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Service Training Manual
Volume 1
ES 6 Programming

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Service program

ES VI-Technology

Program version: 1.02j
Date: 03/14/2000
Author: Manfred Zimmer

The information and illustration contained in this manual are up to date at the time of publication.

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Manufactured in Germany

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Basics of operating the service program

Definitions

- Normal mode:** I.e. normal operating mode for customers. The phonograph accepts inserted money and plays selected titles.
- Service mode:** The service operating mode for the operator of the phonograph or the service staff. The door of the phonograph is open and the service switch is pulled out. Setting changes are possible, phonograph statistics can be read out, or several tests can be made.
- Menu:** This is a list of different service functions.
- Direct access:** Direct access of a service function is possible by entering the corresponding number. Regard the syntax: Menu points are separated by dots (e.g.: 2.3.1.1).
- Dialog box:** Group of matching input fields (mask).

Operating

By pulling out the service switch the phonographs service program is entered. The service program is menu driven. It is separated into multiple sections. The service program is operated via the operators key pad in the operating console of the phonograph or via the IR-remote control.

For your orientation: The menu number (e.g. /2.1.5.4) is displayed in the lower left corner of the operators display.

A service function can be accessed directly by entering the corresponding menu number („direct access“). For example, if you want to modify the sound setting of the phonographs amplifier, just enter the corresponding number 2.3.1.1 directly. Afterwards the dialog field for sound settings appears in the operators display.

If there is a „>“ sign in front of a menu name, it indicates that there is another menu field following this one. For example „2.>Settings“ means, that another menu will appear after entering „2“. Entering the number „0“ within any menu position takes you back to the main menu. This is optimized for operators that always jump to service functions directly using „direct access“.

For stepping through the entry fields within a dialog box use the arrow keys (→, ↑, ↓). For your orientation: Within the upper right corner of the operators display the corresponding name of the entry field is displayed.

After closing the front door the service switch is automatically pushed in, and the service program is terminated. The phonograph re-enters the normal mode.

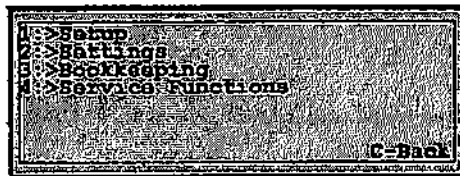
While not otherwise specified the keys of the operators key pad have the following meaning if the phonograph is in service mode:

- 1...0: Input of menu item or parameter values.
- C: „Cancel input“ (1. pressing) or „Back one menu level“ (2. pressing).
- →: Within dialog box step right one entry field.
- ↑: Within dialog box step up one entry field.
- ↓: Within dialog box step down one entry field.
- Hit: Confirm entry.
- *: Step to the next possible parameter, switch display mode, or switch upper case/lower case while in text input mode.
- A-Z: Text input. Here the number keys (1...0) have a different meaning (see also layout of the IR remote control transmitter). Key 1 is also designed as „ABC“, key 2 as „DEF“ and so on. In this mode the first pressing of key 1 works as „A“, two times pressing gives you a „B“ and so on.
- Symbols: This is for entering symbols, such as monetary symbols, while you are in text input mode. The different symbols are displayed by repeatedly pressing the symbols key.

Service Program

/0

Main menu



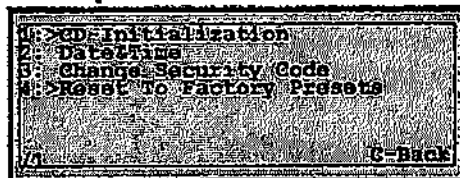
After pulling the service switch (push button switch) the phonograph switches to service mode, and the service program is entered.

The service mode can be terminated by either pushing the service switch back into its closed position or by confirming „YES“ after pressing the „C“ key (on the IR transmitter or the operators key pad).

Setup

/1.

>Setup



This service program section is used for the basic initialization of the phonograph.

CD-Initialization

/1.1

>CD Initialization

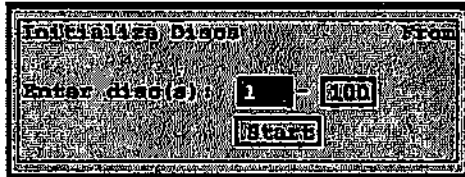


Newly inserted CD must be initialized (read in of table of contents), thus to enable correct title selection and credits calculation for selected album (different number of tracks/titles).

CDs may be classified as „known“, „not known“, or „not available“.

After deleting the title memory all CDs are marked as „not known“. In this case only track 1 of it can be selected. Each time a CD is played, it is newly initialized. New inserted CDs or CDs marked as „not known“ can be initialized by selecting track 1 once.

1.1.1 Initialize Discs



Enter the range of CDs to be initialized. Afterwards select **Start** and press the "HIT" key to start the initialization routine.

Enter disc(s):

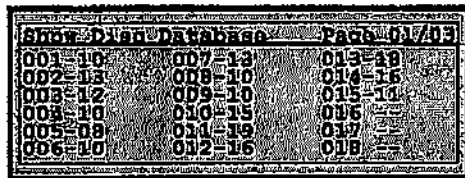
- From: First CD to be initialized.
- To: Last CD to be initialized.
- Start: To start the initialization routine.



First the data of the entered range are cleared. Afterwards the defined CDs are read-in one after another to be initialized. While initialization the keys have the following function:

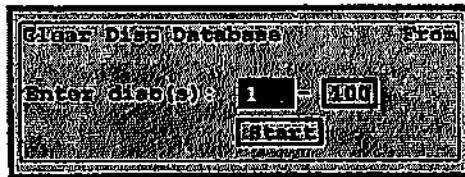
- "C" key = To cancel the initialization routine.
- "Hit" key = Change the range of CDs to be initialized.
- ** key = Display the initialized title memory.

1.1.2 Show Disc Database



The initialized information of all CDs is shown (format: **CD-tracks**). Press the arrow keys to step through multiple screens. Press "C" key to leave this menu.

1.1.3 Clear Disc Database



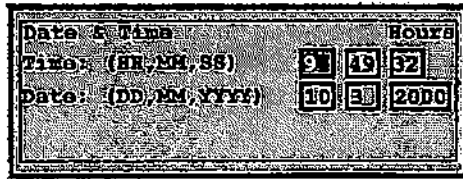
Enter the range of CDs of which the data base should be cleared. Afterwards select **Start** and press the "HIT" key to start this routine.

Enter disc(s):

- From: First CD to be cleared.
- To: Last CD to be cleared.
- Start: To start clearing routine.

Date & Time

12.7 Date & Time



This function is used to set date and time. The internal real-time clock is used to control various functions within special time windows, such as auto-play, background, happy-hour, and so on.

Time:

The actual time. Format: hours, minutes, seconds.

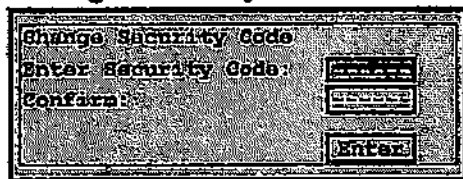
Date:

The actual date. Format: day, month, year.

Remark: The week-day (Monday...Sunday) is automatically calculated from the entered date.

Security Code

11.3 Change Security Code



By defining a security code (password) you can protect your phonograph against unauthorized usage. Service functions can only be started by authorized service staff who knows the right password. After pulling the service switch you are requested to enter the right password.

Enter Security Code:

Input of security code.

Input is requested twice to exclude typing errors.

If you enter the code = "0" this function is disabled.

Enter:

Select **Enter** and press the „Hit“ key to store the newly entered security code.

Attention: Note the security code (password) and store it in a safe place, because if you lost the password you will not have any access to the service program!

Factory Presets

/1.4 ****Reset To Factory Presets



(WINDOW NOT RIGHT)

The phonograph is prepared to use default values set at the factory site. Use this function to reset the phonograph to this settings. For different countries different price and monetary settings (basic settings) are programmed:

GB: Settings for GB
USA: Settings for USA
AUS: Settings for Australia
D: Settings for Germany

To confirm your selection select CONFIRM and press "Hit" key. Afterwards the desired factory default settings are activated and the phonograph's program will be restarted.

Settings

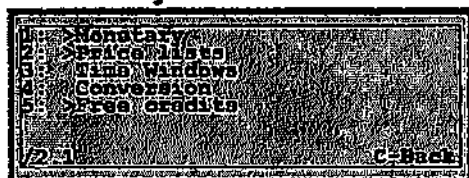
/2. >Settings



Within this menu different settings of the phonograph can be changed.

Monetary & Prices

/2.1 >Monetary & Prices



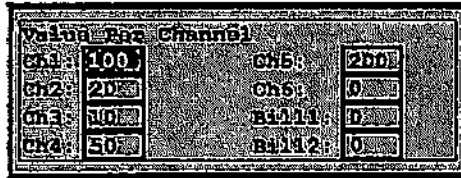
Settings for monetary values, prices, or free credits can be changed here.

/2.1.1 >Monetary



Settings for currency and monetary values.

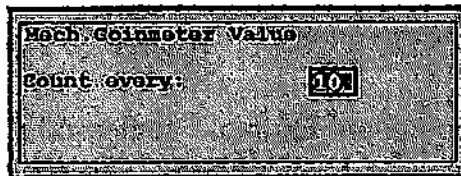
/2.1.1.1 Value Per Channel



Here you can value up to 6 coin channels and up to 2 bill channels. Just enter the corresponding value of coins and/or bills related to the smallest value unit of your country. For example: 50c = 50, 1\$ = 100.

Tip: If you insert a coin into the coin insert the program automatically activates the corresponding entry field, and you can directly enter the expected value. Repeat this steps for all valid coins used in your country.

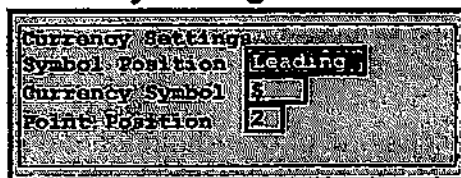
/2.1.1.2 Mech. Coinmeter Value



This is to define the monetary value to be necessary to indicate a impulse to the electromechanical cash counter.

Example: Setting = 10: Inserting 1\$ makes 10 impulses to the electro-mechanical cash counter. That means the cash counter counts in steps of 10c.

/2.1.1.3 Currency Settings



Setting the currency.

Symbol Position:

You can define whether the currency symbol is displayed in front of the value (Leading), or following the value (Behind). Press the "*" key to change the setting.

Currency Symbol:

Here you define the currency symbol to be displayed with the price information on the operators display. Enter using the operators key pad or IR remote control transmitter, press key "1" for Letters ABC; press key "2" for letters DEF and so on.

For input of a symbol like \$, £, or so, press the "0" key as long as necessary to meet your symbol. (Note: possible symbols are listed in "Appendix A: Possible Symbols".

Point Position:

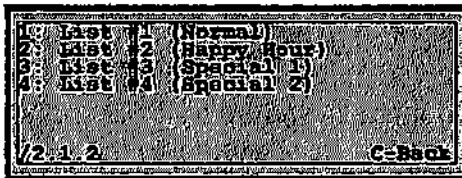
This is to define the decimal point for displaying the monetary value.

Example: Setting = "0": Value 100 (e.g. 1\$) is displayed as 100.

Example: Setting = "2": Value 100 (e.g. 1\$) is displayed as 1.00.

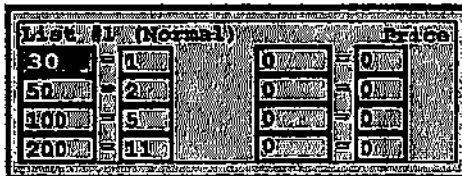
Price Settings

/2.1.2 >Price Lists



Use this command to define different prices for different time windows, i.e. different daily or weekly events.

2.1.2.1 List #1



Defines the pricing for normal operation. Example setting 50 = 2: that means you need 50 monetary impulses to get 2 credits for selections. Enter prices sorted by increasing monetary values. Regard the settings of menu 2.1.4 (Conversion) to ensure either direct or indirect conversion is to be used.

2.1.2.2 List #2

Bonus pricing in HAPPY HOUR time windows.

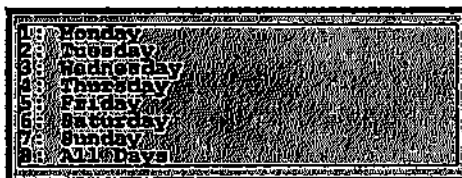
2.1.2.3 List #3

Bonus pricing for special occasions or operating times.

2.1.2.3 List #4

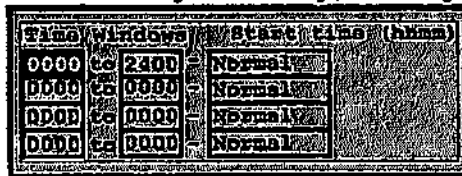
Bonus pricing for other special occasions or operating times.

/2.1.3 >Time Windows



Settings for different pricing for different daily and weekly time periods.

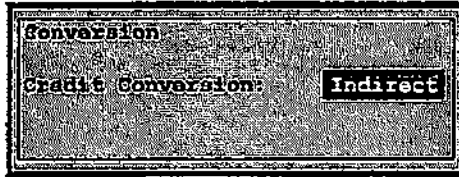
/2.1.3.1 - /2.1.3.8 Monday...Sunday, All Days



Enter time values in format "hhmm", i.e. 1015 for a quarter past ten o'clock AM.

12.1.4

Conversion



- Direct:** The conversion of inserted coins into given credits is performed on each inserted coin directly (coin related). Example: 50c = 1credit, 1\$ = 3 credits → insertion of 2x50c gives 2 credits.
- Indirect:** The conversion of inserted coins into given credits is performed indirectly, that means related to the total amount of inserted coins. Example: 50c = 1credit, 1\$ = 3 credits → insertion of 2x50c gives 3 credits.

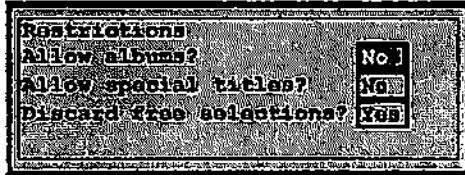
Free Credits

/2.1.5 >Free Credits



Menu for programming free credits.

/2.1.5.1 >Restrictions



Restrictions while using free credits.

Allow Albums?:

Setting to allow album selection (selection of track 00) while phonograph is in free credit mode.

Allow Special Titles?:

Setting to allow selection of special tracks while phonograph is in free credit mode.

Discard Free Selections?:

Use this setting to define if selections in free credit mode are deleted from the title memory after termination of the free credit mode (either by using remote control or automatically by running out of the programmed time window).

/2.1.5.2 Free Credit Settings



Settings for free credits.

Remaining Free Credits:

Setting of the total number of free credit to be given.

The programmed value is decreased by 1 each time a free credit is given until the value is "0". If the value is = "0" no further free credits are given until this program step is performed again. Exception: programmed value = "999" means endless amount of free credits.

Service Credits:

Setting the number of free credits given after pulling the service switch and if the "normal" credit counter (credit display) is "0".

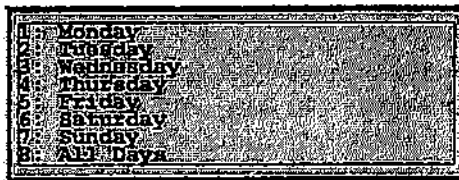
This function is used to enable the service technician to make title selections for service purposes without money insert.

/2.1.5.3 Free Credits per Weekday



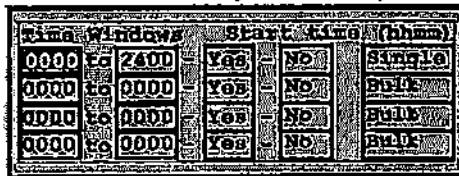
Settings for different numbers of maximum free credits for each day of the week.

/2.1.5.4 Time Windows



Within different time windows you may activate free credits to be given automatically or after pressing a function key on the remote control.

/2.1.5.4.1 - /2.1.5.4.8 Monday...Sunday, All Days



4 independent entries are possible for each week-day to activate free credits automatically or for selection via remote control.

Settings:

Start time:

This is the beginning time of the time window.

Stop-Time:

This is the ending time of the time window.

Limited?:

To define if single free credits are limited as programmed in parameter "/2.1.5.2 Remaining Free Credits". Entry = Yes/No.

Automatic?:

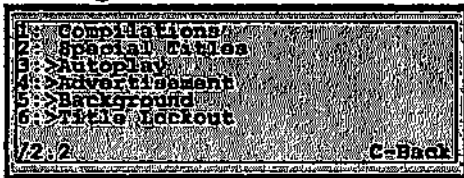
Setting if free credit mode is entered automatically within this time window (Yes), or if free credits are to be selected from the remote control (No).

Mode:

Setting if free credits are given as single credit (Single) by repeatedly pressing the free credit key of the remote control or all at once (Bulk).

Categories

12.2 >Categories



Summary of functional categories

Compilations

12.2.1 Compilations

Compilations are summaries (lists) of different titles or albums (CDs). This summaries are to be used for "AutoPlay" (automated attract mode within time intervals), "Advertisement" (automated playing of ad tracks within time intervals), "Background" (automated back ground music) and "Title Lockout". You also can enable the audience to select Compilations. Thus you can expand your musical offering or categorize it.

Up to 100 Compilations can to be programmed. Each with up to 100 entries (single tracks or albums). The total number of entries over all compilations is limited to 1000.

Compilation are numbered from 1 to 250.

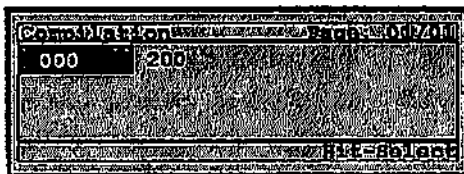
Compilations 101-199 can to be selected by the audience (i.e. selection 103*05) thus to enlarge the music offering over the limitation of 100 CDs loaded into the CD changer.

Compilations 200-250 are not selectable, because they are reserved to be played as "AutoPlay titles", "Advertisement titles", or "Background titles".

If you define a compilation in the range from 1 to 100 you hereby cancel the corresponding CD to be played. Example: If you define a compilation number 30 each time one will select 30*01 not the corresponding title of CD number 30 is played but your compilations first entry. By this you can build "Virtual CDs" (Virtual Discs). Use virtual CDs to build special music categories (Country, Rock, Pop, Classic, New Hits, and so on).

As factory default one compilation number 200 is pre-programmed including all CD albums 01 to 100. This compilation is used for „AutoPlay" and „Background", thus to play from the whole repertoire while in this modes.

Compilation number 000 is reserved for the registration of automatically locked out titles or CDs. Ref. 2.2.6.2 (>Automatically Lockout).

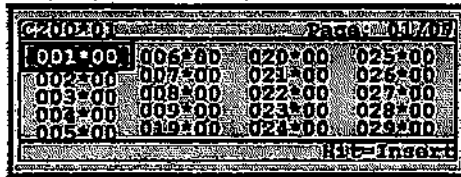


Usage:

Select the desired position using the arrow keys (Compilations) In the lower right corner of the display the function of the HIT key is displayed (i.e. Hit=Select). By pressing the *-key you can choose between the following functions: "Select", "Insert", and "Delete".

Activate the insert function by pressing the *-key until "Hit=Insert" is displayed. Then press the HIT key to add a new compilation.

Activate the delete function by pressing the *-key until "Hit=Delete" is displayed. Then press the HIT key to delete an existing compilation.

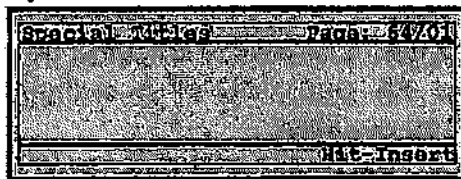


Activate the select function by pressing the *-key until "Hit=Select" is displayed. Then press the HIT key to display the contents of a compilation. In this mode you can add new titles or delete titles from the selected compilation.

Special Titles

12.2.2

Special Titles



„Special Titles“ are titles or albums which are defined with special features.

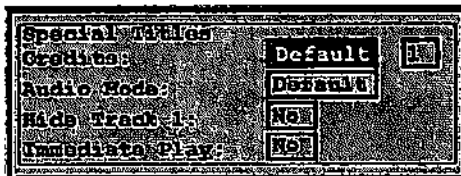
Usage:

Select the desired position using the arrow keys (Special Title) In the lower right corner of the display the function of the HIT key is displayed (i.e. Hit=Insert). By pressing the *-key you can choose between the following functions: "Insert", "Modify", and "Delete".

Activate the insert function by pressing the *-key until "Hit=Insert" is displayed. Then press the HIT key to add a new special title.

Activate the delete function by pressing the *-key until "Hit=Delete" is displayed. Then press the HIT key to delete an existing special title.

Activate the modify function by pressing the *-key until "Hit=Modify" is displayed. Then press the HIT key to change the features of a selected title or CD.



After selection of „Insert“ enter the number of the desired title and press the "Hit" key. Input of title 00 i.e. 02*00, means that the whole CD is defined as "Special".

Features:

Credits:

In this entry field you may define how many credits are to be deducted for selection of this title/CD. Here you have the possibility to define different prices for different titles, some more expensive and some for free. Change entry by pressing the "*" key:

Default: As many credits are deducted as defined.

Special: A different number of credits is deducted for this title. See entry in next field.

Audio-Mode:

Enter the audio channel of the amplifier to which the reproduction of this title is switched to. This setting is to be used, i.e. for "Karaoke-CDs" where sound and voice is recorded to one channel (left channel), and only sound is recorded to the other channel (right channel).

Use a function key of the remote control to switch this features between "Left", "Right" and "Stereo". See also "/2.3.3.2 Function Keys".

Default: A predefined audio channel is switched to the amplifier.

Left: The left channel of the audio signal is switched to the both channels of the stereo amplifier.

Right: The right channel of the audio signal is switched to the both channels of the stereo amplifier.

Stereo: Normal setting. Both channel are switched to the stereo amplifier. Remark: This setting is independent from setting "Mono/Stereo" as described in "/2.3.1.4 Audio Modes".

Hide Track 1:

On most Video CDs track 1 is used as intro or table of contents. In this case the printed cover of this CD differs from the real contents of the CD. Use this setting to suppress track 1, that means on selection of track 1 track 2 is played (selection of xx*01 plays xx*02).

No: Track #1 is not suppressed.

Yes: Track #1 is suppressed.

Immediate Play:

Certain titles can be played directly after selection independent of previously selections. For example: A "Happy Birthday" title at a predefined moment.

No: The title is not played immediately (normal setting)

Yes: After selection the title is played next.

Autoplay

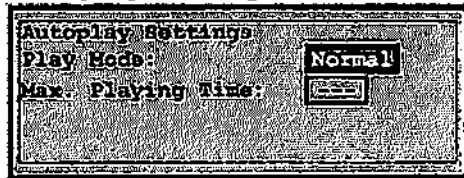
12.2.3 >Autoplay



Use "AutoPlay" to play certain titles automatically in predefined time intervals. This function becomes active if it is enabled in at least one of four time windows of the corresponding week day and if the phonograph is in stand-by (no actions on the phonograph).

A selection of a title will fade out the "AutoPlay" title.

12.2.3.1 Autoplay Settings



Settings:

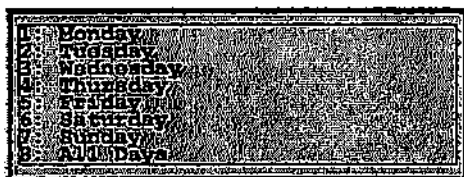
Play Mode:

- Normal: Titles are played in order of the programmed compilation used.
- Random: Titles are played randomly from the programmed compilation.
- Off: AutoPlay is deactivated. No AutoPlay titles are played.

Max. Playing Time:

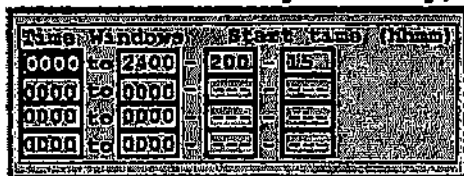
This is the maximum time an AutoPlay title is played. After the end of the programmed time in seconds the title is faded out.

12.2.3.2 Time Windows



Within different time windows you may activate AutoPlay to start automatically.

12.2.3.2.1 - 12.2.3.2.8 Monday...Sunday, All Days



4 independent entries are possible for each week-day to activate AutoPlay automatically.

Settings:

Start time:

This is the beginning time of the time window.

Stop-Time:

This is the ending time of the time window.

Compilation #:

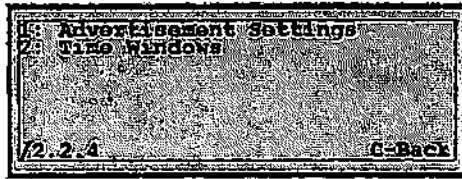
Number of the programmed compilation to be played in the AutoPlay mode.

Interval (min):

Time in minutes between two AutoPlay titles respectively the time the phonograph is in stand-by before an AutoPlay title is played automatically.

Advertisement

12.2.4 >Advertisement



Use this function to play special advertisement titles within predefined time intervals. This function becomes active if it is enabled in at least one of four time windows of the corresponding week.

12.2.4.1 Advertisement Settings



Settings:

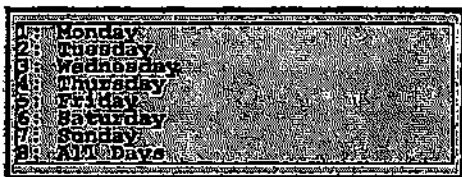
Play Mode:

- Normal: Titles are played in order of the programmed compilation used.
- Random: Titles are played randomly from the programmed compilation.
- Off: Advertisement is deactivated. No advertisement titles are played.

Max. Playing Time:

This is the maximum time an Advertisement title is played. After the programmed time in seconds is over the title is faded out.

12.2.4.2 Time Windows



Within different time windows you may activate Advertisement titles to start automatically.

12.2.4.2.1 - 12.2.4.2.8 Monday...Sunday, All Days



4 independent entries are possible for each week-day to activate automatically playing of Advertisement titles.

Settings:

Start time:

This is the beginning time of the time window.

Stop-Time:

This is the ending time of the time window.

Compilation #:

Number of the programmed compilation to be played in the Advertisement mode.

Interval (min):

Time in minutes between two advertisement titles. After this time the next advertisement title is played from the programmed compilation regardless of eventually existing title selections.

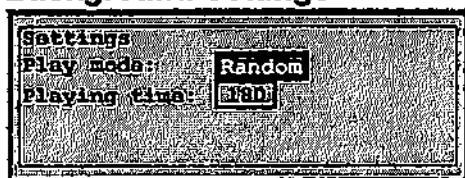
Background Music

/2.2.5 >Background



In Background mode titles are played from 3 predefined compilations as long as no titles are selected by audience. A selected title will fade-out a just playing background title. Background mode becomes active if it is enabled in at least one of four time windows of the corresponding week-day.

/2.2.5.1 Background Settings



Settings:

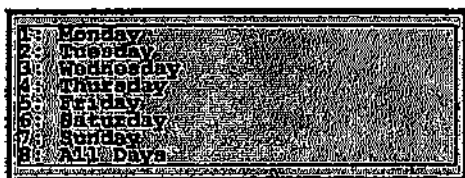
Play Mode:

- Normal: Titles are played in order of the programmed compilation used.
- Random: Titles are played randomly from the programmed compilation.
- Off: Background mode is deactivated. No Background titles are played.

Max. Playing Time:

This is the maximum time a background title is played. After the programmed time in seconds is over the title is faded out.

/2.2.5.2 Time Windows



Within different time windows you may activate background titles to start automatically.

/2.2.5.2.1 - /2.2.5.2.8 Monday...Sunday, All Days



4 independent entries are possible for each week-day to activate automatically playing of background titles.

Settings:

Start time:

This is the beginning time of the time window.

Stop-Time:

This is the ending time of the time window.

Compilation #:

Number of a programmed compilation to be played as background music.

3 different compilations may be predefined. Titles from one of these 3 compilations are played until the background mode is terminated by reaching the end of the time window or by pressing the function key on the remote control. With each call-up of the background mode the compilation is changed.

Mode:

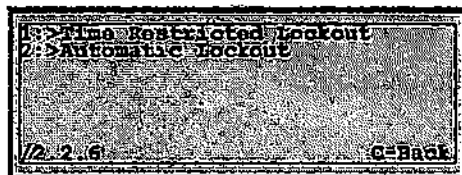
Mode of operation for background music.

Auto: Background mode will start automatically if one of the four time windows is set. Background music is played automatically. By pressing the function key on the remote control you may deactivate the background mode (ref. /2.3.3.3 Function Keys).

Key: Background mode will start automatically if one of the four time windows is set to start. Background music is played after pressing the function key on the remote control.

Title Lockout

1/2.2.6 > Title Lockout



Selection of titles or albums can be locked out automatically or in a time window.

Time Restricted Lockout

1/2.2.6.1 > Time Restricted Lockout



At certain week-days or day-times titles or albums can be locked against selection.

1/2.2.6.1.1 Activate/Deactivate



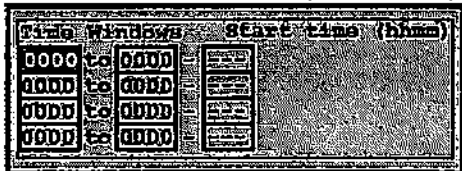
Activate or deactivate this function by pressing the *-key.
deactivated: Time Restricted Lockout is deactivated.
activated: Time Restricted Lockout is activated.

1/2.2.6.1.1 Time Windows



Titles and albums may be locked for each week-day separately.

1/2.2.6.1.1.1 - 1/2.2.6.1.1.8 Monday...Sunday, All Days



4 independent entries are possible for each week-day to lock-out titles.

Settings:

Start time:

This is the beginning time of the time window.

Stop-Time:

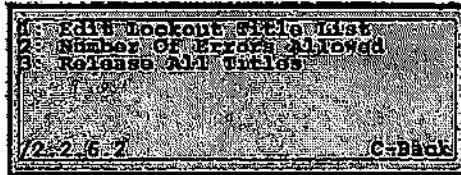
This is the ending time of the time window.

Compilation #:

Number of a programmed compilation including titles to be locked against selection.

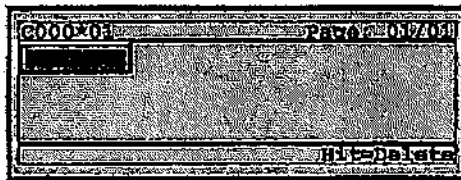
Automatic Lockout

/2.2.6.2 > Automatic Lockout



Titles or albums having problems while playing because of pollution or scratches can automatically be locked out.

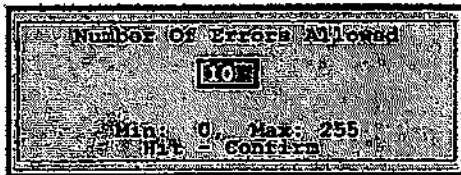
/2.2.6.2.1 Edit Lockout Title List



The list of automatically locked out titles or albums can be viewed. The entries can be changed or deleted manually.

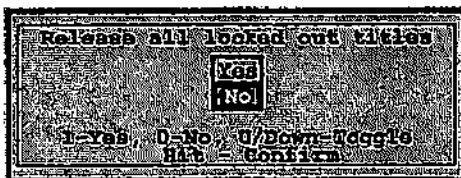
Activate the select function by pressing the *-key until "Hit=Select" is displayed. Then press the HIT key to display the contents of a compilation. In this mode you can add new titles or delete titles from the selected compilation.

/2.2.6.2.3 Number Of Errors Allowed



Here you may define the number of playing errors to occur until a title is locked out.

/2.2.6.2.4 Release All Titles

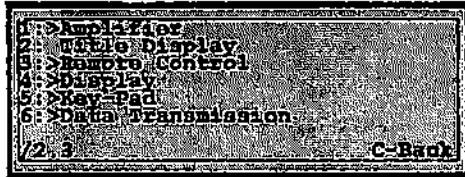


All automatically locked out titles within the corresponding list can be released to enable them to be selectable again.

Use the arrow keys or key 1 or key 2 to select Yes / No. Press the HIT key to confirm your selection.

Hardware Settings

12.3 >Hardware



Summary of the functional units: Amplifier, Title display, Remote control, Operators display, Operators key pad, and CD changer.

Amplifier Settings

12.3.1 >Amplifier



Summary of all settings for audio reproduction.

Volume&Tone

12.3.1.1 Music



Settings for volume and sound of music.

Volume:

Decay in "dB" of the actual music volume of the four audio channels:

0dB = maximum volume.

-79dB = minimum volume.

Treble:

Equalizer-setting in "dB" for the high frequencies of music for channel 1/2 or channel 3/4. Enter the desired value. Press *-key to toggle polarity (+/-).

0dB = normal setting

14dB = maximum treble boost.

-14dB = maximum treble cut.

Middle:

Equalizer-setting in "dB" for the middle frequencies of music for channel 1/2 or channel 3/4. Enter the desired value. Press *-key to toggle polarity (+/-).

0dB = normal setting

14dB = maximum middle boost.

-14dB = maximum middle cut.

NOTE: This setting cannot be changed via remote control.

Bass:

Equalizer-setting in "dB" for the low frequencies of music for channel 1/2 or channel 3/4. Enter the desired value. Press *-key to toggle polarity (+/-).

0dB = normal setting

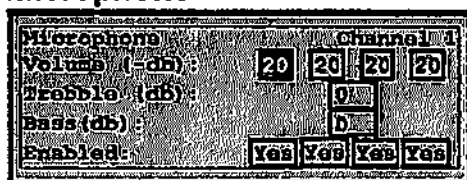
14dB = maximum bass boost.

-14dB = maximum bass cut.

NOTE: The setting for volume, treble, and bass are changed by pressing the corresponding keys on the IR remote control respectively by sliding the controls on the wired remote control.

Microphone

12.3.1.2 Microphone



Settings for volume and sound of a connected MIC.

Volume:

Attenuation in "dB" of the actual MIC volume of the four audio channels:

0dB = maximum volume.
-37dB = minimum volume.

Treble:

Equalizer-setting in "dB" for the high frequencies of the MIC for channel 1/2 or channel 3/4. Enter the desired value. Press *-key to toggle polarity (+/-).

0dB = normal setting
14dB = maximum treble boost.
-14dB = maximum treble cut.

Bass:

Equalizer-setting in "dB" for the low frequencies of the MIC for channel 1/2 or channel 3/4. Enter the desired value. Press *-key to toggle polarity (+/-).

0dB = normal setting
14dB = maximum bass boost.
-14dB = maximum bass cut.

NOTE: The defined settings are changed by pressing the corresponding keys for MIC volume and sound on the IR remote control.

Input Gain & AVC

12.3.1.3 Input Gain & AVC



Gain:

It is possible to set the input gain of 3 different inputs separately. Depending on the type of connected audio source (CD-Player/SAT-Receiver/Tape or capacitor microphone/dynamic microphone) the output level of the source can vary extremely and therefore optimization of this setting is required.

12dB = maximum input sensitivity
 0db = minimum input sensitivity

AVC:

The volume dynamic of CDs often is not equal. So we have integrated an automatic volume control (AVC = Automatic Volume Control) for the CD player, thus to avoid extreme volume changes while playing different CDs.

Settings:

Response Time:

This is the response time for the automatic control.

Gain Music:

This is input sensitivity in dB for the CD input.

6db = normal setting

AVC Response Time:

This is the response time for the AVC.

No: = AVC deactivated

Yes: = AVC activated

Gain AUX:

This is input sensitivity in dB for the AUX-In input.

Gain MIC:

This is input sensitivity in dB for the MIC input.

Audio Modes

12.3.1.4 Audio Modes



Different modes for playing of music or for the auxiliary inputs/outputs (AUX-In/AUX-Out) can be set paired for the audio channels (1/2 or 3/4).

Signal:

Select between MONO and STEREO. Press the *-key to select.

Stereo: Music reproduction is performed in "Stereo". Use this setting only for rooms where it is possible to hear the stereo effect.

Mono: Music reproduction is performed in "Mono". Use this setting if an equal positioning of loudspeakers for stereo is not possible, or if different rooms should be exposed with different volumes.

AUX-Mode:

The mode of operation of the 2x2 AUX-outputs (1/2 or 3/4) can be set differently. Use the *-key to change the mode:

Fixed: The output level of the outputs is fixed that means it is independent from the volume setting and sound setting of the phonograph. Use this setting i.e. for connecting a tape recorder or an additional amplifier with integrated volume control.

3 Band: The output level of the outputs is depending on the setting for volume and sound of the phonograph. Use this setting i.e. for connecting an additional amplifier without integrated volume and sound control.

Surround: For using this phonograph with *real surround sound* you need at least four loudspeakers for that different sound material. An external amplifier to drive the surround speakers must be connected to the AUX-Out connectors.

Variable: Equivalent to "3 Band" the output level depends on the setting of the phonograph.

AUX-Priority:

The priority of the "AUX-In"-inputs (1/2 or 3/4) can be set differently. Use the *-key to change the priority:

Idle: Playing a CD has priority.
The phonograph switches the AUX-In signal to the amplifier only if no CD is played (stand-by).

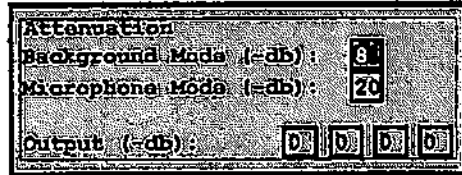
Detect: The external device has priority.
The phonograph switches the AUX-In signal to the amplifier immediately after detecting an audio signal.

Fixed: The "AUX-In"-input is directly switched to the amplifier. In this mode the CD music is not played to the corresponding channels (1/2 or 3/4).

Off: The "AUX-In"-input is deactivated.

Attenuation

12.3.1.5 Attenuation



The output level can be attenuated differently for different mode of operation.

Background Mode:

Attenuation of music volume in background mode.

If background titles are played the volume is automatically decreased by the programmed value.

0dB: = no attenuation.
-36dB: = maximum attenuation.

Microphone Mode:

Attenuation of music volume if a MIC signal is detected. Example: For any message broadcasting it is useful to reduce the music volume.

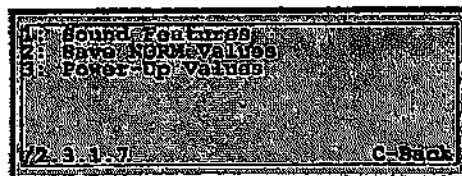
0dB: = no attenuation.
-36dB: = maximum attenuation.

Output:

The total output level of the four channels can be attenuated differently. Use this setting for limiting the volume or the output power.

0dB: = no attenuation.
-36dB: = maximum attenuation.

12.3.1.7 >MORE



More settings for sound reproduction.

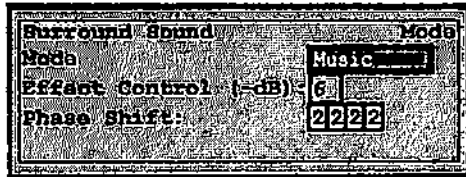
Sound Features

12.3.1.7.1 >Sound Features



Two different sound effects are available within this phonograph. They can be activated via the IR remote control. The parameter for this sound effects can be set or changed as desired.

12.3.1.7.1.1 Surround Sound



Mode:

4 different modes can be set:

Simulated: A stereo effect is simulated built from a mono input signal.

Music: Optimized setting for music-CDs

Movie: Optimized setting for movie sound tracks

Off: Surround sound is deactivated and cannot be activated via remote control.

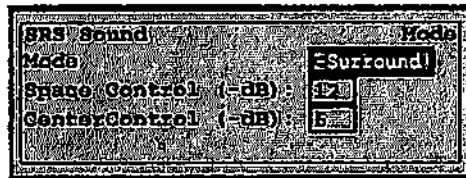
Effect Control:

The intensity of the surround effect can be attenuated to the following values:

-6dB = minimum attenuation

-21dB = maximum attenuation

12.3.1.7.1.2 SRS Sound



Mode:

You may select between 3 different modes:

-Surround: The original audio signal is the input signal for the SRS-module

+Surround: The audio signal modified by the surround module is the input signal for the SRS module.

Off: SRS is deactivated and is not to be activated by the IR remote control.

Space Control:

The space effect of the sound reproduction can be set to:

0dB = maximum "space effect".

-31dB = minimum "space effect".

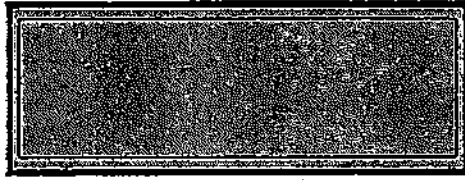
Center Control:

The center effect of the sound reproduction can be set to:

0dB = maximum „center effect“.

-31dB = minimum „center effect“.

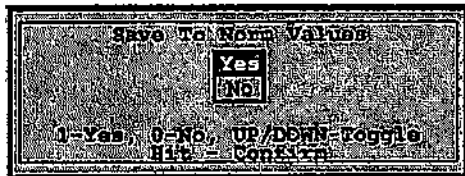
12.3.1.7.1.3 Factory Presets



Typical pre-settings for Surround and SRS.

Audio NORM Settings

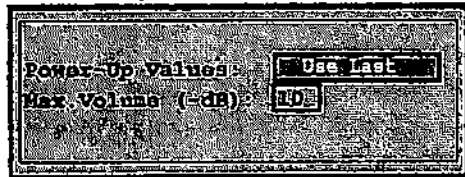
12.3.1.7.2 Save NORM Values



The actual setting for sound reproduction for VOLUME, BASS, MIDDLE, TREBLE, SURROUND, and SRS are saved as NORM values. You can recall these saved values any time by pressing the NORM-key on the IR remote control. Use the arrow keys to select YES or the 1 key and confirm your selection by pressing the HIT key.

Power-Up Values

12.3.1.7.3 Power-Up Values



Within this program step you can predefine which settings should be used for audio reproduction after power-on the phonograph.

Power-Up Values:

- Use Last:** The actual settings just before power-off are taken as new settings after power-on.
- Use NORM:** The settings saved as NORMAL settings are used after power-on (see "Save NORM Values"). Use the *-key to toggle.

Max. Volume:

Setting to define the maximum power-on pre-set volume. This setting is useful i.e. to avoid high volume on the silent morning after a big party.

Title Display

12.3.2 Title Display



For the mechanical title display unit several settings may be taken.

Valid Pages:

The number of display positions in the title display.

- .25 = sliding title display showing 4 covers on each position
- .13 = wall boxes with 8 viewable covers on each position
- .7 = stand alone phonographs with 16 viewable covers on each position

Animation Interval:

The time interval (in minutes) until the move to the next position is performed. This function is useful to attract attention to the phonograph.

Enter "0" to deactivate this function.

Advertisement Interval:

The time interval (in minutes) until the next automatic move to the next defined position is performed.

This function is useful to show preferred pages in defined time intervals.

Enter "0" to deactivate this function.

Pages:

Enter the pages (positions) to be displayed after the "Advertisement Interval" time is reached. 8 different positions are possible. After reaching the interval time the next position is moved to.

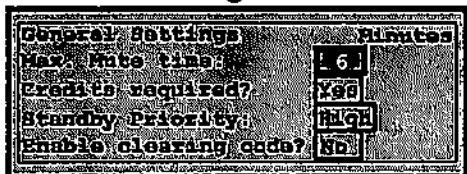
Remote Control

12.3.3 >Remote Control



Settings for the remote control.

12.3.3.1 General Settings



Max. Mute Time:

This is the maximum time in minutes the phonograph stays MUTE. Use this function to avoid that the phonograph stays in MUTE mode by mistake too long.

Credits required:

Title selection via remote control can be done without credits. Use the *-key to toggle (No/Yes):

- No: No credits necessary.
- Yes: Credits necessary.

Stand-by Priority:

This is to define the reaction of the phonograph after pressing the "Stand-by key" (see Function Keys).

- Low: The phonograph terminates all functions first and then goes into Stand-by mode.
- High: The phonograph immediately goes into stand-by mode after pressing the stand-by key.

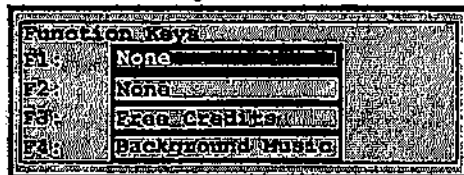
Enable clearing code?:

The combined pressing of the MUTE key and the REJECT key gives you the possibility to clear the whole title memory. Therefore you have to press the following sequence within 10 seconds: *Mute, Reject, Reject, Reject*.

Use the *-key to activate or deactivate this function.

- No: Function deactivated.
- Yes: Function activated.

12.3.3.2 Function Keys



The function keys F1 to F4 can be programmed according to the following list. To change the function use the *-key to select between the following possibilities:

- Stand-by:** Stand-by function. After pressing this function key the phonograph goes into stand-by mode (see 12.3.3.3 "General Settings / Stand-by Priority"). After pressing the function key once more this mode is stopped.
- Free Credits:** Free credit function (see: 12.1.5 „Settings / Free Credits“).
- Voice Cancel:** Use this function to cancel the soloists voice from a music title. This can be done using customary music CDs. The quality of the voice canceling depends on the recording method of the CD. Ideally CDs are recorded having the voices within the middle of the stereo signal. Use this function i.e. for Karaoke events.

- Background Music:** Background function (see /2.2.5 „Settings / Background“).
- Switch Channels:** Karaoke-CD's (Video) normally have the music including voice recorded to the right channel and music without voice recorded to the left channel. Use this predefined function to toggle between:
 - Play left channel
 - Play right channel
 - Play in stereo
- Change MIC Vol:** After pressing the corresponding function key you may use the slide controls of the wired remote control to vary the volume of the connected MIC. To terminate function press this function key again.
- Unassigned:** The function key is deactivated.

Display

/2.3.4

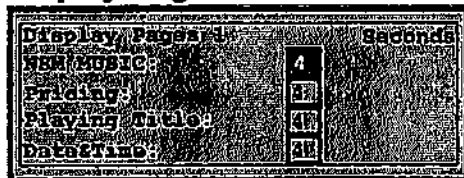
>Display



Settings for the liquid crystal display in the operators panel (LCD).

/2.3.4.1

Display Pages 1



Used to set the display time for several standard pages. Enter "0" to turn off the corresponding page.

Pricing:

Time in seconds for displaying the price information.

Current (Playing) Title:

Time in seconds for displaying the actually played title/track.

NSM MUSIC:

Time in seconds for displaying the NSM MUSIC logo.

Top Hits:

Time in seconds for displaying the "10 Top-Hits".

Top CDs:

Time in seconds for displaying the "10 Top-Discs".



Local Msg::

Time in seconds for displaying a local message (see /2.3.4.4 "Local Message").

Next Tracks:

Time in seconds for displaying the next title to be played.

Happy Hour:

Time in seconds for displaying the "Happy-Hour" information (see /2.1.2.2 "Price List #2").

Free Credits:

Time in seconds for displaying the "Free Credit" information.

Date&Time:

Time in seconds for displaying the actual date and time.

/2.3.4.4

Local Message



You have the possibility to enter a local message which is displayed while the phonograph is in stand-by mode. Regard the layout of the number keys of the remote control (1/ABC, 2DEF.. 0/Sym).

Usage: the first pressing of key 1 works as „A“, two times pressing gives you a „B“ and so on. Use key 0/Sym to enter symbols.

Correct your entries using the Cancel key "C". Confirm your entry by pressing the HIT key.

Key-Pad

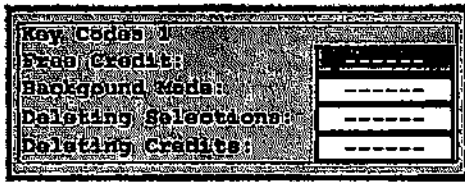
/2.3.5

>Key-Pad



Several 6 digit codes can be defined to activate different functions via the operators key pad.

For example:



Free Credit

Code for activating the free credit function.

Background Mode

Code for activating the background mode.

Deleting Selections

Code for deleting the title memory.

Deleting Credits

Code for deleting of still existing credits.



Reject Title

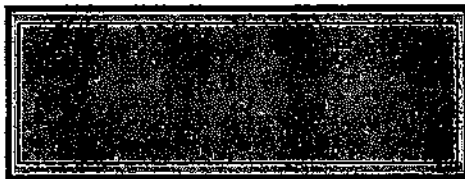
Code for interrupting the now playing title (reject).

Volume Control

Code for changing the volume via the key pad. For changing the volume just use the arrow keys afterwards.

Data Transmission

/2.3.6 >Data Transmission



Data transmission to a printer or personal computer (PC).

Selection (Number of CDs)

12.4

Selection



Settings concerning the title selection.

Max CDs/Tracks:

The number of selectable CDs and tracks/titles can be limited. Thus to avoid selection of not existing titles by mistake.

Max. CDs

Number of installed CDs in the CD-changer. Use this function if you have not equipped all CD trays.

Max. Tracks

Number of selectable tracks per CD. Use this function to define the number of titles/tracks you are able to display on the title strips.

Overplay Limitation:

The number of same titles to be stored in the title memory while selection can be limited. If this value is exceeded the corresponding title will not be stored in the title memory again but credits are deducted for it.

Enable Album:

Use this function to enable album selection (selected as track 00). Use the *-key to toggle (Yes/No).

Yes: Album selection enabled.

No: Album selection disabled.

Enable Hits:

Use this function to enable hit selection. Use the *-key to toggle (Yes/No).

Yes: Hit selection enabled.

No: Hit selection disabled.

Playing

12.5

Playing



Settings concerning the reproduction of CDs.

Play Mode:

Define the playing sequence for the selected titles. Use the arrow keys to toggle and confirm your selection by pressing the HIT-key.

Normal: Selected titles are played in sequence of selection.

Random: Selected titles are played randomly.

Max. Playing Time

Define the maximum playing time in minutes for one title. After this time limit is reached the title will be faded out.

Max. Titles Same Disc:

This function is used to define the maximum number of titles played from the same CD. If this value is reached the next title is played from another CD. Use this function to get more variety of music reproduction.

Enter "0" to deactivate this function.

Credit & Selection Decay

12.6

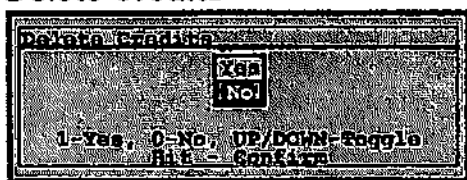
>Decay



Settings for automatically or manually deleting of existing credits or title selections in the title memory.

12.6.1

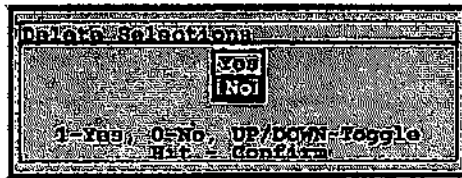
Delete Credits



The credit memory is cleared.

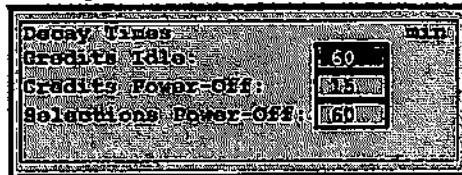
Use arrow keys or key "1" to select YES and confirm selection by pressing the HIT-key.

12.6.2 Delete Selections



The title memory is cleared.
Use arrow keys or key "1" to select YES and confirm selection by pressing the HIT-key.

12.6.3 Decay Times



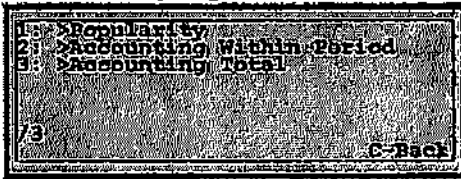
Credits Idle:
After this programmed time (in minutes) the automated deleting of existing credits is started if the phonograph is in stand-by mode.

Credits Power-Off:
After this programmed time (in minutes) the automated deleting of existing credits is started if the phonograph is powered-off.

Selections Power-Off:
After this programmed time (in minutes) the automated deleting of existing selection in the title memory is started if the phonograph is powered-off.

Bookkeeping

/3. >Bookkeeping



Statistics functions as bookkeeping, statistics, cash box values, popularity, counters, and so on.

Popularity

/3.1 Popularity



Read out of the popularity of CDs and single titles.

/3.1.1 Last reset



Displays date and time the popularity counter was last cleared.

/3.1.2 Show Least Selected CD

Show Least Selected CD			>> Note
001:00	007:00	013:00	
002:00	008:00	014:00	
003:00	009:00	015:00	
004:00	010:00	016:00	
005:00	011:00	017:00	
006:00	012:00	018:00	

Display of all CD popularity's in order of least played CDs. Example: 051:03 = CD51 was selected 3 times.

The display is capable of displaying 18 entries on each page. Press any key to turn pages.

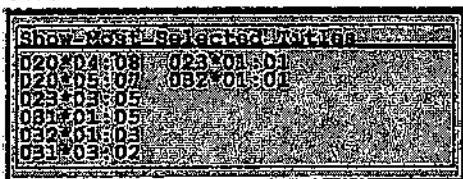
/3.1.3 Show Most Selected CD

Show Most Selected CD	
020:12	
031:07	
028:05	
032:04	

Display of all CD popularity's in order of most played CDs.

The display is capable of displaying 18 entries on each page. Press any key to turn pages.

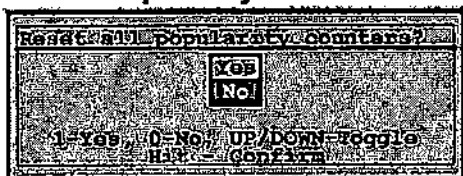
13.1.4 Show Most Selected Titles



Display of all title popularity's in order of most played title. Example: 020*04:08 = title 20*04 was played 8 times.

The display is capable of displaying 18 entries on each page. Press any key to turn pages.

13.1.5 Reset Popularity



All Popularity counters are set to "0".

Use arrow keys or key "1" to select YES and confirm selection by pressing the HIT-key.

Accounting Within Period

13.2 Accounting within period



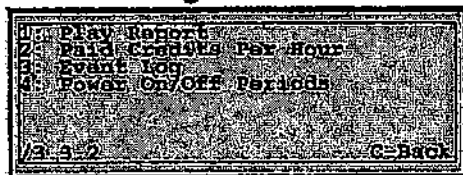
All accounting data within one accounting period.

13.2.1 Last reset



Display of date and time the accounting data were deleted the last time.

13.2.2 >Accounting Global



General accounting data within the accounting period.

13.2.2.1 Play Report

Play Report	
Regular Titles:	5
Background Titles:	0
Autoplay Titles:	0
Advertisement Titles:	0

Display of all playing results.

Regular Titles

Playing of "normally selected" titles.

Background Titles

Playing of background titles.

Auto-Play Titles

Playing of auto-Play titles.

Advertisement Titles

Playing of advertisement titles.

13.2.2.2 Paid Credits Per Hour

0:	0	8:	0	16:	16
1:	0	9:	0	17:	0
2:	0	10:	0	18:	0
3:	0	11:	0	19:	0
4:	0	12:	0	20:	0
5:	0	13:	0	21:	0
6:	0	14:	0	22:	0
7:	0	15:	0	23:	0

Display of earned credits per each hour a day, within the accounting period. I.e. 13: 68, means between 1.00 and 2.00 p.m. you have earned money for 68 credits.

0:	0%	8:	0%	16:	100%
1:	0%	9:	0%	17:	0%
2:	0%	10:	0%	18:	0%
3:	0%	11:	0%	19:	0%
4:	0%	12:	0%	20:	0%
5:	0%	13:	0%	21:	0%
6:	0%	14:	0%	22:	0%
7:	0%	15:	0%	23:	0%

Press the *-key to toggle to percentage display. I.e. 15: 24%, means between 3.00 and 4.00 p.m. you have earned 24% of the total cash box.

Use this information to find out at which time of a day you make the greatest amount. Thus to decide whether different prices for different times should be activated or not (see /2.1 Price Lists & Time Windows). Also you may find out that your idea was good to place HAPPY HOUR time (Price List #2) at this times as you did.

13.2.2.3 Event Log

Event Log	
Background Music:	0
Auto Activations:	0
Title Display Movings:	0
Microphone Detections:	0
ATX In Detections:	0
More:	0

Display the number of several events.

Use this function to find out if the phonograph is placed well at this location, how it is used, and which functions are used how often or not.

Background Music:

Number of activating the background mode.

Mute: Activation's

Number of activating the MUTE function via remote control.

Title Display Movement's:

Number of moves of the title display.

Microphone Detection's:

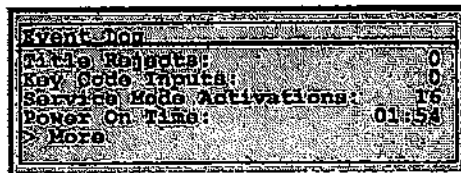
Number of detecting a signal at "MIC"-input.

A microphone is detected if the audio level of a signal at the "MIC"-input reaches a defined level.

Aux-In Detection's:

Number of detecting a signal at "AUX-in"-input.

An AUX-in-signal is detected if the audio level of a signal at the "AUX-in" input reaches a defined level.



Event Log	
Title Rejects:	0
Key Code Inputs:	0
Service Mode Activations:	16
Power On Time:	01:54
> More	

Press any key to turn pages to display more events.

Title Rejects:

Number of detecting a "Reject"-key pressing.

Key Code Inputs:

Number of detecting a key code entries (see 2.3.6 Key-Codes).

Service Mode Activation's:

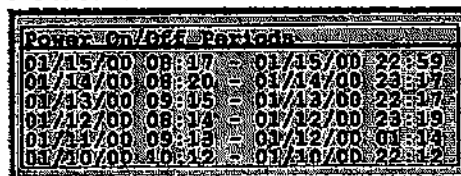
Number of detecting an action on the service switch.

Power On Time:

The power-on time (in hours:minutes) of this phonograph since the last reset.

13.2.2.4

Power On/Off Periods



Power On/Off Periods	
01/15/00 08:17	= 01/15/00 22:59
01/14/00 08:20	= 01/14/00 23:17
01/13/00 09:15	= 01/13/00 22:17
01/12/00 08:14	= 01/12/00 23:19
01/11/00 09:13	= 01/12/00 01:14
01/10/00 10:12	= 01/10/00 22:12

Get a list of the last 6 power-on periods.

Here you can find out at which times the phonograph is normally powered on and off.

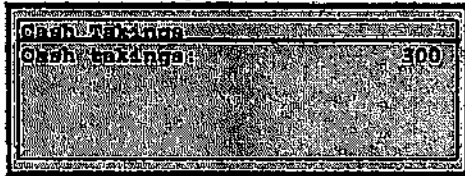
Accounting Within Period For Main Jukebox

/3.2.3 >Accounting Main Jukebox



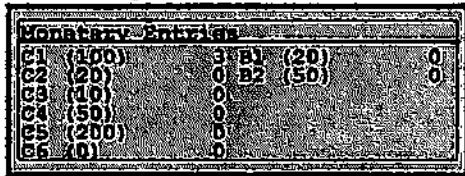
Bookkeeping data of the main phonograph (w/o Selectors).

/3.2.3.1 Cash Takings



Display of the cash takings in monetary units of this phonograph.

/3.2.3.2 Monetary Entries

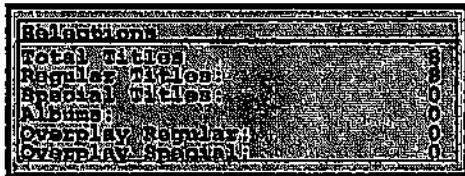


Number of coins and bills per channel of this phonograph:

C1-C6: Number off inserted coins.

B1-B2: Number off inserted bills.

/3.2.3.3 Selections



Listing of the frequency of title selections at this phonograph.

Total Titles:

Total number of title selections.

Regular Titles:

Number of normal title selections.

Special Titles:

Number of paid for "special selections".

Albums:

Number off album selections.

Overplay Regular:

Number of not played "overplay selections" of regular (normal) titles. These are titles which were selected although the overplay limit was reached.

Overlay Special:

Number of not played "overlay selections" of special titles. These are titles which were selected although the overlay limit was reached.

/3.2.3.4

Credits

Credits	
Normal:	16
Happy Hour:	0
Special 1:	0
Special 2:	0
Service:	0
> More	

Display of given credits of this phonograph.

Normal:

Number of credits based on price list #1 (Normal Price List).

Happy Hour:

Number of credits based on price list #2 (Happy-Hour Price List).

Special 1:

Number of credits based on price list #3 (Special1 Price List).

Special 2:

Number of credits based on price list #4 (Special2 Price List).

Press any key to turn to next page displaying given credits.

Credits	
Service:	16
Free credits:	0
> More	

Service:

Number of credits given at pulling the service switch (see 2.1.5.3 No.Credits Service Mode)

Free credits:

Number of free credits given.

Accounting Within Period For Selectors

/3.2.4

>Accounting For Selectors

Description see /3.2.3 "Accounting For Main Jukebox".

/3.2.4.1

Cash Takings

Display the cash takings in monetary units of all connected Selectors.
Description see /3.2.3.1.

/3.2.4.2

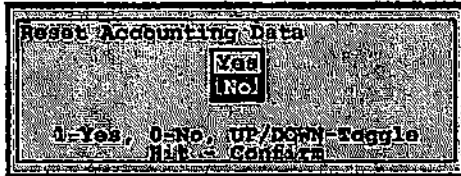
Monetary Entries

Number of coins and bills per channel of all connected Selectors.
Description see /3.2.3.2.

/3.2.4.3 Selections
 Listing of the frequency of title selections at all connected Selectors.
 Description see /3.2.3.3.

/3.2.4.4 Credits
 Display of given credits at all connected Selectors.
 Description see /3.2.3.4.

/3.2.5 Reset Accounting Data



All bookkeeping data are set to "0".
 Use the arrow keys or key 1 or key 2 to select Yes / No. Press the HIT key to confirm your selection.

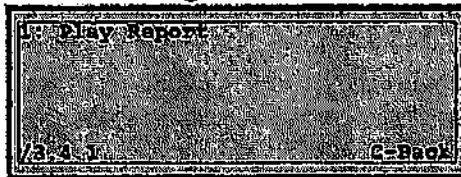
Accounting Total

/3.3 Accounting Total



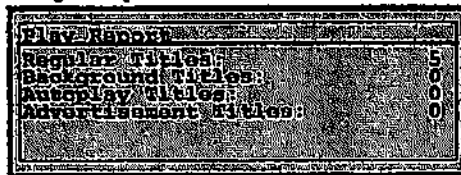
The cumulated data of all accounting information.
 These information cannot be reset.

/3.3.1 >Accounting Global



General accounting information within the accounting period.

/3.3.1.1 Play Report



Display of all playing results. Description see /3.2.2.1

Accounting Total For Main Jukebox

/3.3.2 >Accounting Main Jukebox



Bookkeeping data of this phonograph (w/o Selectors). Description see /3.2.3)

/3.3.2.1 Cash Takings

Display of the cash takings in monetary units of this phonograph (w/o Selectors). Description see /3.2.3.1.

/3.3.2.2 Monetary Entries

Number of coins and bills per channel of this phonograph (w/o Selectors). Description see /3.2.3.2.

/3.3.2.3 Selections

Listing of the frequency of title selections at this phonograph (w/o Selectors). Description see /3.2.3.3.

/3.3.2.4 Credits

Display of given credits at this phonograph (w/o Selectors). Description see /3.2.3.4.

Service:

Number of credits given at pulling the service switch (see 2.1.5.3 No.Credits Service Mode)

Free credits:

Number of free credits given.

Accounting Total For Selectors

/3.3.3 >Accounting For Selectors

Bookkeeping data of all connected Selectors. Description see /3.2.3 "Accounting For Main Jukebox".

/3.3.3.1 Cash Takings

Display of the cash takings in monetary units of all connected Selectors. Description see /3.2.3.1.

/3.3.3.2 Monetary Entries

Number of coins and bills per channel of all connected Selectors. Description see /3.2.3.2.

/3.3.3.3 Selections

Listing of the frequency of title selections at all connected Selectors. Description see /3.2.3.3.

/3.3.3.4

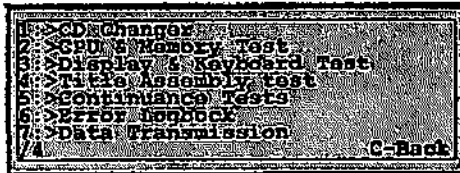
Credits

Display of given credits at all connected Selectors.
Description see /3.2.3.4.

Service Functions

/4

Service Functions



This menu offers functions for testing the phonograph.

Attention: These functions should be performed only by authorized service staff.

CD-Changer

/4.1

>CD Changer



Used to test and adjustment functions for the CD changer MBC III used in this phonograph.

/4.1.1

>CD-Changer Adjustment



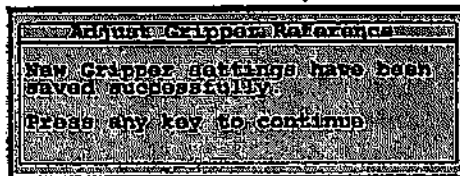
Adjustment for the CD changer MBC III.

/4.1.1.1

Adjust Gripper Reference

The adjustment of the gripper reference is performed automatically.

If the function is completed the following message is displayed:



The adjustment is completed and the new values are saved.
Press any key to terminate this function.

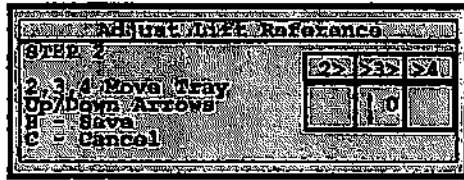
14.1.1.2 Adjust Lift Reference

For the adjustment of the lift reference follow the instructions on the display:



Step 1:

Press the lift down firmly to the bottom of the CD changer. Afterwards press the HIT key.



Step 2:

The lift automatically moves to position 49 of the CD magazine. In this position you can check if the gripper perfectly moves the CD tray out of / into the magazine. Therefore use the following keys:

Key 2: Grip left CD tray

Key 3: Replace CD tray.

Key 4: Grip right CD tray.

Use the arrow keys Up / Down to move the lift in single steps to adjust the height. Afterwards press the HIT key.



Adjustment of the lift reference is finished and the new values are saved. Press any key to terminate this function.

14.1.2 CD-Changer Test



Functions to test the CD changer.

14.1.2.1 CD-Changer Opto Test



The 5 optos in the MBC III CD changer can be checked automatically if they are defective, or dirty, or if they have not enough brightness.

- ULed-Reference:** This reference value for the supply voltage of the optos should be in the range of 165 to 195.
- sLift:** The value for this opto which controls the synchronization of the lift height should be in the range of 25 to 80.
- sGrO, sGrI:** The values for these optos controlling the position of the grippers ("Grippers Out" and "Grippers In") should be in the range of 25 to 80.
- sGrL, sGrR** The values for these optos controlling the positions "Grip Left" and "Grip Right" should be in the range of 15 to 75.

The displayed values indicate the switching level of the optos in percent of the supply voltage. The lower the value is, the more sensitive the opto. A value 100 indicates that this opto is dead, a value 0 indicates stray light. If the values are not in a "normal" range you should change the corresponding opto.
Press any key to quit this function.

14.1.2.2 CD-Changer Manual Control



Functions for manual control of the CD changer.

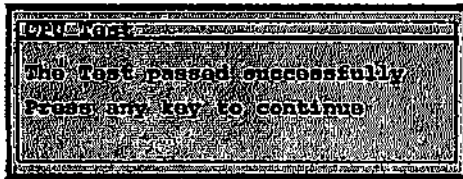
CPU & Memory Test

14.2 >CPU & Memory Test



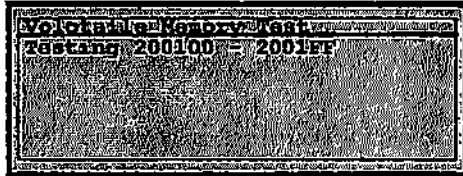
Test functions for CPU and memory.

14.2.1 CPU Test



Functions to test the micro controller on the CB CENTRAL UNIT.
Press any key to quit this function.

14.2.2 Volatile Memory Test



The main memory of the micro controller is tested for correct functioning. Each address of the respective memory location checked is displayed. Press "C" to cancel this function, or press any other key to quit after the test has ended.

14.2.3 Non Volatile Memory Test



This battery buffered memory is tested for correct functioning. Each address of the respective memory location checked is displayed. Press "C" to cancel this function, or press any other key to quit the terminated test.

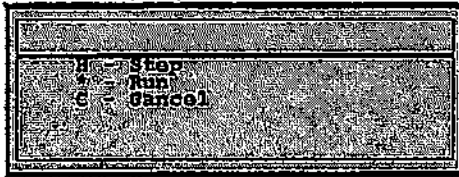
I/O Test

14.3 I/O Test



Functions for testing operating devices, inputs, and outputs.

14.3.1 Test Display

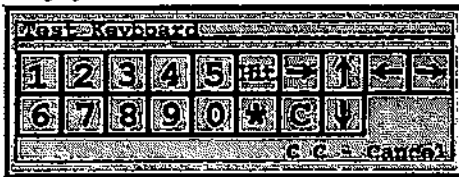


Function to test the operators display (LCD). Several test pattern are scrolled through the display horizontally and vertically. Check that all pixel are displayed.

Use the following keys:

- "H": Stop the test pattern.
- "*": Continue the test.
- "C": Quit the test.

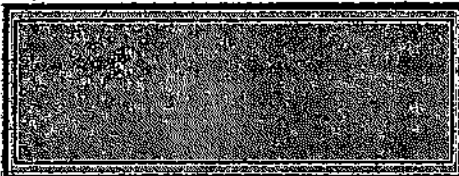
14.3.2 Key pad Test



The key pad layout is displayed on the operators display. On each key press of the key pad (or the remote control) the corresponding symbol is displayed inverted.

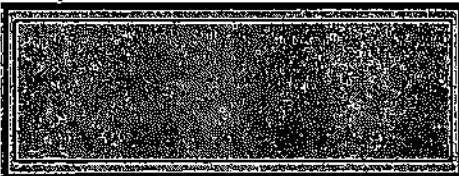
Also the rocker button for moving the title display can be checked. To quit this test routine you must press the "C" key twice.

14.3.3 Input Ports



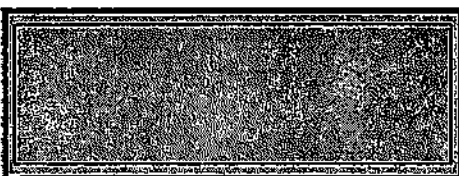
Functions to test the input ports of the CB CENTRAL UNIT.

14.3.4 Output Ports



Functions to test the output ports of the CB CENTRAL UNIT.

14.3.5 Remote Control



Functions to test the IR remote control or the wired remote control.

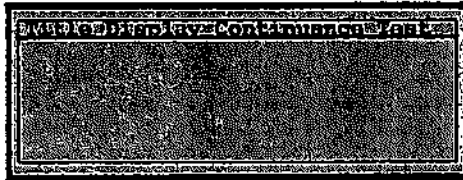
Title Assembly Test

14.4 >Title Assembly Test



Functions to test the title display types 7x16, 13x8, and 25x4.

14.4.1 Continuanca Test



Continuous run test for the title display.
All pages of the title display are moved one after another.

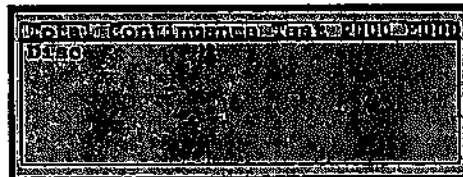
Continuanca Tests

14.5 >Continuanca Tests



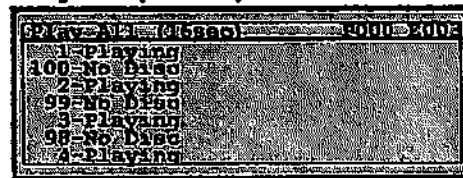
Continuous run test for the CD changer and for the title display.
While a continuanca test is running the number of turns (Pxxx) and the number of occurred errors (E000) is displayed in the upper right corner of the display.

14.5.1 Total Continuanca Test



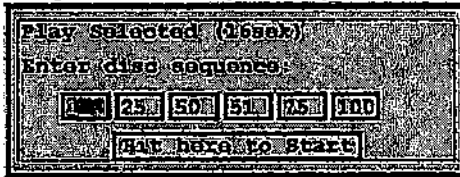
Combination of "Play 6" and "Continuanca test title display".

14.5.2 Play All (16sec)



All CDs are played for 16 seconds each.

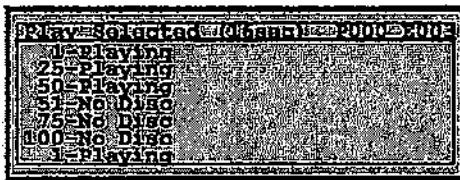
14.5.3 Play Selected (16sec)



Up to 8 different CDs may be selected to be used for this test.

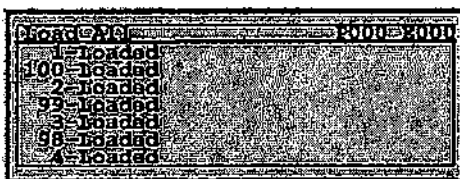
To start the test: Select **Hit here to Start** using the arrow keys and press the "Hit" key.

Note: If you enter "99" for the track number the last track of the corresponding CD is always played. This may be helpful to check if the CD player plays the outer tracks of a CD correctly.



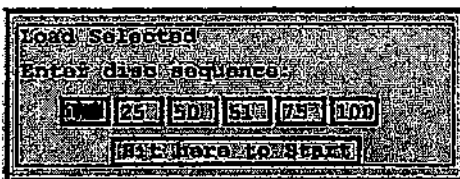
The selected CDs are repeatedly played for 16 seconds each.

14.5.4 Load All



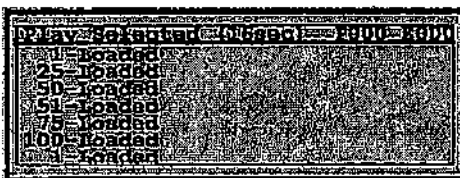
All CDs are repeatedly loaded from and restored into the magazine.

14.5.5 Load Selected



Up to 8 different CDs may be selected to be used for this test.

To start the test: Select **Hit here to Start** using the arrow keys and press the "Hit" key.



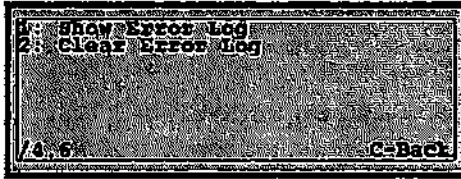
The selected CDs are repeatedly loaded from and restored into the magazine.

14.5.6 Twice T4 then T3

Combination of 2 times running test "Load All" followed by repeatedly running "Play Selected (16sec)".

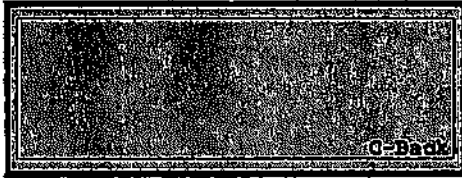
Error Logbook

14.6 >Error Logbook



The phonograph is equipped with a special memory to save all occurring errors.

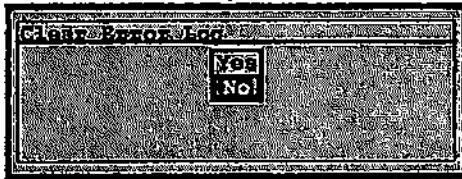
14.6.1 Show Error Log



Display of all errors occurred since the last reset.

After calling this function the last page is displayed. Use the arrow keys to turn pages up and down.

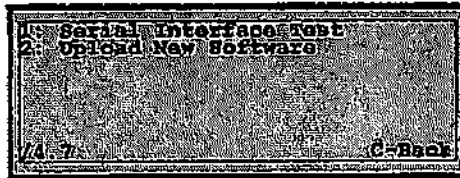
14.6.2 Clear Error Log



To clear the error log memory use the arrow keys to select "YES". Press "Hit" key to confirm it.

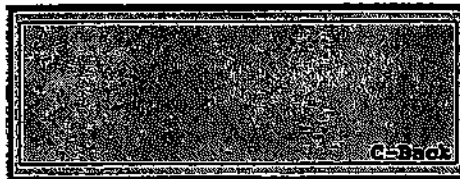
Data Transmission

14.7 >Data Transmission

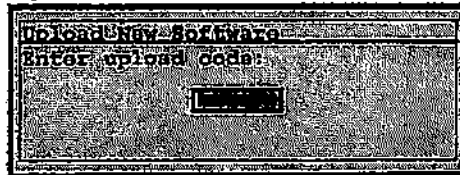


Functions for serial data transmission via the RS232 interface.

14.7.1 Serial Interface Test



14.7.2 Upload New Software



Using a Personal-Computer (PC) you can download a new version of the phonograph's firmware (i.e. new program). For protection against unauthorized usage a special security code is needed (Upload Code). Get this code if necessary from your local service department.

For transmitting data a standard terminal program may be used (i.e. „HyperTerminal“ (accessory from Win95®).

PC setting:

Baud rate: 38400 Baud

Protocol: X-Modem

Attention: After input of the valid security code the original firmware is deleted and the program asks for downloading the new version of firmware. The phonograph is operable again only after this download is completed!

NOTES