ES V

NSM
Service Training

NSM SERVICE PROGRAM
CROSS REFERENCE CHART

ES IV	FUNCTION	ES V
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P 02	Most Popular CD	P011
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P 04	Play Counter	P016
P 05	Selected Title Counter	P017
P 06	Number Of Album Selections	P018
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OVERVIEW: COMMANDS OF SERVICE PROGRAMS

GROUP	NAME OF COMMAND GROUP	COMMAND NUMBER
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2	STATISTICS	P010...P026
3	DATA TRANSFER/CANCELLATION	P030...P033
4	GENERAL SETTINGS	P040...P054
5	PRICE SETTING	P060...P066
6	MONETARY VALUE SETTING	P070...P076
7	PROGRAMMING REAL TIME CLOCK	P080...P082
8	PROGRAMMING FREE CREDITS	P090...P094
9	PROGRAMMING BACKGROUND MUSIC	P100...P107
10	PROGRAMMING AUTO PLAY	P110...P117
11	PROGRAMMING ADVERTISING	P120...P127
12	LOCK-OUT OF DIFFERENT TITLES	P130...P135
13	PROGRAMMING HAPPY-HOUR-CREDITS	P140...P145
14	TEST PROGRAMS	P150...P164

BASIC SET-UP OF NSM ES 5
EPROM VER. 002 AND 003

P040   "0"+"H"= STANDARD SETTING.
           "1"+"H"= STANDARD SETTING, (ACTIVATES BACKGROUND
                AND PLAY STIMULATOR).

P042   SET THE NUMBER OF CDs AND MAX. NUMBER OF TRACKS

P080   SETS THE TIME

P081   SETS THE THE DATE

P082   SETS THE DAY OF THE WEEK

P160   "0" STARTS THE INITIALIZATION.

FACTORY DEFAULT

P040: "0"+"H" SETS P041 TO P054 AND P094 TO FACTORY
SETTINGS ALSO SETS P091 TO P144 TO
DISABLED.
"1"+"H" SAME AS "0", BUT ENABLES BACKGROUND
AND AUTO PLAY.

P060: PRICE SETTING
"18"+"H" SETS PRICE AT 1 FOR .50 3 FOR $1.00 18
FOR $5.00

P070: VALUE OF COIN CHANNEL
"10"+"H" SETS COIN CHANNELS FOR THE USA

P100: BACKGROUND MUSIC
"0"+"H" WILL SET P101 TO 107 ALL TO ZEROS
(DISABLED)

P110: AUTO PLAY (PLAY STIMULATOR)
"0"+"H" WILL SET P111 TO P117 ALL TO ZEROS
(DISABLED)

P120: ADVERTISEMENT
"0"+"H" WILL SET P121 TO P127 ALL TO ZEROS
(DISABLED)

P130: BLOCKING CERTAIN TITLES (LOCKING OUT
SELECTIONS)
"0"+"H" UNLOCKS ALL SELECTIONS LOCKED OUT
P131 T0 P135 SET TO ZERO

P140: HAPPY-HOUR-CREDITS
"0"+"H" WILL SET P141 TO P144 ALL TO ZEROS
(DISABLED)

2 STATISTICS

PO10 LEAST POPULAR DISC
    #0: STARTS PO1O OVER
    #1: ADVANCES TO THE NEXT RANKED DISC
    #2: SHOWS THE NUMBER OF PLAYS FOR THAT
        DISC
    #3: ALLOWS YOU TO PUT IN A DISC NUMBER AND
        GO DIRECTLY TO IT AND SEE THE RANKING

P011 MOST POPULAR DISC
    #0: STARTS P011 OVER
    #1: ADVANCES TO THE NEXT RANKED DISC
    #2: SHOWS THE NUMBER OF PLAYS FOR THAT
        DISC
    #3: ALLOWS YOU TO PUT IN A DISC NUMBER AND
        GO DIRECTLY TO IT AND SEE THE RANKING

PO12 DISPLAYS THE TOP 30 SINGLES
    #0: STARTS P012 OVER
    #1: ADVANCES TO THE NEXT RANKED SINGLE
    #2: SHOWS YOU THE NUMBER OF PLAYS FOR THE
        SINGLE SHOWN

P013 DISPLAY THE CASH READINGS (ROUNDED OFF TO
    THE NEAREST DOLLAR)
    #0: DISPLAYS THE CASH SINCE THE LAST
        COLLECTION (THIS IS RESETABLE)
    #1: DISPLAYS THE LIFETIME CASH TOTAL
        (THIS IS NONRESETABLE)

P014 CASH FOR INDIVIDUAL COIN CHANNELS AND BILL
    ACCEPTOR
    #0: COINS THROUGH CHUTE 1 (# COINS X .10 =
        MONEY)
    #1: COINS THROUGH CHUTE 2 (# COINS X .50 =
        MONEY)
    #2: COINS THROUGH CHUTE 3 (# COINS X .25 =
        MONEY)
    #3: COINS THROUGH CHUTE 4 (NO VALUE)
    #4: BILLS COUNTED IN BILL VALIDATOR (# =
        DOLLARS)
    #5: LIFETIME COUNTER OF CHUTE 1 (X .10)

#6: LIFETIME COUNTER OF CHUTE 2 (X .50)
#7: LIFETIME COUNTER OF CHUTE 3 (X .25)
#8: LIFETIME COUNTER OF CHUTE 4 (X .00)
#9: LIFETIME OF BILL VALIDATOR (# = DOLLARS)

P016   NUMBER OF SONGS PLAYED
    #0: NUMBER SINCE LAST TIME COLLECTED
      (RESETABLE)
    #1: LIFETIME NUMBER
      (NONRESETABLE)

P017   NUMBER OF SONGS SELECTED
    #0: NUMBER SINCE LAST TIME COLLECTED
      (RESETABLE)
    #1: LIFETIME NUMBER
      (NONRESETABLE)

P018   NUMBER OF ALBUMS SELECTED
    #0: NUMBER SINCE LAST TIME COLLECTED
      (RESETABLE)
    #1: LIFETIME NUMBER
      (NONRESETABLE)

P019   NUMBER OF OVERPLAYED SONGS
    #0: NUMBER SINCE LAST TIME COLLECTED
      (RESETABLE)
    #1: LIFETIME NUMBER
      (NON RESETABLE)

P020   NUMBER OF CREDITS PAID FOR
    #0: NUMBER SINCE LAST TIME COLLECTED
      (RESETABLE)
    #1: LIFETIME NUMBER
      (NONRESETABLE)

P021   NUMBER OF FREE CREDITS
    #0: NUMBER SINCE LAST TIME COLLECTED
      (RESETABLE)
    #1: LIFETIME NUMBER (NONRESETABLE)

P022 NUMBER OF BACKGROUND SONGS THAT PLAYED
#0: NUMBER SINCE LAST TIME COLLECTED
(RESETABLE)
#1: LIFETIME NUMBER
(NONRESETABLE)

P023 NUMBER OF SONGS PLAYED IN AUTO PLAY MODE
#0: NUMBER SINCE LAST TIME COLLECTED
(RESETABLE)
#1: LIFETIME NUMBER
(NONRESETABLE)

P024 NUMBER OF PLAYS IN ADVERTISING MODE
#0: NUMBER SINCE LAST TIME COLLECTED
(RESETABLE)
#1: LIFETIME NUMBER
(NONRESETABLE)

P025 NUMBER OF HAPPY-HOUR-CREDITS
#0: NUMBER SINCE LAST TIME COLLECTED
(RESETABLE)
#1: LIFETIME NUMBER (NONRESETABLE)

P028 NUMBER OF UNUSED CREDITS (NO LIFETIME)

P029 NUMBER OF UNPLAYED SONGS THAT WERE
SELECTED (NO LIFETIME)

P033 CANCELLATION OF RESETTABLE COUNTERS
"0"+"H": CANCELS ALL RESETABLE MEMORY
<u>CONTENTS</u>
"1"+"H": RESETS HIT PARADE (P012)
"2"+"H": RESETS POPULARITY (P010+P011)
"3"+"H": RESETS COUNTERS AND CASHBOX
COUNTERS (P013 TO P024)
"4"+"H": CANCELS CREDITS
"5"+"H": CANCELS SELECTIONS IN MEMORY
"6"+"H": CLEARS ERROR CODES (P150)

3. <u>DATA TRANSFER/CANCELLATION</u>

P030 "0"+"H" STORES ALL DATA IN DATA PRINT AND PRINTS
OUT DEPENDING ON DATA PRINT SETTING.
THE COUNTERS ARE THEN RESET AFTER THE
PRINTOUT IS DONE AND THE INTERLOCK SWITCH
PUSHED IN.

P031 PRINTS-OUT AT DATA PRINT ONLY.
"O" PRINTS ALL DATA.
"1" PRINTS CASHBOX AMOUNT.
"2" PRINTS COUNTERS WITH CASHBOX.
"3" PRINTS THE GENERAL SETTINGS.
"4" PRINTS THE POPULARITY OF ALL CDs.
"5" PRINTS THE TOP 30 SINGLE TRACKS WITH THE
NUMBER OF PLAYS.
"6" PRINTS THE LAST 20 ERROR CODES WITH DATE AND
TIME.

P032 "0" ALLOWS THE ENTIRE STATISTICS TO PRINT OUT WITH
ANY OTHER PRINTER.

P033 CANCELLATION OF RESETTABLE MEMORY PROGRAMS
"0" + "H" CANCELS ALL RESETTABLE MEMORY
CONTENTS
"1" + "H" RESETS HIT PARADE. (P012)
"2" + "H" RESETS POPULARITY. (P010 + P011)
"3" + "H" RESETS COUNTERS AND CASHBOX COUNTERS.
(P013 TO P024)
"4" + "H" CANCELS CREDITS ON DISPLAY.
"5" + "H" CANCELS SELECTIONS IN MEMORY.
"6" + "H" CLEARS ERROR CODES. (P150)

4. GENERAL SETTINGS

P040 RESETS P040 TO P054 & P094 ALSO SETS P091 TO P135 TO
ZERO
"0" + "H" = DEFAULT VALUES
"1" + "H" = SAME AS BEFORE BUT ENABLES BACKGROUND
AND THE AUTO PLAY. WITH ACCESS TO ALL CDs.

P041 I.D. NUMBER FOR USE WITH NSM DATA PRINT
#1 TO #9999 THEN PUSH "H"

P042 THE MAXIMUM NUMBER OF SELECTABLE CDs AND TRACKS.
OF CDs AND # OF TRACKS THEN PUSH "H"

P043 LIGHT ORGAN IN STAND-BY

P044 LIGHT ORGAN DURING PLAY

P045 TIME LIMIT ON SONGS
FROM 1 TO 99 MIN. THEN PUSH "H"
"O"+"H" = UNLIMITED TIME

P046 PLAYING SEQUENCE ON PLAYING PAID SONGS
"0"+"H" PLAY AS SELECTED (FIFO)
"1"+"H" PLAY IN NUMERICALLY ASCENDING NUMBERS
"2"+"H" PLAY RANDOMLY

P047 MAXIMUM NUMBER OF SONG ON THE SAME CD TO PLAY
IN A ROW. (ALSO AFFECTS BACKGROUND PLAY.)
"0"+"H" UNLIMITED
"1" TO "99" +"H"

P048 AUTOMATIC ADVANCE OF TITLE DISPLAY
"10"+"H"=10MIN.
"20"+"H"=20MIN.   UP TO "99"+"H"=99MIN.
"0" + "H" = DISABLED

PO49 CANCEL CREDITS AFTER POWER OFF AND STANDBY
"O"+"H"=NO CANCELLATION OF CREDITS.   "1"+"H"=6MIN
"2"+"H"=12MIN   UP TO "240"+"H"=24HRs

P050 CANCELLATION OF SELECTIONS IN MEMORY AFTER POWER OFF
"0" +"H"=NO CANCELLATION OF SELECTIONS   "1"+"H"=6MIN
"10"+"H=1HR   UP TO "240"+"H"=24HRs

P051 MAXIMUM VOLUME LEVEL DURING PAID PLAY
     "0"+"H" MUTE   UP TO "31"+"H" (LOUDEST)

PO52 MAXIMUM VOLUME LEVEL DURING BACKGROUND MODE
     "0"+"H" MUTE   UP TO "30"+"H"

P053 VOLUME CONTOL FROM INSIDE THE JUKEBOX
     KEY "2" LOUDER KEY "8" QUIETER BOTH CHANNELS
     KEY "1" LOUDER KEY "7" QUIETER LEFT CHANNEL
     KEY "3" LOUDER KEY "9" QUIETER RIGHT CHANNEL

P054 BASS AND TREBLE SETTINGS
     KEY "2" MORE BASS AND TREBLE BOTH CHANNELS
     KEY "8" LESS BASS AND TREBLE   BOTH CHANNELS
     KEY "1" MORE BASS BOTH CHANNELS
     KEY "7" LESS BASS BOTH CHANNELS
     KEY "3" MORE TREBLE BOTH CHANNELS
     KEY "9" LESS TREBLE BOTH CHANNELS

5. PRICE SETTING

P060 RESETS PRICING TO DEFAULT.
  "18" + "H" = 1 PLAY FOR $ .50
      3 PLAYS FOR $1.00
      18 PLAYS FOR $5.00

P061 TO P065 YOU CAN CUSTOMIZE THE PRICING. ALWAYS
    START WITH THE LOWEST AMOUNT OF MONEY
    YOU WANT TO GIVE CREDIT FOR AND DON'T
    CHANGE UNTIL THE NUMBER OF CREDITS FOR
    MONEY CHANGES.
    UNUSED STEP MAY BE PROGRAMMED WITH
    ZERO.

P066 SETS THE ALBUM PRICING.
  "0" + "H" = NO ALBUM SELECTION POSSIBLE.
  "1" + "H" = CHARGES FOR ONLY HOW MANY TRACKS
    ARE ON THE DISC.
  "2" + "H" = ONLY CHARGES 4 CREDITS FOR EVERY
    5 TRACKS ON THE DISC.
  "3" + "H" = ONLY CHARGES 3 CREDITS FOR EVERY
    4 TRACKS ON THE DISC.
  "4" + "H" = ONLY CHARGES 2 CREDITS FOR EVERY
    3 TRACKS ON THE DISC.

6. <u>COIN CHANNEL VALUE SETTING</u>

PO70 RESETS COIN CHUTES TO FACTORY SETTING
      "10" + "H" = USA COIN CHUTE SETTING.

P071 COIN CHANNEL 1 (USA $0.10)

P072 COIN CHANNEL 2 (USA $ .50)

P073 COIN CHANNEL 3 (USA $ .25)

P074 COIN CHANNEL 4 (USA $ .00 FREE CREDIT BUTTON)

P075 COIN CHANNEL 5 (USA $ 1.00)

P076 DOLLAR BILL BONUS

PO77 INDIRECT / DIRECT MONEY TO CREDIT REVALUATION
      "0"+"H"= INDIRECT REVALUATION: INSERTED COINS ARE
              STORED. AT A DEFINED COIN VALUE THE CREDIT
              IS GIVEN FOR THE HIGHEST PRICE SETTING.
              EXAMPLE: PRICING = 1 CREDIT FOR $ .50
                                 3 CREDITS FOR $1.00
                                 18 CREDITS FOR $5.00
           4 $ .25 WILL GIVE 3 CREDITS
           40 $.25 WILL GIVE 18 CREDITS
           5 $1.00 BILLS WILL GIVE 18 CREDITS

      "1"+"H"= DIRECT REVALUATION: INSERTED COINS ARE NOT
              STORED. THEY ARE REVALUED AFTER EACH
              INSERTION, MAKING IT IMPOSSIBLE FOR BONUS
              CREDITS WITH MULTIPLE COINS OR BILLS.
              EXAMPLE: PRICING = 1 CREDIT FOR $ .50
                                 3 CREDITS FOR $1.00
                                 18 CREDITS FOR $5.00
           4 $ .25 WILL GIVE ONLY 2 CREDITS
           40 $ .25 WILL GIVE ONLY 10 CREDITS
           5 $1.00 BILLS WILL GIVE ONLY 15 CREDITS
           1 $5.00 BILL WILL GIVE ONLY 15 CREDITS

7.   <u>SETTING THE REAL TIME CLOCK</u>

P080: TIME OF DAY (IN HUNDREDS I.E. 3PM = 1500)
     KEY "1" ADVANCES HOURS
     KEY "7" SUBTRACTS HOURS
     KEY "3" ADVANCES MINUTES
     KEY "9" SUBTRACTS MINUTES

P081: DAY MONTH AND YEAR
     KEY "1" ADVANCES THE DAY
     KEY "7" DECREASES THE DAY
     KEY "2" ADVANCES THE MONTH
     KEY "8" DECREASES THE MONTH
     KEY "3" ADVANCES THE YEAR
     KEY "9" DECREASES THE YEAR

P082: DAY OF THE WEEK
     KEY "3" ADVANCES THE DAY CODE
     KEY "9" DECREASES THE DAY CODE
    1=MONDAY 2=TUESDAY 3=WEDNESDAY 4=THURSDAY
    5=FRIDAY 6=SATURDAY 7=SUNDAY

8   PROGRAMMING FREE CREDITS

P090 RESETS FREE CREDITS TO 200
      "0"+"H" = UNLIMITED FREE CREDITS WITH NO TIME
           PERIODS

P091 STARTING TIME FOR FREE CREDITS
      HOURS WITH KEYS "1" OR "7"
      MINUTES WITH KEYS "3" OR "9"
      KEY "6" = 30 MIN.
      KEY "4" = 12 O'CLOCK
      KEY "5" = 0000
    PUSH "H" AFTER ENTRY

P092 STOPPING TIME FOR FREE CREDITS
      HOURS WITH KEYS "1" OR "7"
      MINUTES WITH KEYS "3" OR "9"
    PUSH "H" AFTER ENTRY

PO93 WEEKDAYS THAT FREE CREDIT IS ENABLED
      ON THE MIDDLE DISPLAY THE WEEKDAYS ARE SHOWN
      WITH NUMBERS 1 TO 7. EACH WEEKDAY CAN BE
      ACTIVATED INDIVIDUALLY. "1" MEANS ACTIVE ON THAT
      DAY. "0" MEANS OFF FOR THAT DAY.
    PICK "0" OR "1" THEN PUSH "H"

PO94 ENTERING THE NUMBER OF FREE CREDITS
      "0"+"H" = NO FREE CREDITS ARE POSSIBLE.
      LESS THAN "200" = LIMITED FREE CREDITS. THE AMOUNT
                    CORRESPONDS TO THE INPUTTED
                    NUMBER + "H"
    "200" + "H" = UNLIMITED FREE CREDIT.
    "201" + "H" = SWITCHING BETWEEN PAID CREDITS
             AND UNLIMITED CREDITS.
    "202" + "H" = FREE PLAY (99 CREDITS) WHILE TIME
             WINDOW IS ACTIVE.

9 BACKGROUND MUSIC

P100 RESETS BACKGROUND TO DISABLED
       "0" + "H" = DISABLED

P101 STARTING TIME FOR BACKGROUND MUSIC
       SET HOURS WITH KEYS "1" OR "7"
       SET MINUTES WITH KEYS "3" OR "9"
       PUSH "H" AFTER ENTRY

P102 STOPPING TIME FOR BACKGROUND MUSIC
       SET HOURS WITH KEYS "1" OR "7"
       SET MINUTES WITH KEYS "3" OR "8"
       KEY "6" = 30 MIN.
       KEY "4" = 12 O'CLOCK
       KEY "5" = 0000
       PUSH "H" AFTER ENTRY

P103 WEEKDAYS THAT BACKGROUND IS ENABLED
       ON THE MIDDLE DISPLAY THE WEEKDAYS ARE SHOWN
         WITH THE NUMBERS 1 TO 7.
       EACH DAY CAN BE ACTIVATED INDIVIDUALLY.
       "1" MEANS ACTIVE ON THAT DAY. "0" MEANS OFF FOR
         THAT DAY.   PICK "0" OR "1" THEN PUSH "H"

P104 TYPE OF OPERATION FOR BACKGROUND
       "0" + "H" = NO BACKGROUND MUSIC
       "1" + "H" = ALLOWS STARTING AND STOPPING OF BACK-
                   GROUND MUSIC BY PRESSING BACKGROUND
                   KEY ON MACHINE OR REMOTE CONTROL
       "2" + "H" = AUTOMATICALLY PLAYS BACKGROUND
                   MUSIC AT DEFINED TIMES.

P105 WHAT IS PLAYED AS BACKGROUND MUSIC
       ENTER 20 FOUR DIGIT ENTRIES.
       20 TITLES OR ALBUMS CAN BE SELECTED.
       WITH NO SELECTIONS IN P105 ALL CDs WILL BE SELECTED.

P106 LOCK OUT SELECTIONS OF BACKGROUND MUSIC
       "0" + "H" = TITLES OR ALBUMS FREE FOR SELECTING
       "1" + "H" = TITLES OR ALBUMS CANNOT BE SELECTED

P107 SEQUENCE OF PLAYING BACKGROUND MUSIC
       "0" + "H" = PLAY IN ORDER OF ENTRY
       "1" + "H" = RANDOM PLAY

10 PROGRAMMING AUTO PLAY

P110 RESETS AUTO PLAY TO DISABLED
    "0" + "H" = DISABLED

P111 STARTING TIME FOR AUTO PLAY
    SET HOURS WITH KEYS "1" OR "7"
    SET MINUTES WITH KEYS "3" OR "9"
    KEY "6" = 30 MIN.
    KEY "4" = 12 O'CLOCK
    KEY "5" = 0000
    PUSH "H" AFTER ENTRY

P112 STOPPING TIME FOR AUTO PLAY
    SET HOURS WITH KEYS "1" OR "7"
    SET MINUTES WITH KEYS "3" OR "9"
    KEY "6" = 30 MIN
    KEY "4" = 12 O'CLOCK
    KEY "5" = 0000
    PUSH "H" AFTER ENTRY

P113 WEEKDAYS THAT AUTO PLAY IS ENABLED
    ON THE MIDDLE DISPLAY THE WEEKDAYS ARE SHOWN
    WITH THE NUMBERS 1 TO 7.
    EACH WEEKDAY CAN BE ACTIVATED INDIVIDUALLY.
    "1" MEANS ACTIVE ON THAT DAY.
    "0" MEANS OFF FOR THAT DAY.
    PICK "0" OR "1" THEN PUSH "H"

P114 DEFINES THE TIME BETWEEN SONGS IN AUTO PLAY.
    "1" TO "99" + "H" =MINUTES BETWEEN SONGS.
    "0" + "H" = NO AUTO PLAY.

P115 DEFINES THE SONGS OR ALBUMS TO BE PLAYED IN AUTO
    ENTER 20 FOUR DIGIT ENTRIES.
    20 TITLES OR ALBUMS CAN BE SELECTED.
    WITH NO SELECTIONS IN P115 ALL CDs WILL BE SELECTED.

P116 LOCK OUT SELECTIONS OF AUTO PLAY.
    "0" + "H" = TITLES OR ALBUMS FREE FOR SELECTING.
    "1" + "H" = TITLES OR ALBUMS CANNOT BE SELECTED.

P117 SEQUENCE FOR PLAYING AUTO PLAY SONGS.
    "0" + "H" = PLAY IN ORDER OF ENTRY.
    "1" + "H" = RANDOM PLAY.

11 <u>PROGRAMMING ADVERTISING</u>

P120 RESETS ADVERTISING TO DISABLED
      "0" + "H" = DISABLED

P121 STARTING TIME FOR ADVERTISING
      SET HOURS WITH KEYS "1" OR "7"
      SET MINUTES WITH KEYS "3" 0R "9"
      KEY "6" = 30 MIN.
      KEY "4" = 12 O'CLOCK
      KEY "5" = 0000
      PUSH "H" AFTER ENTRY

P122 STOPPING TIME FOR ADVERTISING
      SET HOURS WITH KEYS "1" OR "7"
      SET MINUTES WITH KEYS "3" OR "9"
      KEY "6" = 30 MIN.
      KEY "4" = 12 O'CLOCK
      KEY "5" = 0000
      PUSH "H" AFTER ENTRY

P123 WEEKDAYS THAT ADVERTISING IS ENABLED
       ON THE MIDDLE DISPLAY THE WEEKDAYS ARE SHOWN
       WITH THE NUMBERS 1 TO 7.
       EACH WEEKDAY CAN BE ACTIVATED INDIVIDUALLY.
       "1" MEANS ACTIVE ON THAT DAY.
       "2" MEANS OFF FOR THAT DAY.
       PICK "0" OR "1" THEN PUSH "H"

P124 DEFINES THE TIME BETWEEN ADVERTISING SPOTS.
      "1" to "99" + "H" = MINUTES BETWEEN SPOTS
      "0" + "H" = NO ADVERTISING SPOTS

P125 DEFINES THE TRACKS OR ALBUMS TO BE PLAYED
      IN ADVERTISING.
      ENTER 20 FOUR DIGIT ENTRIES.
      20 TRACKS OR ALBUMS CAN BE SELECTED.

P126 LOCK OUT SELECTIONS OF ADVERTISING.
      "0" + "H" = TRACKS OR ALBUMS FREE FOR SELECTING.
      "1" + "H" = TRACKS OR ALBUMS CANNOT BE SELECTED.

P127 SEQUENCE FOR PLAYING ADVERTISING.
      "0" + "H" = PLAY IN ORDER OF ENTRY.
      "1" + "H" = RANDOM PLAY.

12 <u>LOCKING OUT OF TITLES</u>

P130 RESETS ALL LOCKED OUT SONGS.
      "0" + "H" = ALL SONGS CAN BE PLAYED.

P131 STARTING TIME FOR PLAYING LOCKED SONGS.
      SET HOURS WITH KEYS "1" OR "7"
      SET MINUTES WITH KEYS "3" OR "9"
      KEY "6" = 30 MIN.
      KEY "4" = 12 O'CLOCK
      KEY "5" = 0000

P132 STOPPING TIME FOR PLAYING LOCKED SONGS.
      SET HOURS WITH KEYS "1" OR "7"
      SET MINUTES WITH KEYS "3" OR "9"
      KEY "6" = 30 MIN.
      KEY "4" = 12 O'CLOCK
      KEY "5" = 0000

P133 WEEKDAYS FOR RELEASING LOCKED SONGS
      ON THE MIDDLE DISPLAY THE WEEKDAYS ARE SHOWN
      WITH THE NUMBERS 1 TO 7.
      EACH WEEKDAY CAN BE ACTIVATED INDIVIDUALLY.
      "1" MEANS SELECTABLE ON THAT DAY.
      "0" MEANS NOT SELECTABLE ON THAT DAY.
    PICK "0" OR "1" THEN PUSH "H"

P134 ENABLE AND DISABLE TIME WINDOW.
      "0" + "H" = SONGS CAN BE SELECTED IN TIME WINDOW.
      "1" + "H" = SONGS ARE BLOCKED IN TIME WINDOW.

P135 DEFINES THE SONGS OR ALBUMS WHICH ARE BLOCKED.
      ENTER UP TO 20 FOUR DIGIT ENTRIES.
      20 SONGS OR ALBUMS CAN BE SELECTED.

TO UNLOCK ONE OR MORE SONGS, FIND THAT SONG IN P135 AND
    THEN PUT IN "0" + "H".

13 HAPPY-HOUR-CREDITS

P140 RESETS HAPPY-HOUR-CREDITS TO DISABLED
"0" + "H" = DISABLED

P141 STARTING TIME FOR HAPPY-HOUR-CREDITS
SET HOURS WITH KEYS "1" OR "7"
SET MINUTES WITH KEYS "3" OR "9"
KEY "6" = 30 MIN.
KEY "4" = 12 O'CLOCK
KEY "5" = 0000
PUSH "H" AFTER ENTRY

P142 STOPPING TIME FOR HAPPY-HOUR-CREDITS
SET HOURS WITH KEYS "1" OR "7"
SET MINUTES WITH KEYS "3" OR "9"
KEY "6" = 30 MIN.
KEY "4" = 12 O'CLOCK
KEY "5" = 0000
PUSH "H" AFTER ENTRY

P143 WEEKDAYS THAT HAPPY-HOUR IS ENABLED.
ON THE MIDDLE DISPLAY THE WEEKDAYS ARE
SHOWN WITH THE NUMBERS 1 TO 7.
EACH DAY CAN BE ACTIVATED INDIVIDUALLY.
"1" MEANS ACTIVE FOR THAT DAY. "0" MEANS OFF
FOR THAT DAY.
PICK "0" OR "1" THEN PUSH "H"
ALL SEVEN SET TO 0 WILL ACTIVATE THE WHOLE
WEEK.

P144 SETS THE BONUS CREDITS FOR HAPPY-HOUR
"0" + "H" = NO HAPPY HOUR
ANY NUMBER FROM "1" TO "5" = THE NUMBER OF
CREDITS
THAT HAVE TO BE PAID FOR TO RECEIVE AN
EXTRA CREDIT.

14 .1 TEST PROGRAMS

P150 READ-OUT OF ERROR CODES.
     "0" = LAST REGISTERED ERROR.
     "1" = PREVIOUS (NEXT) ERROR CODE
     "2" = CD, TRAY, OR DISPLAY PAGE DURING THE
          OCCURRENCE OF THE ERROR SHOWING.
     "3" = TIME OF THE ERROR SHOWING.
     "4" = DATE THE ERROR SHOWING OCCURRED.

P151 PLAYS ALL CDs FOR 16 SEC. (F1)
     "0" STARTS CONTINUOS RUN.

P152 PLAYS SELECTED CDs FOR 16 SEC. (F2)
     "0" THEN PUT IN THE CD NUMBER AND TRACK NUMBERS.
     AS MANY AS YOU WANT.

P153 OTHER CONTINUOUS PLAY TEST (F3 TO F5)
     "0" ALL CDs ARE PLACED ON THE PLAYER, BUT NOT PLAYED
     (F3)
     "1" CDs NO. 1, 25, 50, 51, 75, & 100 ARE PLAYED FOR 16 SEC.
     CONTINUOUSLY. (F4)
     "2" COMBINATION OF CONTINUOUS RUN F3 FOLLOWED BY
     (F4).

P155 LAMP TEST (F6)
     "0" STARTS LAMP TEST

P156 INPUT TEST (F7)
     "0" STARTS INPUT TEST

P157 MANUAL CONTROL FOR CD CHANGER VIA KEYPAD (F8)
"1" ENABLE LASER   "2" LIFT UP   "3" LIFT UP BY STEP
"4" GET CD FROM LEFT "5" REPLACE CD "6" GET CD FROM RT.
                "8" LIFT DOWN   "9" LIFT DOWN BY STEP
                "0" REPLACE CD
                SET LIFT DOWN

    THIS TEST SERVES ALSO TO CHECK THE OPTO COUPLERS.
    (SEE MANUAL)

14.2 RECORDING SONG QUANTITIES
(INITIALIZATION)

P160 AFTER ENTERING THIS PROGRAM THE PHONOGRAPH
      SEARCHES THROUGH ALL CD SLOTS FOR THE NUMBER
      OF CDs DEFINED IN P042. DURING THE SEARCH IT READS
      THE NUMBER OF SONGS RECORDED ON EACH CD INTO
      MEMORY.
      PUSH "0" TO START THE LEARN IN.

P161 RECORDING SONG QUANTITIES OF ONE CD.
      NEW CD NUMBER + "H" = LEARN IN OF NEW CD.

P162 DISPLAYING ALL DISC AND SONG QUANTITIES
      "0" = NUMBER OF SONGS ON CD #1
      "1" = SWITCH TO THE NEXT CD #
      "2" = RETURN TO THE PREVIOUS CD #
      "3" = TITLE NUMBER OF ANY CD

P163 ERASING CD FROM MEMORY
      "0" + "H" = RESETS ALL CD TRACKS TO 01

P164 SWITCHING BETWEEN SIGNAL SOURCES
     (SEE MANUAL)

PROGRAMMING OF

NSM-PHONOGRAPHS

ES V-CD TECHNOLOGY

to
Technical Information, Assy

	176 393	THE PERFORMER GRAND II
	176 352	THE WIZARD /
		OLD FASHION WIZARD
	176 514	THE PERFORMER CLASSIC
	176 610	CD HIDE-AWAY II
	176 598	FIREBIRD II
	176 705	THE PERFORMER WALL

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Table of Contents

PROGRAMMING OF PHONOGRAPHS

Main Menu

In order to program NSM phonographs in a simple yet extensive fashion, a service program has been instal-
led with which the different settings can be altered via the keyboard of the phonograph.
In order to get to operating mode "programming", the following steps must be taken:
Opening of cabinet lid (door) and
pulling out service switch (cabinet interlock switch).
By changing the display, the phonograph indicates that it is in operating mode "programming". The display
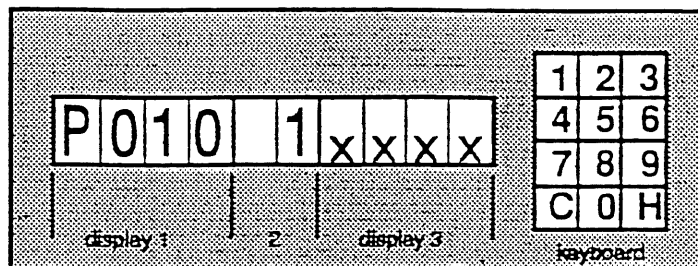shows the following text:

Illustration: "Display after calling up command mode"

The display "popularity" shows the least played CD. When pressing "C", the display is cancelled. To the left
the letter "P" appears. Now enter the desired command number. Zeros before the number can be left out.
Pressing "H" confirms the entry.
For example:

Enter: P 40 H 1 H   to program the phonhgraph with all default values.

In order to find single commands easier, all possible commands are put together in single groups. Compared
to their predecessors, the programming of machines with ES–V technology is much more extensive. The
commands of Groups 1 to 6 and 14 have previously existed, but have been revised. The commands in
Groups 7 to 13 have been added. By integrating a real time clock, the phonograph has been equipped with
some very interesting new commands. Thus, the phonographs have become even more attractive.

In Table 1 "Overview of Commands of the Service Program" the 14 command groups existing now are listed.

Table 1: "Overview of Commands of the Service Program"

Group	Name of Command Group	Command Numbers
1	Authorization	P001...P002
2	Statistics	P010...P026
3	Data Transfer/Cancellation	P030...P033
4	General Settings	P040...P054
5	Price Setting	P060...P066
6	Monetary Value Setting	P070...P076
7	Programming Real Time Clock	P080...P082
8	Programming Free Credits	P090...P094
9	Programming Background Music	P100...P107
10	Programming Auto Play	P110...P117
11	Programming Advertising	P120...P127
12	Lock–out of Different Titles	P130...P135
13	Programming Happy–Hour–Credits	P140...P144
14	Test Programs	P150...P164

The following "Programming table for NSM–phonographs" lists all commands possible with this service pro-
gram. When entering the respective command number, one can eliminate the leading zeros. A command
called up in error can be cancelled by pressing "C".

Table of Programs for NSM Phonographs with ES V–Technology

Program	Description
P001	Authorization: Enter code. "PPPP"
P002*	Change authorization code "PPPP"
	Statistics:
P010	0– No. of least played CD / 1– No. of second–least played CD / 2– Number of plays / 3– Data about any CD
P011	0– No of the most played (best) CD / 1– No of the second–best CD / 2– Number of plays / 3– Data about any CD
P012	0– Top–title, Hit #1 / 1– Second–best title
P013*	0– Cash amount since last evaluation / 1– Accumulated Cashbox amount
P014*	0– Number of coins through Chute 1 (K1) / 1– Number of coins through Chute 2 (K2) / 2– Number of coins through Chute 3 (K3) / 3– No of coins through K4 or bills NP1 / 4– Number of bills through validator NP2 / 5– Accumulated counter for K1 / 6– Accumulated counter for K2 / 7– Accumulated counter for K3 / 8– Accumulated counter for K4 or NP1 / 9– Accumulated counter for K5 or NP2
P 015*1)	0– Cash amount of wall box / 1– Accumulated Cashbox amount
P016*	0– Counter of played titles / 1– Accumulated counter
P017*	0– Counter of selected titles / 1– Accumulated counter
P018*	0– Counter of album selections / 1– Accumulated counter
P019*	0– Counter of overplay titles / 1– Accumulated counter
P020*	0– Counter for paid credits / 1– Accumulated counter
P021*	0– Counter for free credits / 1– Accumulated counter
P022*	0– Counter for background titles / 1– Accumulated counter
P023*	0– Counter for autoplay titles / 1– Accumulated counter
P024*	0– Counter for advertising tracks / 1– Accumulated counter
P025*	0– Counter for Happy–Hour–credits / 1– Accumulated counter
P026	reserve
P027	reserve
P028	Number of unused credits
P029	Number of selections not yet played
P030	Datatransfer to DATA PRINT in textmode 0– cashbox, counters popularity, errors, ..
P031*	Datatransfer to DATA PRINT in graphic mode 0– all available data / 1– Cashbox / 2– Counter with cashbox / 3– General settings / 4– Popularity of all CDs / 5– Top 30 hits / 6– Previous 20 error reports
P032*	Option
P033*	Cancellation routines! 0+H– Cancels all memories! / 1+H– Cancels top 30 hits! / 2+H– Cancels popularity! / 3+H– Cancels counters and cashbox! / 4+H– Cancels credits! / 5+H– Cancels all selection memories! / 6+H– Cancels all error memories!
P040*	General settings: 0+H Default values for 41 to 54, 77, 94 / 1+H Default values for 41 to 54, 77, 94, 104, 107 and 114, 117
P041*	Define machine code number, maximum 4 digits "0"
P042	Selection limit for CD/TRACK (title) max.100CDs, 99 tracks "0024"
P043	Light show in stand–by, if installed "1105"
P044	Light show in operation, if installed "1000"
P045*	Time limit for play in minutes for one title (0–no limit) "0"
P046	Sequence of play for normal selections (0/1/2) "0 (FIFO)"
P047	Maximum number of titles in a sequence from one CD (0 = no limit) "0"
P048	Automatic advancing of title display in minutes (0– none) "0"
P049*	Cancels credits after power off/stand–by (x=0–no, 1 to 240–yes) x/10sec "2"
P050*	Cancels selection memory after power off (x=0–no, 1 to 240–yes) x/10 hrs. "2"
P051*	Maximum volume in play operation (max. 31) "31"
P052*	Maximum volume for background music (max. 31) "16"
P053	Set volume "0505"
P054	Set treble and bass "0808"
P060*	Price settings: see table "Price settings" 0+H– Cancels previous price setting n+H– Selection "n" from table (s a)
P061*	Arbitrary price setting for chute 1 xx=selections, yyyy=price "xx yyyy"
P062*	ditto for chute 2
P063*	ditto for chute 3
P064*	ditto for chute 4
P065*	ditto for chute 5
P066*	Bonus listing for album selection "1" 0– No album selection allowed / 1– No bonus / 2– 1 bonus for 5 Titles / 3– 1 bonus for 4 Titles / 4– 1 bonus for 3 Titles
P070*	Monetary value settings: see table "Monetary value settings" 0+H– Cancels previous monetary value n+H– Selection "n" from table (s a)
P071*	Arbitrary monetary value setting f. chute 1 zzzz=coin value (0500–$ 5,–) "zzzz"
P072*	ditto for chute 2
P073*	ditto for chute 3
P074*	ditto for chute 4
P075*	ditto for chute 5
P076*	Bonus credits for bill insert "0"
P077*	0– indirect revaluation / 1– direct revaluation "0"
P080*	Program real time clock: Set time "hhmm"
P081*	Set date "ddmmyy"
P082*	Set week–day (d–1 to 7) "d"
P090*	Program free credits: 0+H– default; cancels entries + time
P091*	Start time for time window "Free Credit"
P092*	Stop time for time window "Free Credit"
P093*	Active on weekday(s) "x" (x = 1 to 7) (0–no, 1–yes)+H
P094*	Number of free credits: 0: No free credits "0" / <200: No. of free credits individually used / =200: Unlimited use / =201: Switch between no/unlimited use / =202: automatically unlimited use
P100*	Program background music: 0+H– default, cancels entries + time
P101*	Start time for time window "Background music"
P102*	Stop time for time window "Background music"
P103*	Active on weekday(s) "x" (x = 1 to 7) (0–no,1–yes)+H
P104*	Lock for background music (BGM): 0– No BGM "1" / 1– BGM possible in time window / 2– BGM automatically in time window
P105*	Entry of 20 titles or albums Enter: nnnn+H
P106*	Patron Selection (0–free, 1–locked for guests)
P107*	Sequence of play (0–FIFO, 1–RANDOM) "0"
P110*	Program auto play: 0+H– default, cancels entries + time
P111*	Start time for time window "Auto Play"
P112*	Stop time for time window "Auto Play"
P113*	Active on weekday(s) "x" (x = 1 to 7) (0–no,1–yes)+H
P114*	Time between two titles in minutes Enter: nn+H (0–no auto play) "16"
P115*	Entry of 20 titles or albums Enter: nnnn+H
P116*	Patron Selection (0–free, 1–locked for guests)
P117*	Sequence of play (0–FIFO, 1–RANDOM) "1"
P120*	Program advertisement play: 0+H– default, cancels entries + time
P121*	Start time for time window "Advertisement"
P122*	Stop time for time window "Advertisement"
P123*	Active on weekday(s) "x" (x = 1 to 7) (0–no,1–yes)+H
P124*	Time between two titles in minutes Enter: nn+H (0–no adverts)
P125*	Entry of 20 titles or albums Enter: nnnn+H
P126*	Patron Selection (0–free, 1–locked for guests)
P127*	Sequence of play (0–FIFO, 1–RANDOM)
P130*	Lock–out certain titles: 0+H– default, cancels entries + time
P131*	Start time for time window "Free title selection"
P132*	Stop time for time window "Free title selection"
P133*	Active on weekday(s) "x" (x = 1 to 7) (0–no,1–yes)+H
P134*	Activate lock 1– Title locked 0– Title in time window available
P135*	Entry of 20 titles or albums Enter: nnnn+H
P140*	Program Happy–Hour–credits: 0+H– default; no Happy–Hour
P141*	Start time for time window "Happy–Hour"
P142*	Stop time for time window "Happy–Hour"
P143*	Active on weekday(s) "x" (x = 1 to 7) (0–no,1–yes)+H
P144*	Calculation number (n–1 to 5) Enter n+H (0– no Happy–Hour)

CALLING UP TEST PROGRAMS:

Program	Description
P150	Read out error report memory: 0– Last reported error / 1– Previous error report / 2– CD–Nr. at which the error occured / 3– Time of occurence / 4– Date of occurence
P151	0– Continuous run 1: all CDs played for 16 sec. each
P152	0– Selected CDs played for 16 sec. Enter: nnnn +H
P153	0– Continuous run 3: All CDs are placed in the lift, but not played / 1– Continuous run 4: 6 CDs are continuously played for 16 sec (1,25,50,51,75,..) / 2– Continuous run 5: 2x cont. run 3, thereafter repeated cont. run 4
P155	0– Lamp test (F6); Stop with key
P156	0– Input test (F7); Stop with key
P157	0– manual control of the CD–changer Stop with key / Stop the continuous runs always with the cabinet switch!

Title memory:

Program	Description
P160	0– Read in all CD titles i e. with initial equipping of all CDs
P161	Read in the titles of one newly equipped CD Enter CD# "nn"+H
P162	Read the title memory 0– Number of titles from first CD / 1– Number of titles from the next CD / 2– Number of titles from the last CD / 3– Number of titles from any CD Enter CD # "nn"+H
P163	Cancels title memory of all CDs 0+H– all entries = 1
P164	Switch signal sources: (only necessary when servicing) 0+H– Mute (no signal source) / 1+H– CD–player / 2+H– Tape or cassette player / 3+H– Microfone

1) R... not yet implemented   "Values" – factory settings   Input of authorization code necessary

1. Authorization_ P001 to P002

Because the jukeboxes can be programmed with so many important data as well as input in cash counter and statistics, it is even more important than before that only authorized personnel may have access. For this reason access to essential data of the phonograph can be protected by using an authorization code.

P001 – Authorization: In order to call up the protected commands, one must start authorization by using the P001 command.

> *Enter: P 001 H P P P P H   or   P 1 H P P P P H*

The authorization code "0000" has been programmed for delivery. The phonograph is not protected and the operator can choose his own code by entering command **P002**. For security reasons the code number is not shown. In the display each number is shown as "P. When "PPPP" is shown, the secret code number is complete and after pressing "H" and leaving the programming mode, the machine is protected.

P002 – Changing of authorization code: During regular operation changing of the authorization code is only possible after previous authorization. Illegal misuse is thus prevented.

> *Enter: P 001 H P P P P H (for authorization)*

P001		P.P.P.P
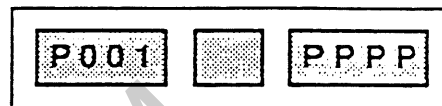
> *Enter: P 002 H p p p p H (when entering new authorization code)*

Caution: As described beforehand, the authorization code is NEVER shown! Therefore, it is important that the code is never lost since there is no opportunity to reprogram the phonograph.

2. Statistics P010 to P029

Within the command group statistics there is information regarding cash and number values as well as statements as to how often CDs are played (popularity, hit parade).

The single comamnds for cash value and counters are divided into two groups. The regular information is under code "0". Cumulated values are under code "1" which have been added up since the jukebox.has been operating.

Individual commands:

Popularity: Relating to CD albums, the commands P010 and P011 exist in order to determine the popularity.

P010:
  0: Display of number of **least played CD**
  1: Display of number of the next higher CD (stepping through with "1")
  2: Number of plays
  3: Information to any CD (enter CD number)

After entering the proper code, the display shows the information such as the following:

Enter: P 010 H   0   i.e. least played CD No. 45
                   1

P010	1	45
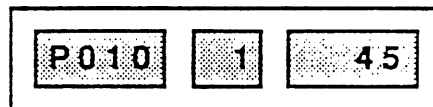
Enter: P 010 H   2   i.e. 13269 plays

P010	1	3269

Enter: P 010 H   3 53 H
                   i.e. CD No. 53 in 17th place

P010	17	53

P011:   0: Display of number of **most popular CD**
                        1: Display of number of next higher CD (advance with "1"
                        2: Number of plays
                        3: Information regarding any CD (enter CD number).

After entering the proper code, the display shows the respective data.

Enter: *P 011 H*   *0*   *i.e. most popular CD No. 19*
                     1

P 011	1	19

Enter: *P 011 H*   *2*   *i.e. 731 plays*

P 011		731

Enter: *P 011 H*   *3 24 H*
                          i.e. CD No. 24 in 2nd place

P 011	2	24

Hit Parade: One can also call up the top 30 titles.

P012:   0: Display of top title number, Hit No. 1
                        1: Display 2nd best title (advance with key "1")
                        2: Number of plays of the actual title

Enter: *P 012 H*   *0*
                     1   *i.e. in 16th place: Title 3 of CD 1*

P 012	16	0103

CD–No. title

                     2   *i.e. this title was played*
                            169 times until now:

P 012	16	169

Values of several counters: The following commands display the actual cash contents as well as diverse counter readings since the last collection. One receives statistics concerning the entire time of operation by reading the cumulated counters.

Cashbox: The display of the cash amount is done by total numbers, read out in currency amounts. Contrary to the monetary value setting in command group P07x where the coin value multiplied by factor 100 is displayed, i.e. $1.— are entered in P07x as 0100, but are shown as 1 in P013.

Display of the cash contents is indicated by maximum 6 spaces (max. display: $ 99 9,999.–).

P013:   0: Display of cash contents since the last collection
                        1: cumulated cash contents

Enter: *P·013 H*   *0*
                     1   *i.e. $34,829.–*

P013	3	4829

Coin counter/bill counter: Besides displaying the cash levels, the counters of the individual money chutes can be called up. This makes possible an additional control of the cash contents. The five integrated counters are distributed as follows:

Chutes 1 to 3: only coins (defined by monetary value setting P071 to P073)
Chute 4: coins as well as bills (can be selected with P074)
Chute 5: only bills (defined by P075)

The total of the individual counters corresponds to the total of the cashbox contents.

P014:
0: Number of coins through Chute 1 (enter P071)
1: Number of coins through Chute 2 (enter P072)
2: Number of coins through Chute 3 (enter P073)
3: Number of coins through Chute 4 and/or bills counted in Bill Validator 1 (enter P074)
4: Number of bills counted in Bill Validator 2 (enter P075)

5: Cumulated counter Chute 1 (enter P071)
6: Cumulated counter Chute 2 (enter P072)
7: Cumulated counter Chute 3 (enter P073)
8: Cumulated counter Chute 4 (enter P074)
9: Cumulated counter Chute 5 (enter P075)

Enter: P 014 H   0
                  1   i.e. 12.543 coins through
                  2   channel 2:
                  ...
                  9

```
P014    1    2543
```

The respective cashbox total is derived by multiplying: number of coins x monetary value of coin.

Additional Counters: With commands P016 to P025 diverse counters can be called up which can be used as actual counters and as cumulative ones as the commands described previously. The statistical data contained therein can be used to settle accounts.

P016:   0: Number of **titles played**
         1: Cumulated counter
P017:   0: Number of **titles chosen**
         1: Cumulated counter
P018:   0: Number of **albums chosen**
         1: Cumulated counter
P019:   0: Number of **overplay titles**
         1: Cumulated counter
P020:   0: Number of **credits paid**
         1: Cumulated counter
P021:   0: Number of **free credits**
         1: Cumulated counter
P022:   0: Number of **background titles**
         1: Cumulated counter
P023:   0: Number of **titles in auto play mode**
         1: Cumulated counter
P024:   0: Number of **advertising titles**
         1: Cumulated counter
P025:   0: Number of **Happy-Hour-credits**
         1: Cumulated counter

>>

i.e.: calling up number of titles played; a total of 10273 titles were played on this jukebox.

Enter: *P 016 H*   1   *i.e. 10,273 titles played
in total*

```
P016     1     0273
```

The counters P026 and P027 are not used.

Further interesting data are recorded in counters P028 and P029.

<u>P028</u>:   Number of credits unused.
This shows the number of payed credits available for selections of titles or albums.

<u>P029</u>:   Number of chosen unplayed titles.
This shows how many entries are remaining in the selection storage.

3. Data Transfer/Cancellation! P030 to P033

In this group of service program commands the stored data in the counters mentioned beforehand are prepared for output to a DATA PRINT or to evaluation devices which process the data. Prerequisite is, for instance, the DATA PRINT is already connected to the evaluation connector (ST2 on the control unit). After calling up the command and entering the respective code, data transfer follows.
There are two ways of Print–out possible:

P030 transfers all available data in text mode. The data are stored within the DATA PRINT.
They can be printed out or edited on a PC i.e. with the software DATA CONTACT.
The counters of the phonograph are deleted after the print–out is done and the cabinet lid is closed.
P031 transfers all data in graphic mode. The data are printed–out directly after recieving.

See also the print–out examples in chapter 15.

If an error is determined, "E0" is shown in Display 3. In that case, please check the connection to DATA PRINT.

Display of the Jukebox if a transfer error occurs:

```
P03x          E0
```
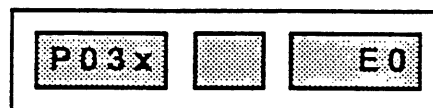
Remember to pull out the interface cord after the print–out is finished.

DATA PRINT Print–out in Text Mode

<u>P030</u>:   0: All data of the statistics counters are processed
and sent to DATA PRINT. There they are stored and printed out depending on DATA
PRINT setting.

The stored data can continue to be processed by a PC, i.e. by DATA CONTACT.

Enter: *P 030 H*   0
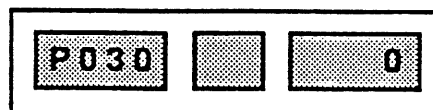
```
P030          0
```

The counters of the phonograph are deleted after the print–out is done and the cabinet lid is closed.

DATA PRINT Print–out in Graphic Mode

Contrary to the output of P030, the entire statistics as well as individual statistical areas can be printed out by P031. But the data are not stored within the DATA PRINT.

P031:   0: Print all data
            1: Cashbox amount
            2: Counter with cashbox
            3: General settings
            4: Popularity of all CDs
            5: Hit parade of the best 30 titles
            6: The last 20 errors shown

Enter: P 031 H   0
                      1
                      ...   *i.e. 4 print–out popularity:*
                      6

P 0 3 1		4
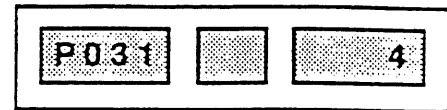
! CANCELLATION

The P30 group contains not only the printing commands but also the cancellation commands of counters P010 to P024.Only the "regular" counters are cancelled. The cumulated counters are excluded from cancellation. The memories for credit and selection of titles as well as the error memory are cancelled.To avoid the cancellation of data by accident or by unauthorized persons, this function can be protected by an authorization code (enter P001).

P033:   0+H: Cancellation of all memory contents   **!!CAUTION!!**
            1+h: Cancels hit parade (P012)
            2+H: Cancels popularity (P010)
            3+H: Cancels counters and cashbox contents (P013–P024)
            4+H: Cancels credit memory
            5+H: Cancels selection memory
            6+H: Cancels error memory

To additionally safeguard accidental cancellations, each input has to be confirmed by pressing "H".

Enter: P 033 H   0 H
                      1 H
                      2 H   *i.e. cancel popularity:*
                      ...
                      6 H

P 0 3 3		2
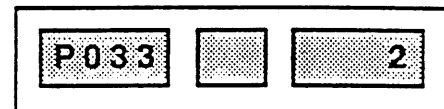
4. General Settings P040 to P054

In order to adjust each phonograph individually to the location requirements, certain general settings can be individually changed. Basis are detailed values which have been set at the factory (Note: "default values").

P040:   0+H: programming of **default values** (P041 to P054, P077, P094)
cancellation of values (P091 to P144), set to inactive:

P041: 0	P050 2	P077 0
P042: 0024	P051 31	P094 0
P043 1105	P052 16	
P044 1000	P053 0505	
P045 0	P054 0808	
P046 0		
P047 0		
P048 0		
P049 2		

1+H: as above, additional programming of default values for:

backgroundmusic autoplaytitles with defined acces to all CDs.

P104: 1	P114 15	
P107: 0	P117 1	

Enter: P 040 H   0 H
1 H   i.e. set default values

```
┌─────────────────────────────────────────┐
│  �usgP040▓   ▓▓▓▓▓      ▓▓▓▓0▓ │
└─────────────────────────────────────────┘
```

P041:   **I.D. Number**; every phonograph can be programmed with its own I.D. number. Data print-outs can then be easily identified when several machines are evaluated. The I.D. number has at most 4 digits.

Enter: P 041 H   nnnn H

```
┌─────────────────────────────────────────┐
│  ▓P041▓   ▓▓▓▓▓      ▓2602▓ │
└─────────────────────────────────────────┘
```

P042:   **Maximum number of selectable CDs and titles**; in partially equipped phonographs, unused magazine slots can be excluded. A maximum of 100 CDs (01–to 00) as well as a maximum of 99 titles can thus be selected. (Default value: 24).

Enter: P 042 H   0024 H
i.e. release 100 CDs with
24 titles each to be selected

```
┌─────────────────────────────────────────┐
│  ▓P042▓   ▓▓▓▓▓      ▓0024▓ │
└─────────────────────────────────────────┘
```

Please remember that with each change regarding the number of CDs, the new parameters will have to be reported to the juke box via program step P160 or P161. Otherwise, there will be problems when playing the CD.

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<u>P043</u>:   **Light in stand–by;** a light generator can be programmed, hich causes the phonograph to attract the patrons' attention as long as no music has been selected. OPTION!

Enter: P 043 H   P043 ☐ 1105
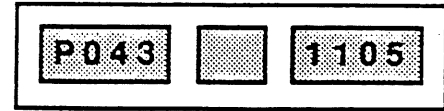
Programming the running light is done by entering a 4 digit number according to the following scheme:

A: Switch over charakteristica   0= hardly
                                  1= softly
B: Speed   0= slowly
                                  3= fast
C+D: various running lights   01 to 15

A	B	C	D
0	0	0	1
▼	▼	▼	▼
1	3	1	5

→ 1105

1105: Running light no.05, slowly with softly switching light.

<u>P044</u>:   **Light during play;** another light generator can be programmed here to differentiate between the two. OPTION!

Enter: P 044 H   P044 ☐ 1000
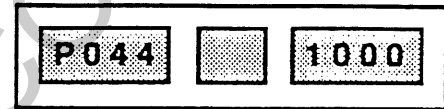
Programming the light show is done by entering a 4 digit number according to the following scheme:

A: Mode of operation   0= steady light
                           1= light organ
B: Basic brightness/contrast   0= dark
                           3= bright
C+D: Various light effects   00= lightorgan
                           01 to 15 s.o.

A	B	C	D
0	0	0	0
▼	▼		
1	3		

→ 1000

1000: light organ, relative dark

<u>P045</u>:   **Limit play time of one track** in minutes; in order to suppress too long titles play time can be limited. The title just playing will slowly fade when the time (value "nn" in minutes) is up. When entering 0, there is no limit.

Enter: P 045 H   nn H   P045 ☐ 3
3 H: titles will slowly fade after 3 min.
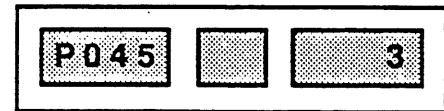
<u>P046</u>: .   **Sequence of plays at normal selection:** in order to alter the music menu, three variations can be chosen when playing different titles:
                0 – play as selected (FIFO)
                1 – play in numerically ascending numbers
                2 – play randomly (RANDOM).

Enter: P 046 H   n H   P046 ☐ 2
2 H   i.e. play randomly
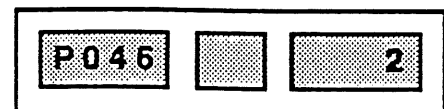
P047:   **Maximum number of titles of one CD** (value "n" as number)in sequence; here it is determined how many titles of one CD are played in sequence. 0 means no limit.

Enter: *P 047 H*   *n H*

             0 H   i. e. no limit

```
┌──────────────────────────────────┐
│ ┌────────┐  ┌────┐  ┌──────────┐  │
│ │ P 0 4 7│  │░░░░│  │        0 │  │
│ └────────┘  └────┘  └──────────┘  │
└──────────────────────────────────┘
```

P048:   **Automatic advancing of title display;** 0 = no automatic advancing. If minutes are entered here (value "nn"), the title display is changed accordingly in stand–by.

Enter: *P 048 H*   *nn H*
                    10 H   i.e. advancing of
                    title display every 10 min.

```
┌──────────────────────────────────┐
│ ┌────────┐  ┌────┐  ┌──────────┐  │
│ │ P 0 4 8│  │░░░░│  │     1 0  │  │
│ └────────┘  └────┘  └──────────┘  │
└──────────────────────────────────┘
```

P049:   **Cancel credit** after X/10 hrs. (X x 6 min.) power off or stand–by.

P050:   **Cancel selection memory** after X/10 hrs. (X x 6 min.) power off.

Value "X" can be between 0 and 240 with commands P049 and P050.
i.e. X = 1: waiting time = 6 min.
     X = 10: waiting time = 1 hr.
     X = 240: waiting time = 24 hrs.

"0" does not cancel.

Enter: *P 049 H*   *2 H*
                    i.e. cancel credit after 12 min.
                    power off/stand–by (2/10 hrs.):

```
┌──────────────────────────────────┐
│ ┌────────┐  ┌────┐  ┌──────────┐  │
│ │ P 0 4 9│  │░░░░│  │        2 │  │
│ └────────┘  └────┘  └──────────┘  │
└──────────────────────────────────┘
```

Enter: *P 050 H*   *4 H*
                    i.e. cancel selection memory
                    after 24 min. power off:

```
┌──────────────────────────────────┐
│ ┌────────┐  ┌────┐  ┌──────────┐  │
│ │ P 0 5 0│  │░░░░│  │        4 │  │
│ └────────┘  └────┘  └──────────┘  │
└──────────────────────────────────┘
```

Maximum Volume Levels

Maximum volume levels during play and background mode can be pre–set to a certain limit. The manually adjustable volume level of the phonograph cannot go beyond the set levels.

P051:   **Maximum volume during play;** can be set between 0 (mute) and 31 (loud).

P052:   **Maximum volume during background mode;** can be set between 0 (mute) and 31 (loud).

Enter: *P 051 H*   *31 H*
                    i.e. maximum volume possible

```
┌──────────────────────────────────┐
│ ┌────────┐  ┌────┐  ┌──────────┐  │
│ │ P 0 5 1│  │░░░░│  │     3 1  │  │
│ └────────┘  └────┘  └──────────┘  │
└──────────────────────────────────┘
```

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Set volume for play mode

With command **P053** the volume of the phonograph is set. This function can be set in two ways:

In the program mode it can be set via the keypad of the phonograph or the remote control. In regular play mode it can only occur via remote control.
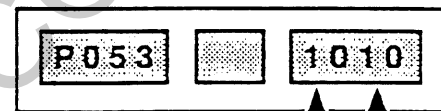
In both cases one hears the volume changes immediately.

Key pad layout for volume setting:

1 left channel louder	2 both channels louder	3 right channel louder
4	5	6
7 left channel quieter	8 both channels quieter	9 right channel quieter
C Cancel	0	H Step to the next command.

Enter: P 053 H

Change per pressing keys
i.e.   Key "2" = louder

P053		1010
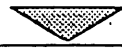
channel value: left, right

Sound setting

With command **P054** the sound setting is performed in a range from 1 to 10. Here treble and bass volume are set for both channels at the same time. The changed setting can also be immediately heard.

Key pad layout for sound setting:

1 more bass	2 more bass + treble	3 more treble
4 mean value	5 mean values	6 mean value
7 less bass	8 less bass + treble	9 less treble
C Cancel	0	H Step to the next command.

Enter: P 054 H

Change per pressing keys
i.e.   Key "8" = less bass and treble

P054		0808
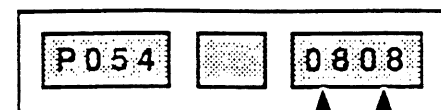
value of bass, treble

5. Price Settings P060 to P066

To make programming of credit values easier and faster, a table for price settings, standard value via code number, has been programmed for command <u>P060</u> in which actual price values have been entered. The programming of the five possible price levels can be automized with the table.

Another possibility is the individual programming of the individual price scales with commands <u>P061</u> to <u>P065</u>. Entry as per form plays/monetary value: nn xxxx (nn = two–digit number of plays, xxxx = 4–digit monetary value).

Table 2:"Price Settings"

| Code No.	COUNTRY	P061	P062	P063	P064	P065	Remarks
0	———————	00 0000	00 0000	00 0000	00 0000	00 0000	no coin conversion in this setting
1	Germany	01 0100	01 0100	03 0200	03 0200	03 0200	1 play = 1.–DM
2	Belgium	02 2000	02 2000	02 2000	06 5000	06 5000	
3	Netherland	02 0100	02 0100	02 0100	06 0250	06 0250	2 different settings
4	France	02 0500	02 0500	10 1000	10 1000	10 1000	
5	Switzerland	02 0100	02 0100	05 0200	05 0200	14 0500	
6	Austria	01 0500	01 0500	03 1000	03 1000	07 2000	
7	Italy	01 0400	01 0400	01 0400	03 1000	03 1000	
8	Spain	01 0050	01 0050	02 0100	02 0100	05 0200	
9	Greece	01 2000	01 2000	01 2000	02 5000	02 5000	
10	Jugoslavia	01 0200	01 0200	01 0200	03 0500	03 0500	
11	Denmark	01 0300	01 0300	02 0500	05 1000	12 2000	4 different settings
12	Norway	01 0300	01 0300	02 0500	02 0500	04 1000	
13	Finland/Sweden	01 0300	01 0300	01 0300	02 0500	02 0500	
14	Hungary	01 2000	01 2000	01 2000	01 2000	01 2000	
15	Ireland	01 0010	01 0010	03 0020	03 0020	10 0050	
16	Great Britain	01 0030	01 0030	02 0050	02 0050	05 0100	
17	USA (1) / Canada	01 0050	01 0050	01 0050	03 0100	03 0100	Dollarbill on chan.5 (P065)
18	USA (2)	01 0050	01 0050	03 0100	03 0100	18 0500	
19	Africa	01 0020	01 0020	03 0050	03 0050	07 0100	
20	Australia	01 0100	01 0100	01 0100	03 0200	03 0200	
21	Netherl. Antillen	01 0400	01 0400	01 0400	01 0400	01 0400	
22	New Zealand	01 0050	01 0050	01 0050	01 0050	01 0050	

Programming the price settings by default values

<u>P060</u>: In order to program the phonograph with the default values of the table, the respective code number is entered after command P060 and confirmed with "H". The setting selected (n = code no. of the table) is automatically conferred to the respective price scales.

    Enter: P 060 H   n H
                       18 H   i e. price setting: USA

P060		18

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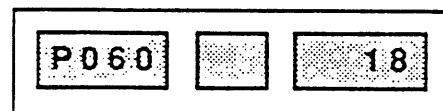
Programming the price settings with individual (personnel) values

P061 to P065: The stakes for the individual price scales can also be separately defined. With commands P061 to P065 the respective stake can be programmed.
You just have to observe the order of entering the values: P061 is programmed with the lowest and P065 is programmed with the highest Price setting.
Unused Steps may be programmed with zero or with the preceeding value (examples see table)

Example of individual price setting: 12 titles for $ 5,– (price scale 3).

Enter: *P 065 H 120500 H*

```
┌──────────────────────────────┐
│  P 0 6 5     1 2     0 5 0 0  │
└──────────────────────────────┘
```
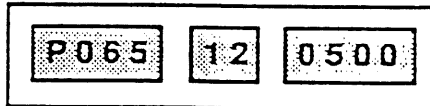
Programming an album bonus

The setting of bonus credits for album selection is done with command P066 in the service program. The following settings are permitted:

P066:
- 0: no album selection possible
- 1: no bonus (default setting),
- 2: 1 bonus for every 5th track,
- 3: 1 bonus for every 4th track,
- 4: 1 bonus for every 3rd track.

Setting is confirmed by pressing "H".

Enter: *P 066 H   0 H*
            1   i.e. no bonus
            ...
            4

```
┌──────────────────────────────┐
│  P 0 6 6                   1  │
└──────────────────────────────┘
```
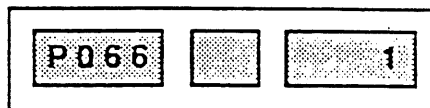
6. Monetary Value Setting P070 to P077

As with the price setting, the identification of the different coins as related to the monetary values processed by the phonograph, can be done automatically when the pre—defined basic values are sufficient.
Table 3 "Monetary Value Setting" shows which setting can be programmed as basic value (see next page).

P070: The **standard values** of the table are selected with command P070 "n" + "H" (n = code no. from table).

Enter: P 070 H   n H
                 10 H   i.e. USA

P 0 7 0		10
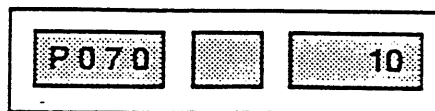
"n" is the code number for the respective setting. To avoid erroneous entries, each entry has to be confirmed by "H". This is very important since entry of Code Number 0 cancels the current monetary value setting and no currency acceptance is possible.

P071 to P075: **Individual monetary values**: as with the price setting, with the monetary value setting the coin value of each chute can be individually identified.
This is easily done by inserting one or more coins after command P070 has been called up. According to coin value the program changes to the proper chute command P071 to P075. On display 1 the monetary value of each coin is displayed. This can be changed as needed. Unused chutes have to be programmed with monetary value 0.

Entries occur in the smallest counting unit of each currency that makes sense, i.e.

USA   with $1,–   => 0100,
GERMANY   with DM 5,– => 0500 or
AUSTRIA   with öS 20,–=> 2000.

Normally the standard setting is sufficient.

BONUS CREDITS

With command P076 another bonus (value n = 0 to 4) is defined. The bonus for paying with bills.

Enter: P 076 H   nn H
                 3 H   i.e. 3 bonus credits

P 0 7 6		3
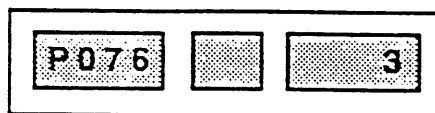
When accepting a bill in Chute 5, this bonus is added to the regular credits.

INDIRECT / DIRECT MONEY TO CREDIT REVALUATION

With this command it is possible to differ between the how and when of the revaluation of inserted coins.

P077:   "0" + "H" Indirect revaluation: inserted coins are stored. At an appointed coins value the credit is defined from the highest possible price setting, including a possible bonus.
                "1" + "H" Direct revaluation: inserted coins are revaluated directly after insertion.
                    Then no bonus is possible with multiple insertion of coins.

Enter: P 077 H   n H
                 0 H   i.e. indirect revaluation

P 0 7 7		0

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Table 3:"Monetary Settings"

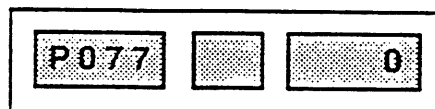| Table No.	COUNTRY	channel 1(P071)	channel 2(P072)	channel 3(P073)	channel 4(P074)	channel 5(P075)	Remarks, example for 1 chan.
0	———————	0	0	0	0	0	no coin conversion
	mechanical coin acceptor						
1	Germany, Schwitzerland, Venezuela	100	500	200	0	0	100 = 1,–DM 100 = 1 sfr 100 = 1,–Bol
2	Belgium	0	2000	500	0	0	2000 = 20 Bfr
3	Netherlands	25	250	100	0	0	250 = 2,5 hfl
4	Denmark, France	100	500	1000	0	0	100 = 1 dkr
5	Austria	500	2000	1000	0	0	500 = 5 OS
6	Italy	200	100	500	0	0	200 = 200 L
7	Spain	0	25	100	0	0	25 = 25 Pst
8	Finland, Norway, Jugoslavia	0	500	100	0	0	500 = 5 mK 500 = 5 Kr 500 = 5 Din
9	Great Britain, Ireland	20	50	10	0	0	20 = 20 p
10	USA	10	50	25	0	100	10 = 10 c, 100 = 1 $
11	Canada	0	25	0	0	100	25 = 25 c, 100 = 1 $
12	Union of South–Africa	20	100	50	0	0	20 = 20 c, 100 = 1 R
13	Australia	100	50	20	0	0	100 = 1 $
14	Netherl. Antillen	0	100	25	0	0	100 = 1 NAF
	elektronic coin acceptor						
15	Germany, Schwitzerland, Italy	500	100	0	200	0	500 = 5,–DM 500 = 5sfr 500 = 500 L
16	Belgium	5000	500	0	2000	0	100 = 1 Bfr
17	Netherlands	25	250	500	100	0	25 = 25 c, 500 = 5 hfl
18	France	1000	200	100	500	0	1000 = 10 F
19	Denmark, Austria	2000	500	100	1000	0	2000 = 20 dkr 2000 = 20 ÖS
20	Spain	200	50	25	100	0	200 = 200 Pst
21	Greece	0	50	20	0	0	50 = 0,5 Dr
22	Norway	1000	100	0	500	0	1000 = 10 Kr
23	Finland	0	500	100	0	0	200 = 200 L
24	Sweden	500	100	0	100	0	500 = 5 Kr
25	Great Britain	100	20	10	50	0	100 = 1£, 20 = 20 p
26	USA	100	25	0	50	0	100 = 1$
27	Canada	10	100	25	0	0	10 = 10 c, 100 = 1 $
28	Australia	0	100	20	200	0	200 = 2 $
29	Netherl. Antillen	0	0	100	0	0	100 = 1 NAF
30	Neu Zealand	50	10	5	20	0	50 = 50 c

Chutes entered with 0 on this table are blocked. One must be careful to block also the coin pathways so these coins will not be accepted and are rather expelled through the coin return.

7. Programming Real Time Clock P080 to P082

The most important modification of the ES–V technology is the implementation of a real time clock. Referring to the data supplied by the clock, a number of functions have been developed that are dependent on chronological data for start and stop times. Together with the weekday programming which continues to be available, an "automatic programm" for a whole week can be developed during which all functions operate automatically.

The real time clock runs quartz–precise with a battery backed–up power supply if the phonograph is turned off.

Set time: With command **P080** the time can be set. The newly set minute information starts the counter for seconds automatically at zero.

Keypad layout for command "set time":

1 ▲ hour +1	2	3 ▲ minute +1
4 . 12:00	5 00:00	6 30 minutes
7 hour −1 ▼	8	9 minute −1 ▼
C Cancel	0	H Step to the next command

Enter: P 080 H

change per pressing keys
i.e. 10.45 h

P 0 8 0		1 0 4 5

Set date: With command **P081** the date is set. The date is shown on displays 2 and 3.

Keypad layout for command "set date":

1 ▲ day +1	2 ▲ month +1	3 ▲ year +1
4	5	6
7 day −1 ▼	8 month −1 ▼	9 year −1 ▼
C Cancel	0	H Step to the next command

Enter: P 081 H

change per pressing keys
i. e. May 21, 1992:

P 0 8 1	2 1	0 5 9 2

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Set day code: With command **P082** the day code is set for the week–day of the previous set date.

Key pad layout for command "set day code":

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

1	2	3 ⏶ day code +1
4	5	6
7	8	9 day code −1 ⏷
C Cancel	0	H Step to the next com- mand

Enter: P 082 H

change per pressing keys
i.e Thursday is 4:

P 0 8 2   [ ]   4
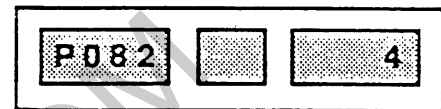
After confirming one week–day entry the jukebox switches to the next week–day.

The data supplied by the real time clock are processed by commands P090 to P135 (described as follows) for the so–called time windows. Here the entry of the time window values also occurs via the illustrated key-pad layout.

Furthermore the informations of time and date are used for the print–out of statistical data to the DATA PRINT (P030 and P031).

8. Programming Free Credits P090 to P094

The group of 90th commands allows the operator to give free credits (music selection without coin insert) at certain times of the week.
Amount and type of free credits are set in the program as well as the time periods.

P090: In P090 a standard setting cancels automatically the previous setting.
The time factor is set to zero, so there are no automatic time periods for free credits.

Enter: *P 090 H   0 H*

P090   0
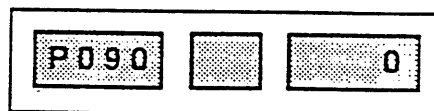
P091: To set the starting time for the time window "free credit," the keypad is used (see P080).

Enter: *P 091 H*   *Set per pressing keys*
                        i.e. starting time 12:34
                        confirm setting with key "H".

P091   1 2 3 4

P092: Here the stop time of the a.m. time window is set (see P080).

Enter: *P 092 H*   *Set per pressing keys*
                        i.e. stopping time 13:45
                        confirm setting with key "H".

P092   1 3 4 5
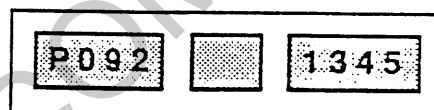
P093: Here the weekday is chosen on which the previously determined time window is to become active.

On the middle display the weekdays (according to the illustration of P082) are shown through Numbers 1 to 7. Each weekday can be activated individually. "1" means active on that day. "0" means non–active. The inputs must be confirmed by pressing "H".
To simplify the entries it is defined that the whole week is active with "0" or "1" (for all days).

Enter: *P 093 H   0 or 1 H*
                    Set per pressing keys
                    i.e. monday is inactive
                    confirm setting with key "H".

P093   1   0
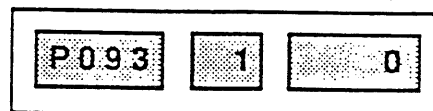
With confirming one week–day entry the software steps to the following week–day.

P094: Entering the number of free credits.

Different program types are possible:

0:      No free credits possible (default setting).
<200:   Limited free credit. Amount corresponds to input number. Free credits can be used individually. In the display the remaining credits are shown.
=200:   Unlimited free credit while time window is active.
=201:   Switching between no free credits and unlimited free credits while time window is active. Switching via remote control.
=202:   Unlimited free credit automatically while time window is active. If non–active switching is done via remote control.

Enter: *P 094 H   200 H*
                    i.e. no free credit:

P094   0
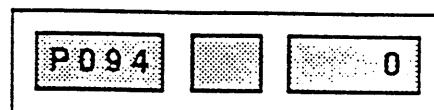
9. Programming Background Music P100 to P107

During those times when few people are present or for social festivities, the phonograph operator can call up the background mode. The played music is heard quietly in the background. This operational mode remains even after a power failure. If money is inserted into the machine and a title selected, the background music is interrupted for the duration of play. The factory setting (P040=1) defines that the background mode can be started and stopped by pressing the key "BACKGROUND" (P104=1, P107=0).

P100: If the command P100 is called up and "0" is entered and confirmed with "H", the default setting is activated because all settings of Group P10x will be set to 0.

Enter: P 100 H   0 H

```
┌──────────┐ ┌──────────┐ ┌──────────┐
│  P 1 0 0 │ │          │ │        0 │
└──────────┘ └──────────┘ └──────────┘
```
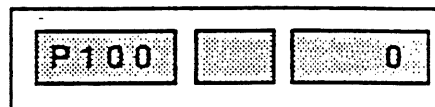
With command **P101** the starting time and with command **P102** the stopping time is set for the time window of background music. Key pad layout see P080.

P103: With command P103 the week-days are set when background music should be played. Key pad layout see P082.

Enter: P 103 H   0 or 1 H
Set per pressing keys
i.e. Wednesday inactiv:
confirm settings with key "H"

```
┌──────────┐ ┌──────────┐ ┌──────────┐
│  P 1 0 3 │ │    3     │ │        0 │
└──────────┘ └──────────┘ └──────────┘
```
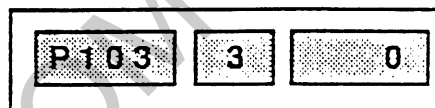
With confirming one week-day entry the software steps to the following week-day.

P104: With command P104 the mode of operation is set. Three types are possible.

P104 "0"   no background music.
P104 "1"   allows starting and stopping background music by pressing background key on machine or on remote control.
P104 "2"   automatically plays background music at defined times of the time window.

Enter: P 104 H   n H
2 H   i.e. automatically
within the time window

```
┌──────────┐ ┌──────────┐ ┌──────────┐
│  P 1 0 4 │ │          │ │        2 │
└──────────┘ └──────────┘ └──────────┘
```
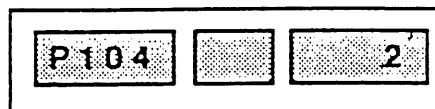
P105: What is played as background music, is also determined by the operator. With command P105, followed by 20 four-digit entries, 20 titles or albums can be determined. Without entry in P105 all CDs (defined by P042 to be selectable) are played.

Enter: P 105 H   nnnn H
i.e. 1. entry: CD #17 title 3
and so on:

```
┌──────────┐ ┌──────────┐ ┌──────────┐
│  P 1 0 5 │ │          │ │   1 7 0 3│
└──────────┘ └──────────┘ └──────────┘
```
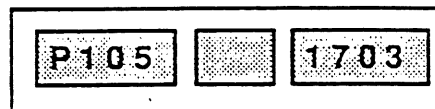
P106: Another new function is the "Patron Selection". With command P106 the operator determines whether the selected titles for background music can also be chosen by other customers.

P106 "0"   titles and albums free for selection,
P106 "1"   titles or albums are locked.

Enter: P 106 H   n H
0 H   i.e. titles are not locked:

```
┌──────────┐ ┌──────────┐ ┌──────────┐
│  P 1 0 6 │ │          │ │        0 │
└──────────┘ └──────────┘ └──────────┘
```
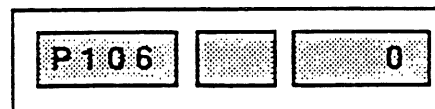
P107: The titles selected in P105 are played in the sequence selected in P107.

P107 "0"   sequence of play in order of entry (FIFO), factory setting
P107 "1"   random play (RANDOM).

10. Programming Auto Play P110 to P117

The phonograph can be programmed to automatically play a title once in a while to animate the audience during stand—by, the time period when no selections are being made. The factory setting (P040=1) makes it possible that any title is played every 15 minutes (P114=15, P117=1).

<u>P110</u>: The standard setting is **"no auto play"** since with command P110 "0" +"H" all entries in group P11x are set to zero.

Enter: P 110H   0 H

        i.e. set default values:

P110		0

With command <u>P111</u> the starting time and with command <u>P112</u> the stopping time is set for the time window of auto play. Key pad layout see P080.

<u>P113</u>: With command P113 the week—days are set at which auto play should be active. Key pad layout see P082

Enter: P 113 H   0 or 1 H

        Set per pressing keys
        i.e. Wednesday inactiv:
        confirm settings with key "H"

P113	3	0

With confirming one week—day entry the software steps to the following week—day.

<u>P114</u>: With command P114 the mode of operation is set. Three types are possible.

P114 "0" + "H"   **no** auto play
P114 "nn" + "H"   time between two titles (nn = max. 99 minutes)

Enter: P 114 H   nn H
        30 H *i.e. all 30 minutes play an*
                animation title

P114		– 3 0

<u>P115</u>: With command P115 followed by 20 four—digit entries (value nnnn), 20 titles or albums can be defined. Without entry in P105 all CDs (defined by P042 to be selectable) are played.

Enter: P 115 H   nnnn H

        i.e. 1. entry: CD # 97 all titles
        and so on:

P115		9 7 0 0

<u>P116</u>: also defines a "Patron Selection" (see P106) which defines if a title is locked or not

P116 "0"   titles and albums are free for selection
P116 "1"   titles and albums are locked.

Enter: P 116 H   n H
        0 H   *i.e. titles are not locked:*

P116		0

<u>P117</u>: defines the sequence of play for the titles or albums chosen under P115.

P117 "0"   Play in sequence of entry (FIFO)
P117 "1"   Play randomly (RANDOM)

Enter: P 117 H   n H
        1 H *i.e. play randomly:*

P117		1

11. Programming Advertisements P120 to P127

The broad distribution of CDs has led to advertising for various areas being recorded on CDs. Thus, you have another source of income with phonographs with ES–V technology.
Standard value is again "**no advertising**".

<u>P120</u>: With the command P120 "0" +"H" all entries of group P12x are cancelled (set to zero) and no advertising is played.

Enter: P 120 H 0 H
                  i.e. set default values:

P 1 2 0		0
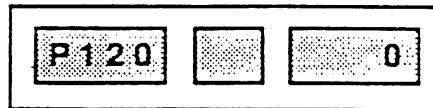
With command <u>P121</u> the starting time and with <u>P122</u> the stopping time is set for the time window of advertisement play. Key pad layout see P080.

<u>P123</u>: With P123 the week–day is set for advertisement play. See P082 for key pad layout.

Enter: P 123 H   0 or 1 H
                      Set per pressing keys
                      i.e. sunday inactiv:
                      confirm settings with key "H"

P 1 2 3	7	0
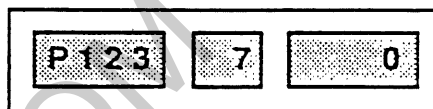
With confirming one week–day entry the software steps to the following week–day.

<u>P124</u>: With P124 it is set if or if not and which time between advertising spots should be waited .

        P124 "0" + "H" no advertisement play
        P124 "nn" + "H" time between titles (nn = max. 99 minutes).

Enter: P 124 H   nn H
                  30 H i.e. play a title every 30 minutes:

P 1 2 4		3 0
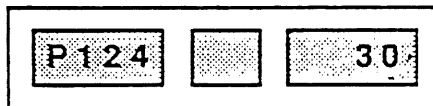
<u>P125</u>: With command P125 followed by 20 four–digit entries (value nnnn), 20 titles or albums can be defined.

Enter: P 125 H   nnnn H
                  i.e. 1.entry: CD # 90 3.title
                  and so on:

P 1 2 5	1	9 0 0 3
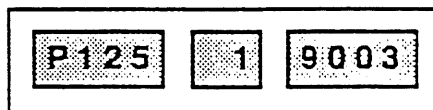
<u>P126</u>: defines "patron selection" again. See P106.

        P126 "0" titles and albums are free for selection
        P126 "1" titles and albums are locked.

<u>P127</u>: defines the playing sequence for advertising spots selected with P125.

        P127 "0" Play in sequence of entry (FIFO)
        P127 "1" Play randomly (RANDOM)

12. Blocking Certain Titles P130 to P135 (lock-out titles)

At certain times it may be necessary to lock-out one or more titles from being played. Perhaps these titles should not be played by minors or are simply damaged (bad playing quality). Standard is that all titles can be played.

P130: With the command P130 "0" + "H" all entries of group P13x are set to zero and no CDs or titles are locked-out.

Enter: P 130 H 0 H

　　　　　　　　 i.e. set default values

```
┌──────────────────────────────────────────┐
│  ┌────────┐   ┌────────┐   ┌────────────┐ │
│  │ P 1 3 0│   │░░░░░░░░│   │░░░░░░░░░░  0│ │
│  └────────┘   └────────┘   └────────────┘ │
└──────────────────────────────────────────┘
```

With command P131 the starting time and with P132 the stopping time is set for the time window for lock-out. Key pad layout see P080.

P133: With P133 the week-day is set. See P082 for key pad layout.

Enter: P 133 H　　　0 or 1 H
　　　　　　　　　　Set per pressing keys
　　　　　　　　　　i.e. saturday activ:
　　　　　　　　　　confirm settings with key "H"

```
┌──────────────────────────────────────────┐
│  ┌────────┐   ┌────────┐   ┌────────────┐ │
│  │ P 1 3 3│   │   6    │   │          1 │ │
│  └────────┘   └────────┘   └────────────┘ │
└──────────────────────────────────────────┘
```
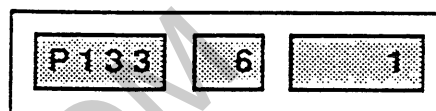
With confirming one week-day entry the software steps to the following week-day.

P134: With P134 "0"+"H" the titles can be selected in the time window; with "1" they are locked-out.

Enter: P 134 H　　　1 H
　　　　　　　　　　0 H　i.e. all titles are
　　　　　　　　　　　　 selectable within the
　　　　　　　　　　　　 time window:

```
┌──────────────────────────────────────────┐
│  ┌────────┐   ┌────────┐   ┌────────────┐ │
│  │ P 1 3 4│   │░░░░░░░░│   │░░░░░░░░░░  0│ │
│  └────────┘   └────────┘   └────────────┘ │
└──────────────────────────────────────────┘
```
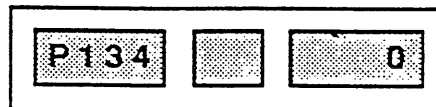
P135 defines a maximum of 20 titles or albums which are supposed to be locked-out. Input occurs with 4 digits for the CD number (nn__) and the title (__nn).

Enter: P 135 H　　　nnnn H
　　　　　　　　　　i.e. 1.entry: CD #85 all titles
　　　　　　　　　　and so on.

```
┌──────────────────────────────────────────┐
│  ┌────────┐   ┌────────┐   ┌────────────┐ │
│  │ P 1 3 5│   │░░░░░░░░│   │  8 5 0 0   │ │
│  └────────┘   └────────┘   └────────────┘ │
└──────────────────────────────────────────┘
```
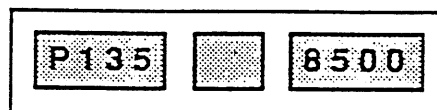
NOTE: Take care to change entries in P135 (if necessary delete entry) to a certain CD number if you change this CD. To delete an entry you step through the list of P135 by pressing key "H" as long as you reach the right entry. Now enter "0" and confirm with "H".
Or you delete all entries by setting default values with command P130 and "0" + "H".

13. Happy–Hour–Credits P140 to P144

For additional animation of the audiance this function is implemented.
At defined times of the week additional free credits (Happy–Hour–credits) are given, depending on the number of bought credits.
Standard setting is that no Happy–Hour–credits are given.

<u>P140</u>: With the command P140 "0" + "H" all entries of group P14x are set to zero so that there is no happy–hour.

    Enter: P 140 H 0 H

                    i.e. set default values
                    No Happy–Hour:

```
┌─────────────────────────────────────────┐
│ ┌─────────┐  ┌─────────┐  ┌─────────┐    │
│ │ P 1 4 0 │  │         │  │       0 │    │
│ └─────────┘  └─────────┘  └─────────┘    │
└─────────────────────────────────────────┘
```

With command <u>P141</u> the starting time and with <u>P142</u> the stopping time is set for the time window for Happy–Hour–credits. Key pad layout see P080.

<u>P143</u>: With P143 the week–day is set. See P082 for key pad layout.

    Enter: P 143 H   0 or 1 H

                        Set per pressing keys
                        i.e. saturday activ:
   *confirm settings with key "H"*

```
┌─────────────────────────────────────────┐
│ ┌─────────┐  ┌─────────┐  ┌─────────┐    │
│ │ P 1 4 3 │  │    6    │  │       1 │    │
│ └─────────┘  └─────────┘  └─────────┘    │
└─────────────────────────────────────────┘
```

With confirming one week–day entry the software steps to the following week–day.

<u>P144</u>: Here a calculation number may be programmed. This number defines how many credits one must have bought to get an additional Happy–Hour–credit.
P144 "0"+"H"   **no** Happy–Hour
P144 "n"+"H"   after "n" bought credits (n=1 to 5) 1 additional Happy–Hour–credit is given.

    Enter: P 144 H   n H
                        3 H   *i.e. after 3 bought credits*
                              1 additional Happy–Hour–
                              credit is given

```
┌─────────────────────────────────────────┐
│ ┌─────────┐  ┌─────────┐  ┌─────────┐    │
│ │ P 1 4 4 │  │         │  │       3 │    │
│ └─────────┘  └─────────┘  └─────────┘    │
└─────────────────────────────────────────┘
```

To support the operator when equipping the CD changer with new CDs, trouble–shooting or servicing, several aid functions have been incorporated as known from earlier phonographs. Group 15x of the test programs includes functions such as read–out of error memory, various continuous run tests as well as input and display tests. For these purposes, the respective group code (Fx) is shown in the middle display. Group 16x serves to integrate the CDs and their number of titles in the juke box memory.

14.1 Test Programs for Service Operation P150 to P157

<u>P150</u>: Read–out of Error Memory:

  0: last registered error; see Table 4 for "Error Codes" on the next page.
  1: previous error; the phonograph records the last 20 error reports.
  2: CD number during which the error occurred.
  3: Time of error and
  4: Date of occurrence

Display:

```
| P x x x |  1  |  6 0 |
```

Continous run tests

With commands P151 to P153 various tests in continuous run mode are executed. A continuous run can only be stopped by pressing the cabinet switch.

<u>P151</u>: Plays all CDs for 16 sec. (F1):

  .Enter: P 151 H   0

                Start continuous run 1:
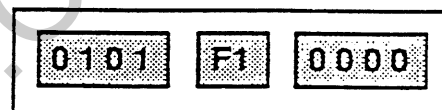
```
| 0 1 0 1 |  F1  |  0 0 0 0 |
```
CD / Titel   Anzahl der Fehler

<u>P152</u>: Plays selected CDs for 16 sec. (F2):

During CD play another number "nnnn" can be entered (continuous run 2). With each entry "Your Selection" will light up on the display panel.

    Enter: P 152 H   n n n n H
                       (enter a CD–number)

<u>P153</u>: Other Continuous Play Tests (F3 to F5):

    Enter: P n
              0: All CDs are placed on player, but are not played (continuous run 3, F3).
              1: 6 certain CDs (CD No. 1, 25, 50, 51, 75, 00) are placed and played 16 sec. each continually (continuous run 4, F4)
              2: Combination of twice continuous run 3 followed by 4 until cabinet switch is turned off (continuous run 5, F5).

<u>P155</u>: Display Test (F6):

During the display test all digits of 7–segment–displays and all control lamps are successively turned on and off. Pressing "H" will stop the test and continue it after pressing "H" again. The display test does not check the lamps of a light organ that might be connected.
Pressing "C" stops the test.

    Enter: P 155 H
              0:   Start lamp test
                   (Display 2 shows briefly F6)

```
| P 1 5 5 |  F6  |     0 |
```
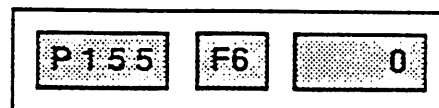
Table 4: "Error Displays"

Displays 1	2	3	Possible Causes	Corrections
	Er	01	EPROM contents (CONTROL–UNIT) disturbed.	Change EPROM (IC2) .
	Er	10	RAM (CONTROL–UNIT) defective.	Change RAM (IC 3). After that reprogram all program steps.
	Er	11	RAM contents (CONTROL–UNIT) short–term disturbance.	No correction necessary; program is reinitialized. Change RAM IC 3 if frequently occurring.
	Er	12	RAM battery is empty.	Change RAM (IC 3). After that reprogram all program steps.
	Er	20	Verification errors in program (CONTROL UNIT).	No correction necessary; program is reinitialized. Change CPU IC 1 if frequently occurring.
Pxxx	Er	30	Memory contents (CONTROL UNIT) invalid.	No correction necessary; program step Pxxx (in Display 1) is automatically reprogrammed.
Pxxx	Er	31	Memory contents (CONTROL UNIT) invalid or not programmed.	Program step Pxxx shown in Display 1 must be reprogrammed.
Pxxx	Er	40	Wrong price setting.	Check price setting and reprogram if necessary.
	Er	50	Coin mechanism defective. Too much credit.	Check coin mechanism.
	Er	6x	Error at CD player.	See Er 60 – Er 63.
	Er	60	Connection to the CD–player interrupted. No supply voltage present for decoder board or CD player.	Check connection cables to the decoder board, check fuses.
	Er	61	No CD recognized by CD player. No CD in CD tray, CD defective. Player defective.	Check CD and exchange if needed. Exchange CD player. Exchange decoder board.
	Er	62	Specified track on the CD not found.	Check the CD.
	Er	63	Malfunction while playing a CD.	Check the CD player with equipped CD for easy running.
	Er	7x	Malfunction on CD changer.	If error display does not disappear after 2 sec., error cannot be automatically corrected. No CD will be played until cabinet switch or "power on" is activated.
	Er	70	Malfunction of operating control.	No correction necessary.
	Er	71	Error during grip from magazine.	Equip CD–tray to magazine. Check alignment from magazine to pickup assy and adjust if necessary. Check function of light barrier OPPUM.
	Er	72	Error during replacing CD in magazine. Malfunction of grip lever.	Check alignment of magazine to pickup assy and adjust if needed. Check function of grip. Check function of light barriers OPGRL and OPGRR.
	Er	73	Malfunction during lift drive. Playing of CD not possible.	Check lift for jamming. Check function and correct adjustment of light barrier OPSTP (drive wheel).
	Er	74	End position of lift not o.k.. Playing of CD not possible.	Check function and adjustment of light barrier OPEND.
	Er	80	Short circuit on wallbox signal wire.	Check wallbox connection.
	Er	81	Malfunction of the audio processor (CB CENTRALE).	Change IC 1 = TDA 4390 if frequently occurring.
	Er	90	Title display, three blocking in sequence, not functional anymore.	
	Er	91	Blocking title display while left movement.	Blocking remedy
	Er	92	Blocking title display while right movement.	
	Er	93	Blocking title display, stack left.	see also chapter 9 "Title display" the paragraph 1.4
	Er	94	Blocking title display, stack right.	Jammed or dislocated title holders.

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P 156: input test (F7).

The input test checks all input ports and shows the results in a matrix on Display 3. The test can be stopped by pressing "C".

0: Start input test (Display 2 shows briefly F7)

Enter: P 156 H 0
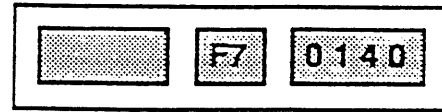
i.e. Key switch operated:

```
┌─────────────────────────────────────────┐
│ ┌───────────┐   ┌────┐  ┌────────┐      │
│ │░░░░░░░░░░░│   │ F7 │  │ 0 1 4 0│      │
│ └───────────┘   └────┘  └────────┘      │
└─────────────────────────────────────────┘
```

The 4 digits of displays are used as follows:

```
        display
     1     2     3
   ┌────┬────┬────────┐
   │    │    │ ▢▢▢▢  │
   └────┴────┴────────┘
   10 9 8 7 6 5 4 3 2 1

        digits
```
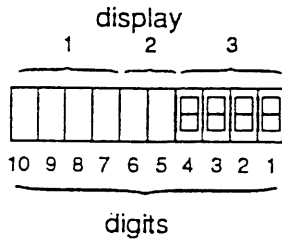
digit 1: state of operation — i.e. key switch:

    0 = locked not able to call background musik
    1 = free

digit 2: bit number of input port (see table 5 "Attaching...", s. a. wiring diagram "Control Unit")

digit 3: port number from which input occurs (s.a. table 6:"Port-numbers of input ports").

digit 4: Is not used.

Table 5: "Attaching of bit numbers to input ports"

Bit number	corresponds to wiring diagram "Control Unit"	
0	signal line	A
1		B
2		C
3		D
4		E
5		F
6		G
7		H

Table 6: "Port-numbers of input ports"

Port number	name of input port
0	Control Unit (IC15)
1	Control Unit (IC16)
2	Control Unit (IC17)
3	Kea pad
4	Title display (IC1)
5	Is not used
6	Pickup driver (IC3)

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Testing the CD changer

: Manual control of CD changer via keypad (F8):
In this test program the CD changer is controlled manually via the keyboard (Keys 1 to 0). The illustrated functions are executed by pressing the corresponding key depending on whether a CD is in the pick-up or not.

Lift not set down:

1	2 Lift up	3 Lift up stepwise
4 Get CD from left	5 Replace CD	6 Get CD from right
7	8 Lift down	9 Lift down stepwise
C Cancel	0 Replace CD set lift down	H

Lift is set down or CD is on player:

1 1.Play CD 2.CD in pause	2 >FF< afterwards 2x key "1" fast forward	3 Play next track
4 Replace CD get last one	5 1.Play C, 2.CD in pause	6 Replace CD get next one
7 >FR< afterwards 2x key "1" fast reverse	8	9 Play last track
C Cancel	0 Stop CD replace CD	H

This test serves also to check the opto couplers in the various end positions. The status of each opto coupler is displayed. If "1" is displayed, then the opto coupler is disrupted. A "0" means the opto coupler is not disrupted. The following table shows the different combinations. The digits 1, 2, 8, 9 and 10 are employed for this purpose.

Enter: P 157 H   0

```
010_   F8   __11
```

display
1   2   3

```
888  F8  88
10 9 8 7 6 5 4 3 2 1
```
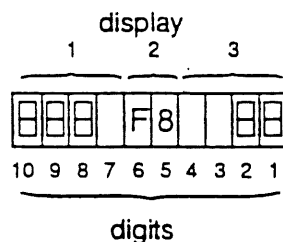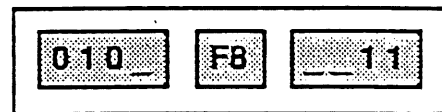
digits

Digit 1:	Counter Wheel (OPSTP)
Digit 2:	Final Position (OPEND)
Digit 8:	Grip right (OPGRR))
Digit 9:	Middle Opto (OPPUM)
Digit 10:	Grip left (OPGRL)

On Display 2 (Digit 5+6) code F8 will be displayed during the test.
The test is stopped by pressing "C."

14.2 Recording title quantities in title memory

<u>P160</u>: Recording title quantities of all CDs

After calling up this command, the phonograph searches through all CD slots for the number of CDs defined in P042. During the search it reads the number of titles recorded on each CD into the title memory. This command is used by initial equipping, for example, or if several CDs are exchanged.
The number of titles on each CD is registered in the title memory. Simultaneously, the established values are displayed. The number of titles is also read with each playing a CD

Enter: P 160 H   0

i.e. result: CD 01 has 24 titles

| P160 | | 0124 |
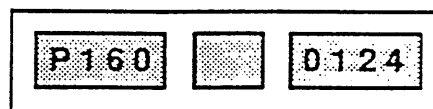
<u>P161</u>: Recording title quantities of one CD

After calling up this command and entering the number of the newly installed CD, its number of titles is registered in the title memory (nn = 01 to number of P042). The number of titles from one CD is also read with every normal play of it. This function serves as single entry cancellation. if a not equipped CD is selected.

Enter: P 161 H   nn H

67 H i.e. = CD #67:

| P161 | | 67 |

<u>P162</u>: Displaying all title memories

After calling up this command and entering the respective code number, the corresponding title data will be displayed.

    0: Number of titles from CD #01
    1: Switch to the next CD #
    2: Return to the previous CD #
    3: Title number of any CD

| P162 | | 0320 |
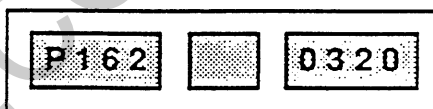
With P162,3 the two–digit CD number must be entered and confirmed with "H".

<u>P163</u>: Erasing entry in title memory

All entries in the title memory are set to 1. So all CD titles are cleared, but the phonograph furthermore may acces any CD tray. The basic function of the phonograph is kept. If new CDs are equipped and the command P160 is confirmed you may be sure that all new titles are stored in the title memory. P163 is to confirm by pressing "H".

Enter: P 163 H   0 H

| P163 | | 6700 |
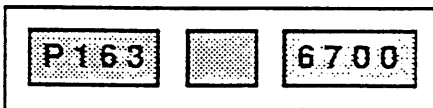
After removing a CD you also have to remove the corresponding CD cover of the display unit.

<u>P164</u>: Switching between signal sources

For test purposes different signal input ports for the 3 intended signal sources can be switched individually. This is done with command P164 by entering different code numbers (value "n" of command):

        0: No signal source active, mute (amplifier turned off)
        1: CD changer is signal source
        2: A cassette player is signal source.
        3: A microphone is signal source.

This "manual" switching occurs automatically in normal play according to the signal source that is turned on.

Enter: P 164 H   n H
                   2 H   i.e. for cassette player:

| P164 | | 2 |

330

ZENTRALE ZENTRALE CONTROL UNIT
ST 7 ST 6 ST 12

ST 9
ST 9A ST 10 ST 11

ST 4

ST 5

ST 1

ST 3

1901 1920

DECODER BOARD DRIVER

1903 ST 12

Schleppleitung
TRAILING CABLE

Beleuchtung
ILLUMINATION 12V 2W

MOTOR
links / left

MOTOR
rechts / right

K2 LTH 301
OP GRL

K2 LTH 301
OP GRR

M MO GRL M MO GRR

MOTOR
CONTROL

MOTOR
CONTROL

K1 LTH 301
OP PUL

K1 LTH 301
OP PUR

LIFT-
ADAPTER

END-
CONTROL

K1 LTH 301 OP END

— LIFT —

CD-PLAYER
CDM-4

ST 1

STEPPER CONTROL
OP STP

Schrittmotor
STEPPER MOTOR

M

LTH 301

Farbangaben ohne Gewähr
COLOR INDICATION WITHOUT WARRANTY

ÄNDERUNGEN IM SINNE DES TECHN FORTSCHRITTES VORBEHALTEN,
JEDOCH KEINE NACHRUSTPFLICHT!
SUBJECT TO TECHNICAL MODIFICATION WITHOUT OBLIGATION
TO MODIFY EQUIPMENT ALREADY DELIVERED!

OP END OPTO END POSITION
OP PUL OPTO PICKUP CONTROL LINKS
        OPTO PICKUP CONTROL LEFT
OP PUR OPTO PICKUP CONTROL RECHTS
        OPTO PICKUP CONTROL RIGHT
OP GRL OPTO GREIFER LINKS
        OPTO GRASP LEFT
OP GRR OPTO GREIFER RECHTS
        OPTO GRASP RIGHT
OP STP OPTO STEPPER CONTROL
MO GRL MOTOR GREIFER LINKS
        MOTOR GRASP LEFT
MO GRR MOTOR GREIFER RECHTS
        MOTOR GRASP RIGHT

Farbspiegel
COLOR CODE

ws	weiß	white
bl	blau	blue
br	braun	brown
ge	gelb	yellow
gn	grün	green
gr	grau	grey
or	orange	orange
rs	rosa	pink
rt	rot	red
sw	schwarz	black
vi	violett	violet

Draufsicht
TOP VIEW

LTH 301

NSM MUSIKAUTOMATEN PHONOGRAPHS ES V-CD TECHNOLOGY
ELEKTROPLAN CD-WECHSLER
OPERATING SCHEME CD-CHANGER

821

NSM PHONOGRAPHS

MODEL	CCU	CENTRALE	CARRIAGE	AMP.	POWER SUPPLY	COIN CHANNEL	DISPLAY	LIGHT ORGAN	TITLE DISPLAY
SOUNDMASTER	108-189				108-453	108-927	109-267		
HIDEAWAY			106-610	103-615	103-954				
CONSUL CLASSIC	106-590	106-730	107-510			108-927	106-668		
FESTIVAL *	106-590	106-730	107-510			108-927	106-668		
PRESTIGE									
ES (CHROME)	108-913	109-830	107-510			108-927	106-668		
ES II (LIGHTS)	171-609	171-380	171-406			108-927	106-668	170-002	
CITY									
ES	108-913	109-830	107-510			108-927	106-668		
ES II *	171-609	109-830	171-406			108-927	106-668		
		171-380							
SOUNDMASTER									
COMPACT	108-189	109-830	171-406			108-927	109-267		
240 I	170-160		170-333	170-161	170-168	170-031	170-125	170-232	
CONCERT 240 - II	171-651	171-741	171-226	171-702		170-031	171-652	171-653	
SATELLITE 200	170-830		170-333	170-161	170-843	170-031	170-651	171-002	
CONCERT 240 - III	171-651	171-741	171-226	171-702		170-031	171-652	171-653	
GALAXY 200	171-651	171-741	171-226	171-702		170-031	171-964	171-653	
CITY IV/ SOUND	171-651	171-741	171-226	171-702		170-031	171-964		
*PRODUCED W/BOTH:	106-590	106-730							
	106-730	109-830							

MODEL	CCU	CENTRALE	CARRIAGE	AMP.	PWR SPLY	COIN CHANNEL	DISPLAY	LIGHT ORGAN	TITLE DISPLAY
CD ES IV MACHINES									
CITY IV CD COMBO	173-268	173-270	171-226(MCH)	171-702		170-031	171-964		
			173-395 (CD)						
GALAXY CD	173-663	173-666	173-470	171-702		170-031	173-664		
CD FIRE	173-663	173-666	173-470	171-702			173-664		173-416
SILVER SKY	174-873	173-666	173-470	171-702		170-031	173-664	171-653	174-710
SILVER CITY	174-873	173-666	173-470	171-702		170-031	173-664		174-710
FIRE BIRD	174-873	173-666	173-470	171-702			173-664		174-710
FIRE COUNTRY	174-873	173-666	173-470	171-702			173-664		174-710
PERFORMER GRAND	174-873	173-666	175-980	171-702		170-031	173-664		174-710
FASCINATION	174-873	173-666	173-470	171-702		170-031	173-664		174-710
CD ES V MACHINES									
PERFORMER GRD II	176-328	176-327	175-600 **	171-702		170-031	173-664		174-710
FIRE BIRD II	176-328	176-327	176-360 **	171-702		170-031	173-664		174-710
WIZARD	176-328	176-327	176-360 **	171-702		170-031	173-664		174-710
PERFORMER CLASS.	176-328	176-327	175-600 **	171-702		170-031	173-664		176-730
PERFORMER WALL	176-328	176-327	176-360 **	171-702		170-031	173-664		174-710
		** USES ONLY BLUE 5" TRAYS**							

NSM SERVICE PROGRAM
CROSS REFERENCE CHART

ES IV	FUNCTION	ES V
P 01	Least Popular CD	P010
P 02	Most Popular CD	P011
P 03	Cash Balance	P013
P 04	Play Counter	P016
P 05	Selected Title Counter	P017
P 06	Number Of Album Selections	P018
P 07	Number Of Free Credits Issued	P021
P 08	Background Titles Played	P022
P 10	Counter Resets	P033
P 11	Data Transfer	P030
P 12	Data Transfer	P031
P 20	Reset Standard Settings	P040
P 21	Data Print Machine Code	P041
P 22	Maximum Choice CD's/Tracks	P042
P 23	Free Credits	P094
P 24	Random Play Timer	P110
P 25	Background CD Numbers	P100
P 26	Light Show Settings	P043
P 27	Light Show Settings	P044
P 28	Maximum Volume	P051/052
P 30	Maximum Play Time	P045
P 31	Play Sequence	P046
P 32	Maximum No. Of Tunes From Same CD	P047
P 38	Authorization Number	P001
P 39	Code Number	P002
P 40	Price Setting By Table	P060
P 41 Thru P 45	Selections Per Credit	P061 Thru P065
P 46	Credits Required For Album Play	P066
P 50	Coin Channel Settings By Table	P070
P 51 Thru P 55	Coin Channel Values	P071 Thru P075
P 60	Service Programs	P151 Thru P157
P 62	Error Storage	P150

RECOMMENDED SPARE PARTS LIST - ES V TECHNOLOGY

PART #	DESCRIPTION
175-600	CD Changer - Perf. Classic & Grand II
176-360	CD Changer - Wall Machines
177-231	Decoder Board
206-920	CDM 4 / 53 Laser Assembly (Also Pt# 176-725)
176-384	CB Driver (Pick-Up Driver)
176-328	Control & Credit Unit
176-327	Centrale
171-702	Amplifier
171-676	Keyboard Assembly
176-730	Title Drum III - Performer Classic
176-832	Title Page Set
174-258	Wireless Remote Volume Control Kit
206-783	Wireless Transmitter
173-178	Receiver
170-459	Receiver Cable 5 Meters
171-883	Receiver Cable 1 Meter
176-395	Box Of 10 5" CD Trays
1X 224-0603	MBA Transport For Floor Machines
1X 224-0817	MBA Transport For Wall Machines
219-410	Title Strip (Sheet Of 4)
212-509	Set Of 100 Plastic Overlays
217-992	Key (2C 2608) For Floor Machines
17X-3975	Key For Wall Machines
175-913	Locking Lever - Upper Left
175-914	Locking Lever - Upper Right
174-294	Locking Lever - Lower Left
174-295	Locking Lever - Lower Right
176-362	View Glass - Firebird II
176-682	View Glass - Performer Wall
175-717	View Glass - Floor Machines
175-772	Motor Assembly For Title Drum
217-506	Caster
221-886	BWD 83C Transistor For Amplifier
221-902	BWD 84C Transistor For Amplifier
231-322	Opto Coupler
231-416	Display Segment
222-485	Temperature Controller
226-075	Fluorescent Lamp 13 Watts
226-072	Fluorescent Lamp 4 Watts
225-040	S 10 Starter
225-343	S 2 Starter
224-223	Microphone
172-187	Microphone Cable - 25 Meters
17X2050	Background Switching Unit

NSM KEY AND LOCK MASTERLIST

PART #	DESCRIPTION	MACHINES
042-277	Left Cabinet Lock	Century 21
042-278	Right Cabinet Lock	Century 21
042-292	Right Cabinet Lock	Hit E 120
042-293	Left Cabinet Lock	Hit E 120
042-390	Left Cabinet Lock	Prestige E 160
042-391	Right Cabinet Lock	Prestige E 160
107-256	Right Cabinet Lock	Festival ES 160
107-257	Left Cabinet Lock	Festival ES 160
108-141	Right Cabinet Lock	Consul ES 160
108-142	Left Cabinet Lock	Consul ES 160
108-892	Right Cabinet Lock	Prestige ES 160
108-893	Left Cabinet Lock	Prestige ES 160
17x-3975	Ace Key	Fire Bird, Fire Country, FireBird II, Old Fashioned Wizard, & Performer Wall
17x-4000	Ace Lock Kit	Fire Bird, Fire Country, FireBird II, Old Fashioned Wizard, & Performer Wall
206-460	Cabinet Lock	CD Caravelle II
206-676	Lock	CD Fire (Original) - Uses Key # 206-718 & 206-719
206-718	Key # 587602 CS	CD Fire, Firebird, & Fire Country
206-719	Key # 9901	CD Fire, Firebird, & Fire Country
207-008	Cash Box Lock	Used With Part # 042-108 Cash Box Door
207-309	Key # 167676	Prestige E 160, Century 21, Festival ES 160, 240I
217-133	Cabinet Lock	All City Models, Prestige II, Satellite 200, Fascination, & Performer Classic
217-147	Cabinet Lock	Soundmaster Compact & Soundmaster Wallbox
217-176	Key # 2 H 0010	Prestige ES 160, City ES 160, City II, City Combi Silver City, Consul, Fascination, & Performer Classic
217-541	Cabinet Lock	NSM 240 I
217-814	Cabinet Lock	All Galaxy Models, Silver Sky, & Performer Grand I &
217-847	Cash Box Lock	Concert 240
217-864	Cabinet Lock	Concert 240
217-992	Key # 2 C 2608	Concert 240, Concert 240 III, Galaxy Vinyl And CD Silver Sky, & Performer Grand I & II

FOR YOUR INFORMATION, ALL CASH BOX LOCKS CAN BE REPLACED
WITH A U.S. STANDARD LOCK.
EACH MACHINE MODEL IS KEYED ALIKE FOR THE LID LOCK. BUT THI
CASH DOOR LOCKS ARE NOT MASTERED.

NSM SPEAKER MASTERLIST

E MODEL MACHINES

HIT E 120

QUANTITY	PART #	DESCRIPTION
2	224-177	Tweeter HM 10 = 224-151
2	224-153	Woofer P 245
2	224-154	Midrange HM 30

CENTURY 21

QUANTITY	PART #	DESCRIPTION
2	224-141	Tweeter
2	224-145	Woofer P 30

PRESTIGE E 160

QUANTITY	PART #	DESCRIPTION
2	224-153	Woofer P 245
2	224-177	Tweeter HM 10 = 224-151
2	224-152	Midrange P 1521

ES II MODEL MACHINES

FESTIVAL ES 160

QUANTITY	PART #	DESCRIPTION
2	224-157	Woofer P 245 6.5 Ohms
2	224-158	Midrange P 1318 8 Ohms
2	224-170	Tweeter KK 7 8 Ohms
2	224-171	Midrange P 130 8 Ohms

CONSUL ES 160

QUANTITY	PART #	DESCRIPTION
2	224-177	Tweeter HM 10 = 224-151
2	224-171	Midrange P 130 8 Ohms
2	224-172	Woofer P 203 6.5 Ohms

CITY ES 160

QUANTITY	PART #	DESCRIPTION
2	224-153	Woofer P 245 8 Ohms
2	224-190	Midrange HM 1318 6.5 Ohms
2	224-176	Tweeter KK 7 8 Ohms
2	224-190	Midrange HM 1318 6.5 Ohms

PRESTIGE ES 160

QUANTITY	PART #	DESCRIPTION
2	224-157	Woofer P 245 6.5 Ohms
2	224-158	Midrange P 1318 8 Ohms
2	224-176	Tweeter KK 7 8 Ohms
2	224-171	Midrange P 130 8 Ohms

PRESTIGE II

QUANTITY	PART #	DESCRIPTION
2	224-199	Woofer P 265
2	224-214	Tweeter
2	224-171	Midrange P 130 8 Ohms
2	224-193	Midrange

CITY II

QUANTITY	PART #	DESCRIPTION
2	224-216	Woofer
2	224-190	Midrange HM 13
2	224-171	Midrange P 130
2	224-176	Tweeter KK 7

ES III MODEL MACHINES

SATELLITE 200

QUANTITY	PART #	DESCRIPTION
2	224-207	Woofer P 265 6.5 Ohms
2	224-201	Tweeter 4 Ohms
4	224-206	Midrange P 135 8 Ohms

240 I

QUANTITY	PART #	DESCRIPTION
2	224-201	Tweeter SKK 10 4 Ohms
2	224-202	Passive Radiator P 135
2	224-193	Midrange P 135 8 Ohms
2	224-203	Midrange P 175
2	224-204	Passive Radiator P 203
2	224-199	Woofer P 265

ES IV MODEL MACHINES

CITY IV

QUANTITY	PART #	DESCRIPTION
2	224-216	Woofer PMT 245
2	224-171	Midrange P 130 8 Ohms 10 Watts
2	224-176	Tweeter KK 7 8 Ohms 4 Watts

CITY COMBI

QUANTITY	PART #	DESCRIPTION
2	224-216	Woofer PMT 245
2	224-171	Midrange P 130 8 Ohms 10 Watts
2	224-176	Tweeter KK 7 8 Ohms 4 Watts

GALAXY 200

QUANTITY	PART #	DESCRIPTION
2	224-220	Woofer P 300 4 Ohms
2	224-203	Midrange P 175 8 Ohms
2	224-193	Midrange P 135 8 Ohms
2	224-233	Tweeter SKK 10 4 Ohms

CONCERT 240

QUANTITY	PART #	DESCRIPTION
2	224-220	Woofer P 300 4 Ohms
2	224-203	Midrange P 175 8 Ohms
4	224-193	Midrange P 135 8 Ohms
2	224-201	Tweeter SSK 10 4 Ohms

CD FIRE

QUANTITY	PART #	DESCRIPTION
1	224-149	Midrange SP - 3P 8 Ohms

SILVER SKY

QUANTITY	PART #	DESCRIPTION
2	224-220	Woofer PMT 300 4 Ohms
2	224-241	Midrange P 175 8 Ohms
2	224-242	Midrange P 135 8 Ohms
2	224-233	Tweeter SSK 10

CD FIREBIRD/COUNTRY

QUANTITY	PART #	DESCRIPTION
1	224-149	Midrange SP - 3P 8 Ohms

FASCINATION

QUANTITY	PART #	DESCRIPTION
2	224-243	Woofer PMT 245 4 Ohms
4	224-242	Midrange P 135 8 Ohms
2	224-233	Tweeter SSK 10

SILVER CITY

QUANTITY	PART #	DESCRIPTION
2	224-237	Woofer PMT 245
2	224-176	Tweeter KK 7 8 Ohms 4 Watts
2	224-171	Midrange P 130 8 Ohms 8 Watts

PERFORMER GRAND

QUANTITY	PART #	DESCRIPTION
2	224-240	Woofer PMT 300 4 Ohms
2	224-241	Midrange P 175
2	224-242	Midrange P 135
2	224-243	Tweeter SKK 10 4 Ohms

ES V MODEL MACHINES

PERFORMER GRAND II

QUANTITY	PART #	DESCRIPTION
2	224-240	Woofer PMT 300 4 Ohms OR:
2	224-151	Woofer
2	224-241	Midrange P 175
2	224-242	Midrange P 135
2	224-243	Tweeter SKK 10 4 Ohms

PERFORMER CLASSIC

QUANTITY	PART #	DESCRIPTION
2	224-237	Woofer PMT 245 6.5 Ohms
2	224-171	Midrange P130 8 Ohms
2	224-176	Tweeter KK 7 8 Ohms

OLD FASHIONED WIZARD

QUANTITY	PART #	DESCRIPTION
1	224-149	Midrange SP - 3P 8 Ohms

FIREBIRD II

QUANTITY	PART #	DESCRIPTION
1	224-149	Midrange SP - 3P 8 Ohms

PERFORMER WALL

QUANTITY	PART #	DESCRIPTION
1	224-149	Midrange SP - 3P 8 Ohms

NSM FLUORESCENT LAMP MASTERLIST

E MODEL MACHINES

PRESTIGE E 160

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-033	Fluorescent Lamp 30 Watts	Lower Cabinet

CENTURY 21

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-033	Fluorescent Lamp 30 Watts	Lower Cabinet

HIT E 120

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-073	Fluorescent Lamp 16 Watts	Lower Cabinet
1	226-054	Lamp 12 V 1.2 Watts	Credit Unit

ES II MODEL MACHINES

FESTIVAL ES 160

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-073	Fluorescent Lamp 16 Watts	Upper Cabinet
6	226-049	Lamp 12 V 2 Watts	Display

CONSUL ES 160

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-033	Fluorescent Lamp 30 Watts	Cabinet
6	226-049	Lamp 12 V 2 Watts	Display

CITY ES 160

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Title Holders
6	226-049	Lamp 12 V 2 Watts	Display

PRESTIGE ES 160

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-073	Fluorescent Lamp 16 Watts	Under Title Holders
6	226-049	Lamp 12 V 2 Watts	Display

PRESTIGE II

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Title Holders
12	226-049	Lamp 12 V 2 Watts	Around Speaker Grill

CITY II

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Title Holders
6	226-049	Lamp 12 V 2 Watts	Display

ES III MODEL MACHINES

240 I

QUANTITY USED	PART #	DESCRIPTION	LOCATION
40	226-049	Lamp 12 V 2 Watts	Surrounds Speakers
1	226-071	Fluorescent Lamp 18 Watts	Lower Title Holders
1	226-076	Fluorescent Lamp 15 Watts	Upper Title Holders

SATELLITE 200

QUANTITY USED	PART #	DESCRIPTION	LOCATION
32	226-049	Lamp 12 V 2 Watts	Outer Circular Frame
1	226-073	Fluorescent Lamp 16 Watts	Cabinet

ES IV MODEL MACHINES

CITY IV

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Title Holders
5	226-049	Lamp 12 V 2 Watts	Display & Keyboard

CITY COMBI

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Vinyl Title Holders
1	226-033	Fluorescent Lamp 30 Watts	Behind CD Title Holder
	226-049	Lamp 12 V 2 Watts	Display

GALAXY 200

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-074	Fluorescent Lamp 18 Watts	Above & Below Carriage Rack
1	226-078	Black Fluorescent Lamp FLD 1	Under Galaxy 200 Trimplate
14	226-049	Lamp 12 V 2 Watts	Speaker Grill
10	226-049	Lamp 12 V 2 Watts	Bottom Of Cabinet

CONCERT 240

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-075	Fluorescent Lamp 13 Watts	Lower Cabinet For Title Holders
1	226-076	Fluorescent Lamp 15 Watts	Display & Keyboard
18	226-049	Lamp 12 V 2 Watts	Around Side & Lower Speakers

CD GALAXY

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-075	Fluorescent Lamp 13 Watts	Under CD Galaxy Trimplate
2	226-079	Fluorescent Lamp 8 Watts	Sides Of CD Changer
1	226-074	Fluorescent Lamp 16 Watts	Title Drum I
7	226-049	Lamp 12 V 2 Watts	Speaker Grill
1	226-049	Lamp 12 V 2 Watts	Flip Button For Title Drum I

CD FIRE

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-072	Fluorescent Lamp 4 Watts	Sides Of CD Changer
2	226-072	Fluorescent Lamp 4 Watts	Upper Left & Right Masks
1	226-085	Fluorescent Lamp 15 Watts	Title Drum I
2	226-075	Fluorescent Lamp 13 Watts	Side Masks
1	226-049	Lamp 12 V 2 Watts	Keyboard
1	226-049	Lamp 12 V 2 Watts	Button Assembly

SILVER SKY

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 16 Watts	Under Silver Sky Trimplate
2	226-075	Fluorescent Lamp 13 Watts	Title Drum
12	226-049	Lamp 12 V 2 Watts	Upper Lighting PCB - L & R
12	226-049	Lamp 12 V 2 Watts	Lower Lighting PCB - L & R

CD FIREBIRD

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-072	Fluorescent Lamp 4 Watts	Sides Of CD Changer
2	226-072	Fluorescent Lamp 4 Watts	Upper Left & Right Masks
2	226-075	Fluorescent Lamp 13 Watts	Side Masks
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
2	226-049	Lamp 12 V 2 Watts	Button Assembly
1	226-049	Lamp 12 V 2 Watts	Keyboard Assembly

CD COUNTRY

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-072	Fluorescent Lamp 4 Watts	Sides Of CD Changer
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
1	226-075	Fluorescent Lamp 13 Watts	Behind Fire Country Trimplate
2	226-049	Lamp 12 V 2 Watts	Button Assembly
1	226-049	Lamp 12 V 2 Watts	Keyboard Assembly

FASCINATION

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-079	Fluorescent Lamp 8 Watts	Lower Speaker Masks - L & R
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
2	226-075	Fluorescent Lamp 13 Watts	Lid Frame Masks - L & R
1	226-074	Fluorescent Lamp 18 Watts	Under Fascination Trimplate

SILVER CITY

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-075	Fluorescent Lamp 13 Watts	Title Drum
1	226-085	Black Lamp 20 Watts	CD Changer
	226-049	Lamp 12 V 2 Watts	

PERFORMER GRAND

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Lower Mask
2	226-075	Fluorescent Lamp 13 Watts	Title Drum
2	226-085	Fluorescent Lamp 15 Watts	Sides Of CD Changer
1	226-049	Lamp 12 V 2 Watts	Dollar Bill Entry
5	226-049	Lamp 12 V 2 Watts	Display
2	226-049	Lamp 12 V 2 Watts	Button Assy
8	226-049	Lamp 12 V 2 Watts	Speaker Grill

ES V MACHINES

PERFORMER GRAND II

QUANTITY USED	PART #	DESCRIPTION	LOCATION
1	226-074	Fluorescent Lamp 18 Watts	Under Lower Mask
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
2	226-085	Fluorescent Lamp 15 Watts	Sides Of CD Changer
1	226-049	Lamp 12 V 2 Watts	Dollar Bill Entry
5	226-049	Lamp 12 V 2 Watts	Display
2	226-049	Lamp 12 V 2 Watts	Button Assy
8	226-049	Lamp 12 V 2 Watts	Speaker Grill

PERFORMER CLASSIC

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-075	Fluorescent Lamp 13 Watts	Title Drum
2	226-085	Fluorescent Lamp 15 Watts	Sides Of CD Changer
1	226-075	Fluorescent Lamp 13 Watts	Under Lower Mask
1	226-049	Lamp 12 V 2 Watts	Dollar Bill Entry
5	226-049	Lamp 12 V 2 Watts	Display
2	226-049	Lamp 12 V 2 Watts	Button Assy

FIREBIRD II

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-072	Fluorescent Lamp 4 Watts	Sides Of CD Changer
2	226-072	Fluorescent Lamp 4 Watts	Upper Left & Right Masks
2	226-075	Fluorescent Lamp 13 Watts	Side Masks
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
2	226-049	Lamp 12 V 2 Watts	Button Assembly
1	226-049	Lamp 12 V 2 Watts	Keyboard Assembly

OLD FASHIONED WIZARD

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-072	Fluorescent Lamp 4 Watts	Sides Of CD Changer
2	226-072	Fluorescent Lamp 4 Watts	Upper Left & Right Masks
2	226-075	Fluorescent Lamp 13 Watts	Side Masks
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
2	226-049	Lamp 12 V 2 Watts	Button Assembly
1	226-049	Lamp 12 V 2 Watts	Keyboard Assembly

PERFORMER WALL

QUANTITY USED	PART #	DESCRIPTION	LOCATION
2	226-072	Fluorescent Lamp 4 Watts	Sides Of CD Changer
2	226-072	Fluorescent Lamp 4 Watts	Upper Left & Right Masks
2	226-075	Fluorescent Lamp 13 Watts	Side Masks
2	226-079	Fluorescent Lamp 8 Watts	Title Drum
1	226-079	Fluorescent Lamp 8 Watts	Behind CD Changer
2	226-049	Lamp 12 V 2 Watts	Button Assembly
1	226-049	Lamp 12 V 2 Watts	Keyboard Assembly
8	226-049	Lamp 12 V 2 Watts	Running Board Assembly

ES IV CD CHANGER PARTS BREAKDOWN
173-470 & 175-980 CD CHANGERS

CABLE HARNESSES

PART #	DESCRIPTION
173-636	CABLE HARNESS FOR LIFT ASSEMBLY 16 PIN
173-639	CABLE HARNESS FOR LASER ASSEMBLY SERVO BOARD 14 PIN
173-641	CABLE HARNESS FOR LASER ASSEMBLY SERVO BAORD 5 PIN
173-644	TRAILING CABLE LIFT ASSEMBLY TO PICK-UP DRIVER
151-645	CABLE HARNESS DECODER BOARD TO ADAPTOR BOARD 8 PIN
173-646	CABLE HARNESS PICK-UP DRIVER TO DECODER BOARD 5 PIN
173-647	CABLE HARNESS PICK-UP DRIVER TO ADAPTOR BOARD 12 PIN
173-648	CABLE HARNESS PICK-UP DRIVER TO ADAPTOR BOARD 10 PIN
173-649	CABLE HARNESS PICK-UP DRIVER TO ADAPTOR BOARD 8 PIN
173-740	CABLE HARNESS AUDIO CABLE DECODER BOARD TO ADAPTOR BOARD

LASER ASSEMBLY
173-551 CDM3 & CDM4/36

PART #	DESCRIPTION
212-429	LASER ASSEMBLY COVER
175-497	RUBBER FEET FOR BOTTOM OF LASER ASSEMBLY
176-341	BOTTOM PLATE FOR CDM4/36 LASER ASSEMBLY
176-357	MOUNTING BRACKETS FOR CDM4/36 LASER ASSEMBLY
907-165	I.C. TDA 0372 - SERVO BOARD
907-172	I.C. TDA 5709 - SERVO BOARD
907-173	I.C. 4560 D - SERVO BOARD
907-175	I.C. TDA 5708 - SERVO BOARD
221-332	TRANSISTOR BC 337 - SERVO BOARD
221-444	TRANSISTOR BD 135 - SERVO BOARD

DECODER BOARD
173-507 & 176-042

PART #	DESCRIPTION
907-160	I.C. MN 4264
907-161	I.C. SAA 7201
907-162	I.C. MAB 8441P
907-163	I.C. TDA 7220
907-164	I.C. TDA 1541A
907-453	CAPACITOR 6800 mfd/ 16 V
907-179	VOLTAGE REGULATOR 7906
250-307	HEAT SINK
229-197	CLIP TO HOLD HEAK SINK TO VOLTAGE REGULATOR
640-011	SCREW FOR MOUNTING DECODER BOARD TO CD CHANGER
690-210	INSULATING WASHER FOR MOUNTING SCREW

LIFT ASSEMBLY
173-607

PART #	DESCRIPTION
173-597	TOP PIECE FOR LIFT ASSMEBLY
	BOTTOM PIECE FOR LIFT ASSEMBLY
175-503	CLAMP KIT
173-614	BELT LOCK
173-606	GRIPPER MOTOR
173-577	LEFT GRIPPER PIN
173-578	RIGHT GRIPPER PIN
206-643	VERTICAL DRIVE BELT
206-644	HORIZONTIAL DRIVE BELT
231-322	OPTIC
173-586	CENTER PICKUP LEVER
173-603	WHITE PIN FOR CENTER PICKUP LEVER
726-008	MOUNTING PIN FOR CENTER PICKUP LEVER
205-801	SPRING FOR CENTER PICKUP LEVER
205-807	SPRING FOR GRIP LEVER

MECHANICAL PARTS
FOR ES IV AND ES V CHANGERS

PART #	DESCRIPTION
173-491	LEFT MAGAZINE ASSEMBLY
173-499	RIGHT MAGAZINE ASSEMBLY
176-395	BOX OF 10 5" TRAYS
174-537	BOX OF 10 3" TRAYS
174-294	LOWER LEFT LOCKING LEVER
174-295	LOWER RIGHT LOCKING LEVER
174-296	UPPER LEFT LOCKING LEVER
174-297	UPPER RIGHT LOCKING LEVER
173-947	MAGAZINE ADJUSTING POST
173-948	ADJUSTING SCREW FOR MAGAZINE POST
174-809	RIGHT HINGE FOR VIEW GLASS
174-810	LEFT HINGE FOR VIEW GLASS
174-265	CLIP FOR VIEW GLASS
175-428	VIEW GLASS FOR SILVER SKY
175-019	VIEW GLASS FOR SILVER CITY
174-275	VIEW GLASS FOR CD GALAXY
174-729	VIEW GLASS FOR FIREBIRD. FIRE COUNTRY. & FASCINATION
175-977	VIEW GLASS FOR PERFORMER GRAND
174-277	VIEW GLASS FOR HIDEAWAY
175-717	VIEW GLASS FOR PERFORMER GRAND II & PERFORMER CLASSIC
176-362	VIEW GLASS FOR FIREBIRD II & WIZARD
176-682	VIEW GLASS FOR PERFORMER WALL

Capacitor Master List

Part #	Description
220-065	CAPACITOR 220 MFD/63V
220-077	CAPACITOR 2200MFD/250V
220-110	CAPACITOR MKT .01PF/400V
220-113	CAPACITOR .33MFD/ 400V
220-142	CAPACITOR .1N/ 250V
220-143	CAPACITOR 22MFD/ 63V
220-146	CAPACITOR 15 MFD/ 40V
220-151	CAPACITOR 2200MFD/ 50V
220-157	CAPACITOR 2200MFD/40V
220-158	CAPACITOR 4700MFD/ 40V
220-159	CAPACITOR 4700MFD/ 63V
220-160	CAPACITOR 100MFD/ 10V
220-161	CAPACITOR 220MFD/ 40V
220-162	CAPACITOR 10MFD/ 63V
220-164	CAPACITOR 220MFD/ 63V
220-165	CAPACITOR 470MFD/ 40V
220-166	CAPACITOR 6800PF
220-167	CAPACITOR 1500PFD/100V
220-173	CAPACITOR
220-175	CAPACITOR .01MFD/ 250V
220-176	CAPACITOR .22/100V
220-177	CAPACITOR .1PF/100V
220-181	CAPACITOR
220-185	CAPACITOR 270PF/ 400V
220-197	CAPACITOR .68/35V
220-198	CAPACITOR U68/ 35V
220-201	CAPACITOR 33MFD/10V
220-206	CAPACITOR 2200MFD/ 40V
220-207	CAPACITOR 4700 PF/63V
220-210	CAPACITOR 33MFD/ 63V
220-218	CAPACITOR 10MFD/ 160V
220-220	CAPACITOR 4700 PF/160V
220-233	CAPACITOR 47MFD/35V
220-239	CAPACITOR .47MFD/ 100V

Capacitor Master List (cont.)

Part #	Description
220-241	CAPACITOR 560 PF/ 160V
220-242	CAPACITOR .68 MFD
220-243	CAPACITOR 100MFD/ 3V
220-247	CAPACITOR 4MFD/ 63V
220-248	CAPACITOR 220MFD/ 63V
220-249	CAPACITOR 1MFD/63V
220-250	CAPACITOR 100MFD/ 25V
220-253	CAPACITOR 100MFD/ 25V
220-254	CAPACITOR .47MFD/ 100V
220-255	CAPACITOR 3300MFD/ 160V
220-256	CAPACITOR 6800MFD/ 160V
220-257	CAPACITOR 1500MFD/ 100V
220-261	CAPACITOR 2200MFD/ 63V
220-263	CAPACITOR
220-265	CAPACITOR
220-274	CAPACITOR 330PF
220-275	CAPACITOR 4700MFD/ 50V
220-281	CAPACITOR 1000MFD/ 25V
220-283	CAPACITOR 2200MFD/ 25V
220-284	CAPACITOR 3300MFD/ 35V
220-285	CAPACITOR 3300MFD/ 40V
220-286	CAPACITOR 4700MFD/ 25V
220-287	CAPACITOR 4700MFD/ 40V
220-289	CAPACITOR 1000MFD/ 40V
220-290	CAPACITOR 1000MFD/ 63V
220-291	CAPACITOR 2200MFD/ 63V
220-307	CAPACITOR 3300MFD/ 40V
220-330	CAPACITOR 68MFD/ 63V
220-332	CAPACITOR 033NF (C9)
220-334	CAPACITOR .1MFD/ 630V
220-335	CAPACITOR
220-339	CAPACITOR 4700MFD/ 35V
220-341	CAPACITOR 4700MFD/ 5V
220-344	CAPACITOR 22NF

Capacitor Master List (cont.)

Part #	Description
220-365	CAPACITOR 120PF
220-388	CAPACITOR 3300PF
220-389	CAPACITOR 47MFD/25V
220-390	CAPACITOR 100MFD/ 40V
220-392	CAPACITOR 1000MFD/ 63V
220-393	CAPACITOR 4700MFD/ 25V
220-394	CAPACITOR 4700MFD/ 50V
220-396	CAPACITOR 4700MFD/ 63V
220-400	CAPACITOR 1500PF
220-401	CAPACITOR 3300PF
220-402	CAPACITOR 6800PF
220-435	CAPACITOR 4700PF
220-436	CAPACITOR 4700 PF/63V
220-439	CAPACITOR 4700MFD/ 100V
907-453	CAPACITOR 68UF/ 16V

I.C. Master List

Part #	Description
107-344	I.C. SN 74 LS 139N
107-345	I.C. 74 LS 04=221-652
107-497	I.C. 74 LS 74
107-849	I.C. 74 LS 00
107-949	I.C. E PROM SET 106-590
108-480	I.C. E-PROM ES2 CCU
108-485	I.C. E-PROM FOR ES2 CCU
111-014	I.C. E-PROM 240I
170-270	I.C. E-PROM ES II CCU
170-403	I.C. E-PROM 240I
170-832	I.C. E-PROM SATELLITE 200
170-833	I.C. E-PROM SATELLITE 200
171-660	I.C. E-PROM FOR CONCERT 240
171-661	I.C. E-PROM FOR CONCERT 240
172-071	I.C. E-PROM FOR 171-651 CCU
173-299	I.C. E-PROM MOD FOR ES II CCU
173-314	I.C. E-PROM COMBO CCU
173-699	I.C. E-PROM GALAXY CD
175-102	I.C. E-PROM FOR ES IV
176-396	I.C. MEMORY FOR ES V COMPUTER
176-397	I.C. MEMORY FOR ES V COMPUTER
221-388	I.C. 555
221-417	I.C. 4007
221-477	I.C. UA 723
221-478	I.C. 4081
221-480	I.C. TMS 1000 FOR "E" MODEL CCU
221-493	I.C. 3082
221-497	I.C. ULN 2003
221-525	I.C. 74 LS503
221-541	I.C. F 4049 BC
221-598	I.C. SN 74 LS 374 N
221-651	I.C. 75468
221-652	I.C. 74 LS04
221-653	I.C. 74 LS 139

I.C. Master List (cont.)

Part #	Description
221-654	I.C. 74 LS 259
221-655	I.C. HEF 4066BP
221-660	I.C. 7445
221-663	I.C. 74 LS 241
221-665	I.C. 74 LS 00
221-671	I.C. 74 LS 02
221-672	I.C. 74 LS 08
221-703	I.C. 74 LS 367
221-705	I.C. 74 LS 74A
221-714	I.C. 74 LS 32
221-759	I.C. 74 LS 122
221-763	I.C. 4021
221-771	I.C. 4094
221-792	I.C. 74 LS 123
221-796	I.C. 74 LS 138
221-808	I.C. HEF 4013 BP
221-810	I.C. HEF 4050 BP
221-813	I.C. LM339
221-852	I.C. 74 LS 151
221-893	I.C. CPU 6503
221-894	I.C. 6532
221-895	I.C. ER 1400
221-993	I.C. LM 556
221-999	I.C. 74 LS 11
231-054	I.C. TD 0124
231-059	I.C. 6502-CPU
231-061	I.C. 6522P
231-078	I.C. ULN 2803
231-088	I.C. U 351
231-089	I.C. TDA 4290
231-120	I.C. HEF 4016B
231-143	I.C. U353M
231-236	I.C. TDA 1029
231-244	I.C. MC 3456
231-269	I.C. MC 14051

I.C. Master List (cont.)

Part #	Description
231-303	I.C. LINEAR L298
231-355	I.C. TL 074
231-386	I.C. BATTERY RAM FOR DATAPRINTER
231-409	I.C. MAB TO18 - I.C. 8 FOR PICK-UP DRIVER
231-412	I.C. R65 C02 I.C.#1 MICROPROCESSOR - ES IV/V CCU
231-413	I.C. R 65 C02 = 231-412 N.L.A.
231-414	I.C. R65 C22 I.C.#4 MICROPROCESSOR - ES IV/V CCU
231-415	I.C. R65 C22 = 231-414 N.L.A.
231-422	I.C. BATTERY RAM
231-423	I.C. BATTERY RAM = 231-422
231-462	I.C. R65 C52 I.C. MICROPROCESSOR FOR ES V CCU
231-463	I.C. R65 C52 = 231-462
231-497	I.C. BATTERY RAM FOR ES IV CCU
231-540	I.C. TDA 4390 AUDIO CHIP FOR ES V CENTRALE
703-4320	I.C. SOCKETS 20 PIN
703-4324	I.C. SOCKETS 24 PIN
703-4328	I.C. SOCKETS 28 PIN
703-4340	I.C. SOCKETS 40 PIN
901-016	I.C. SDA 2008
905-150	I.C. TDA 4050
905-152	I.C. CD4538 FOR ES III RECEIVER
906-690	I.C. PIC 16054 FOR ES III/ IV RECEIVER
907-160	I.C. MN 4264 FOR ES IV DECODER BOARD
907-161	I.C. SAA 7201 FOR ES IV DECODER BOARD
907-162	I.C. MAB 8441P FOR ES IV DECODER BOARD
907-163	I.C. TDA 7220 FOR ES IV DECODER BOARD
907-164	I.C. TDA 1541A FOR ES IV DECODER BOARD
907-165	I.C. TDA 0372 - CDM3 LASER ASSY SERVO BOARD
907-172	I.C. TDA 5709 - CDM3 LASER ASSY SERVO BOARD
907-173	I.C. NSW 4560D - CDM3 LASER ASSY SERVO BOARD
907-175	I.C. TDA 5708 - CDM3 LASER ASSY SERVO BOARD
907-354	I.C. = 145-687 FOR ES IV/ V TRANSMITTER

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Resistor Master List

Part #	Description
221-009	RESISTOR 1 MEG 1/4 WATT
221-017	RESISTOR 57K OHM/ 1/4 WATT
221-029	RESISTOR 1K OHM/ 1/4 WATT
221-030	RESISTOR 1.5K OHM/ 1/4 WATT
221-031	RESISTOR 2.2K OHM/ 1/4 WATT
221-032	RESISTOR 2.7K OHM/ 1/4 WATT
221-033	RESISTOR 3.3K OHM/ 1/4 WATT
221-034	RESISTOR 4.7K OHM/ 1/4 WATT
221-035	RESISTOR 10K OHM/ 1/4 WATT
221-036	RESISTOR 15K OHM/ 1/4 WATT
221-037	RESISTOR 33K OHM/ 1/4 WATT
221-038	RESISTOR 47K OHM/ 1/4 WATT
221-039	RESISTOR 56K OHM/ 1/4 WATT
221-040	RESISTOR 680K OHM/ 1/4 WATT
221-041	RESISTOR 820K OHM / 1/4 WATT
221-044	RESISTOR 82K OHMS/ 1/4 WATT
221-045	RESISTOR 150K OHM / 1/4 WATT
221-046	RESISTOR 120K OHM/ 1/4 WATT
221-048	RESISTOR 100K OHM / 1/4 WATT
221-049	RESISTOR 470K OHM/ 1/4 WATT
221-050	RESISTOR WIRE WOUND 5 OHM/ 5 WATT
221-052	RESISTOR 2.7K OHM/ 1 WATT
221-053	RESISTOR WIRE WOUND 270 OHM
221-094	RESISTOR 2.7 K OHM/ 1/4 WATT
221-095	RESISTOR 6.8K OHM/ 1/4 WATT
221-096	RESISTOR 56 OHM 1/4 WATT
221-097	RESISTOR 82 OHM 1/4 WATT
221-098	RESISTOR 390 OHM 1/4 WATT
221-099	RESISTOR 470 OHM 1/4 WATT
221-100	RESISTOR 680 OHM 1/4 WATT
221-169	RESISTOR WIRE WOUND 10 OHM/ 1 WATT
221-172	RESISTOR 8.2K OHM/ 1/2 WATT
221-180	RESISTOR 3.9K OHM/ 1/2 WATT
221-182	RESISTOR 220 OHM / 1/2 WATT

Resistor Master List (cont.)

Part #	Description
221-185	RESISTOR 18 OHM/ 2 WATT
221-189	RESISTOR 680 OHM/ 1/2 WATT
221-191	RESISTOR 560 OHM 1/4 WATT
221-193	RESISTOR 6.8K OHM/ 1 WATT
221-209	RESISTOR 120 OHM/ 1/2 WATT
221-210	RESISTOR 1.5K OHM/ 1/2 WATT500 OHM 1/2 WATT
221-218	RESISTOR 180 OHM/ 9 WATT
221-230	RESISTOR 470 OHM/ 1 WATT
221-246	RESISTOR 1K OHM/ 1 WATT
221-273	RESISTOR 1K OHM/ 1/2 WATT
221-274	RESISTOR 1.5K OHM/ 1/2 WATT
221-275	RESISTOR 22K OHM
221-276	RESISTOR 470 OHM
221-278	TRIMMER POT 10K OHM
221-279	TRIMMER POT 250K OHM
221-280	TRIMMER POT 25K OHM
221-281	RESISTOR 1.5K OHM/ 1/2 WATT
221-293	RESISTOR 82K OHM/ 1/3 WATT
221-305	TRIMMER POT 2.2K OHM/ 1 WATT
221-323	SLIDE POT 100K FOR E/ES II VOLUME CONTROL
221-362	RESISTOR WIRE WOUND 220 OHM/ 4 WATT
221-395	TRIMMER POT 10K OHM
221-397	RESISTOR 4.7K OHM/ 1/2 WATT
221-407	TRIMMER POT 50K OHM
221-414	TRIMMER POT 100K OHM/ 1 WATT
221-502	TRIMMER POT FOR 107-424 PRE-AMP
221-581	RESISTOR ARRAY 4.7K OHM
221-582	TRIMMER POT 100K/ 1 WATT FOR 107-424 PRE-AMP
221-583	TRIMMER POT 2.2K/ 1 WATT FOR 107-424 PRE-AMP
221-587	RESISTOR ARRAY 2.2K OHM
221-588	RESISTOR ARRAY 220K OHM
221-600	RESISTOR 100 OHM/ 1/4 WATT
221-601	RESISTOR 27K OHM/ 1/4 WATT
221-603	RESISTOR 12K OHM/ 1/4 WATT
221-604	RESISTOR 22K OHM/ 1/4 WATT

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Resistor Master List (cont.)

Part #	Description
221-605	RESISTOR 18K OHM/ 1/4 WATT
221-606	RESISTOR 47K OHM/ 1/4 WATT
221-609	RESISTOR 220K OHM/ 1/4 WATT
221-611	RESISTOR 10 OHM/ 1/4 WATT
221-614	RESISTOR 3.3K OHM/ 1/4 WATT
221-620	RESISTOR 22 OHM/ 1/4 WATT
221-622	RESISTOR 820 OHM/ 1/4 WATT
221-623	RESISTOR 39K OHM/ 1/4 WATT
221-624	RESISTOR 220 OHM/ 1/4 WATT
221-625	RESISTOR 5.6K OHM/ 1/4 WATT
221-627	RESISTOR 1.2K OHM/ 1/4 WATT
221-628	RESISTOR 3.9K OHM/ 1/4 WATT
221-629	RESISTOR 68K OHM/ 1/4 WATT
221-630	RESISTOR 18 OHM / 4 WATT
221-637	RESISTOR 150 OHM 1/4 WATT
221-638	RESISTOR 270 OHM/ 1/3 WATT
221-646	RESISTOR 22 OHM / 5 WATT
221-668	RESISTOR 18 OHM / 1 WATT
221-679	RESISTOR 1.8K OHM/ 1/2 WATT
221-682	RESISTOR 1 OHM/ 1/2 WATT
221-692	RESISTOR 2 OHM/ 1 WATT
221-695	RESISTOR WIRE WOUND 220 OHM/ 1 WATT
221-741	RESISTOR 1K OHM/ 1 WATT
221-753	RESISTOR 330 OHM/ 1 WATT
221-865	RESISTOR 22 OHM
221-905	RESISTOR 430 OHM/ 1/4 WATT
221-985	RESISTOR 220 OHM/ 1 WATT
231-086	TRIMMER POT 10K OHM
231-097	SLIDE POT 10K OHM - 170-282 VOLUME CONTROL
231-127	RESISTOR 3.9K / 2 WATT
231-130	RESISTOR 4.7 MEG/ 1/4 WATT
231-145	RESISTOR 2.2 OHMS/ 1.5 WATT
231-195	RESISTOR
231-214	TRIMMER POT 25K OHMS
231-232	RESISTOR WIRE WOUND 6.8K OHM/ 1 WATT

Resistor Master List (cont.)

Part #	Description
231-233	TRIMMER POT 1 MEG
231-234	TRIMMER POT 2.5 MEG
231-237	RESISTOR WIRE WOUND 3.9K/ 1 WATT

Transistor Master List

Part #	Description
221-214	TRANSISTOR BC 140-10
221-217	TRANSISTOR BC - 109 B
221-249	TRANSISTOR BC 550
221-283	TRANSISTOR BC 557 B
221-290	TRANSISTOR BD 241 B
221-292	TRANSISTOR BD 244
221-317	TRANSISTOR BC 327-16
221-321	TRANSISTOR BC 338
221-332	TRANSISTOR BC 337-16
221-444	TRANSISTOR BD 135
221-459	TRANSISTOR BC 556 B
221-485	TRANSISTOR BC 546 B
221-488	TRANSISTOR BD 139
221-489	TRANSISTOR TIP 141
221-490	TRANSISTOR TIP 146
221-492	TRANSISTOR BC 517 B
221-494	TRANSISTOR TIP 3055
221-495	PHOTO TRANSISTOR FOR 172-690 OPTO SCAN
221-648	PHOTO TRANSISTOR FOR COIN CHANNELS
221-681	TRANSISTOR BC 516
221-757	TRANSISTOR BC 547B
221-777	TRANSISTOR BD 679
221-883	TRANSISTOR BD 239 B
221-886	TRANSISTOR BDW 83 C
221-902	TRANSISTOR BDW 84 C
231-150	TRANSISTOR TIP 130
231-201	TRANSISTOR BD 136
231-240	TRANSISTOR BC 636
904-949	TRANSISTOR BC 640 FOR I.R. REMOTES