRIPTION	PART NO.	QTY.
—	Cable Webbing, Flat, 16 Conductors, .100" Center Line	600-1600	1
—	Housing, 3-Pin, 87499-5 Amp	417-0003-001	1
—	Potentiometer, 10K $\pm 10\%$, 3/4W	178-1057	1
—	Contact, Crimp, MOD IV 87809-1	417-8766	3

PRODUCT WARRANTY

LIMITED TWO YEAR

While this warranty gives Purchaser specific legal rights, which terminate two (2) years (one year on turntable, cartridge and blower motors) from the date of shipment, Purchaser may also have other rights which vary state to state.

Broadcast Electronics, Inc. ("Seller") hereby warrants cartridge machines, consoles, and other new Equipment manufactured by Seller against any defects in material or workmanship at the time of delivery thereof, that develop under normal use within a period of two (2) years (one year for turntable, cartridge and blower motors) from the date of shipment, as such term is defined herein. Other manufacturer's and suppliers' Equipment and services, if any, including electronic tubes, solid state devices, transmission line, antennas, towers, related equipment and installation and erection services, shall carry only such manufacturer's or suppliers' standard warranty. This warranty extends to the original user and any subsequent purchaser during the warranty period. Seller's sole responsibility with respect to any equipment or parts not conforming to this warranty is to replace such equipment or parts upon the return thereof F.O.B. Seller's factory or authorized repair depot within the period aforesaid.

In the event of replacement pursuant to the foregoing warranty, only the unexpired portion of the warranty from the time of the original purchase will remain in effect for any such replacement. However, the warranty period will be extended for the length of time that Purchaser is without the services of the Equipment due to its being serviced pursuant to this warranty. The terms of the foregoing warranty shall be null and void if the Equipment has been altered or repaired without specific written authorization of Seller, or if Equipment is operated under environmental conditions or circumstances other than those specifically described in Seller's product literature or instruction manual which accompany the Equipment. Seller shall not be liable for any expense of any nature whatsoever incurred by the original user without prior written consent of Seller.

Seller shall not be liable to Purchaser for any and all incidental or consequential damages for breach of either expressed or implied warranties. However, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to Purchaser. All express and implied warranties shall terminate at the conclusion of the period set forth herein. Any card which is enclosed with the equipment will be used by Seller for survey purposes only.

If the Equipment is described as used, it is sold as is and where is. If the contract covers equipment not owned by Seller at this date, it is sold subject to Seller's acquisition of possession and title.

EXCEPT AS SET FORTH HEREIN, AND EXCEPT AS TO TITLE, THERE ARE NO WARRANTIES, OR ANY AFFIRMATIONS OF FACT OR PROMISES BY SELLER, WITH REFERENCE TO THE EQUIPMENT, OR TO MERCHANTABILITY, FITNESS FOR A PARTICULAR APPLICATION, SIGNAL COVERAGE, INTERFERENCE, OR OTHERWISE, WHICH EXTEND BEYOND THE DESCRIPTION OF THE EQUIPMENT ON THE FACE HEREOF.

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