STUDER
PROFESSIONAL AUDIO EQUIPMENT


# D730/D731
# Professional Compact Disc Player

## *The CD player for professionals – created by professionals*


Professionals think and work differently. They live in a world which holds little room for compromises. Professionals are perfectionists who will not be satisfied with second rate solutions. But they also expect a lot of themselves, their work, and their tools. The most demanding requirements can undoubtedly be found among audio and video professionals in broadcast and music production. It is precisely this group whom we help to shape the trend of the «audio age»: We research, develop and then produce in-house those high-quality, professional products for fascinating applications – and for the most magnificent sounds of this world.

Worldwide the compact disc is *the* medium par excellence for outstanding audio quality. It is rugged, convenient to handle, and economical. But this medium offers many additional advantages that can be exploited by clever utilisation of the subcode data recorded on the disc. An even greater, almost unlimited field of applications is opened by the CD-R and its recorder, such as the STUDER D740.
This is why CDs and CD-Rs are the ideal sound recording medium of today and tomorrow – for creative and efficient work by radio and television studios in on-air and post-production applications, and equally as well for exacting disco work.


The versatility and fancy tricks of this modern technology can be exploited only if the CD player supports all parameters and operating variants of CDs (red book) and CD-Rs (orange book), and if it reliably masters their intricacies. Most important is that the many equipment capabilities can usefully be applied to the intended application. Function and time displays must speak a clear language so that the work of moderators and audio engineers is not hampered by complex procedures.

**The professional alternative:**

STUDER D730 and D731 CD player:

- reads CD-Rs without TOC (table of contents)
- interprets SKIP functions
- quality warning indicator for CD(-R)
- CUE wheel with dial and shuttle functions
- start and stop cues can be set to any desired point
- intro mode with accurate count-down
- digital output (SPDIF or AES/EBU format)
- first-class ergonomic design: convenient features, extremely simple operation
- etc.

## *Simplicity means more essentials*


Professionality is also demonstrated by concentrating on the essential – and the perfection in mastering this objective. One of the principal assets in this connection is STUDER's vast experience as a pure audio manufacturer and its decades of worldwide contacts with users of STUDER products.

User-friendliness is an attribute of growing importance in both the audio and video media. In this respect, little, if anything, can be gathered from the technical data – only the practical experience counts. This is why the ergonomy and the display concepts for clear user guidance are even more important to us than being the first on the market. Many apparently simple concepts and easily accessible function sequences are often the product of time consuming developments.

The results, incorporated in the STUDER D730 and D731 CD players, can be presented with pride. The desktop and rack versions are based on the same technology and their operating ergonomy and display concepts have been devised so as to make them practically identical for both units.

The STUDER D730 compact disc player can also be flush mounted into a console. The dimensions are the same as those of its predecessor, the STUDER A730, which means that no modifications are necessary for replacing an existing unit.

## *Clarity, reliability and audio quality*

Only rarely is unlimited space available for the audio equipment – the usual case is the «compressed 3D arrangement». OB vans are most often packed with gear, and they also contain too many sources of heat.

The answer to such a situation is the STUDER D731, the 19" rack-mount version. This model requires only two units of vertical rack space which means that even more equipment can be installed in the same space. For example, two STUDER A725 or A727 CD players can now be replaced by three new type D731 units.

Due to their low power consumption, the compact and cool D731 CD players can be stacked individually. Yet even at a distance, visual contact remains optimal: The easily readable display, a label field for lettering, as well as an illuminated CD tray with a mirror system to reflect the disc's rotation, will become pleasant trivialities on hectic assignments. The fact that the operating concept and the display are identical to the stationary D730 model is a positive contribution to ensure error-free programming.

The operating concept is based on extensive practical experience. The main functions and the location of the corresponding controls, however, are still the same as on the A730. The unique DISC RECOGNITION feature for at least 100 most frequently played CDs, including their stored CUEs (up to 3 start and stop cues), has also remained unchanged. Lastly, the clearly structured control panel is confidence inspiring and minimizes the familiarization time.

## *Excellent operating ergonomy*


Visible CD, labeling facility, and a monitor with switchable compressor.


Key feature of the new concept: In spite of its comprehensive facilities, operation has remained simple and clear. A keyboard buffer permits direct input, i.e. it is not necessary to wait for the table of contents (TOC) to be read into memory.

The D730 is equipped with a very quiet loading lid, and the CD tray of the D731 moves in and out quickly and silently. Neither model requires an adapter for singles.

A multifunctional cue wheel has been provided for easy editing. This feature is implemented with an optical sensor and allows accurate and very fast searching in one-handed operation. The wheel is divided into two segments: The DIAL mode (top) and the SHUTTLE mode (bottom), the latter becoming activated for ±80° when the springy detent at ±90° is overcome. The DIAL mode permits frame-accurate searching within a window. A sequence (either 30 frames or one track only) is continually repeated before the cue point. The SHUTTLE mode is also an audible search function, however, it shifts the search window in either direction at progressive speeds up to super fast.

With the START-REVIEW-END keys it is possible to prelisten to the start and end cue points (e.g. before going on air). If both keys are pressed simultaneously, one can even listen into the middle of the track.

# *High-quality displays make work a pleasure*

Easy-to-follow, clear operating sequences and a meaningful data and feedback display go hand in hand. The 2-line LED displays of the D730 and D731 CD players give a perfect reading that is not impaired by any viewing angle problems. In dimly lit rooms the light intensity of the displays can be reduced (50%). In addition to the two 12-character LED lines, the display facilities comprise nearly 30 color-coded LED segments and function indicators.

The displays are particularly easy to read because active are only those elements that are logically connected to a current function. Even distracting leading zeros are suppressed. All important display elements have dedicated functions. The upper line always shows the current laser position on the CD, or the START CUE position in edit mode. The lower line is reserved for indicating the remaining times up to the STOP CUE, or in edit mode, for the STOP CUE position.

The display lines also supply information in alphanumeric plain text. This is essential, not only for initialization procedures, but also for efficient menu guidance in user functions.

For broadcast automation the STOP CUE function produces a trigger signal for starting another audio source (e.g. a second CD player) or for initiating a preprogrammed sequence.


CD player ON AIR


CD player in READY (pause mode)


For sound effects e.g. any STOP CUE can be defined. In «jingle play mode», the laser returns to the START CUE when the STOP CUE is reached and waits there in pause mode.


CD player in sequence function CUE 1-3-2. Indication of the remaining time to the end of the sequence: 1 Min 27 Sec. Currently CUE 3 is being played.

## *The full gamut of professional facilities*




With these new CD players STUDER introduces a number of previously unknown functions. For example: Individual signals from the error correction and servo systems are continually monitored. If the critical threshold is exceeded the warning CD QUALITY flashes.

Another example of the powerful features is the indication of the time remaining to an intro end. An announcement can thus be finished exactly at the desired moment because the display produces an exact countdown.

**CD-R playback facility**
SKIP functions, i.e. bypassing of sequences marked as invalid or the skipping of entire CD-R tracks are no mystery for the D730 and D731 players. With the growing popularity of CD recorders, these functions will become very important. When a fixed-up CD-R (with TOC) is reproduced with the SKIP PLAY mode activated, the remaining time to the STOP CUE is automatically corrected. This is essential for a reliable countdown.

Conventional CD players have problems not only with the SKIP functions but also with playing back CD-Rs that have not been completely recorded, i.e. without TOC. But on the STUDER D730 and D731 such CD-Rs can be played without difficulty. In a quick scan they create a table of contents in memory and then play the CD-R without TOC.

## *For everyday studio work – in all variations*




The D730 and D731 CD players can be software configured for different basic settings. After a special power-on sequence the menu level can be accessed so that individual settings for *display, user, keyboard, interface* and *operation* (e.g. simple player to make the unit perform like a conventional CD player) are possible.

The USER menu contains up to 10 special functions that can be selected and modified during operation, e.g. *intro mode, skip play mode, time indication, varispeed* or *light intensity* of the display. This menu can be activated directly by a special key. The individual functions can then be selected via the 10-key pad.

VARISPEED with a ±10% speed variation is defined as a USER function and can be set either locally or with the remote control. When the VARISPEED USER function is selected, the values can be varied digitally in 0.2% increments via push buttons.

A fader and a VARISPEED key are available additionally on the D730 desktop version. With this key the operator can toggle between the USER and FADER setting. When the VARISPEED USER function is set to zero, this key serves as an on/off switch. In case the USER function is set to any other value, this key serves as a toggle switch for changing between two preset values.

Experience has shown that the remote control facility requirements can be highly application specific. This is why the remote control concept of the STUDER CD players D730 and D731 has been designed for utmost flexibility. Two ports are available for connecting a serial (RS 232) and a parallel (25-pin) remote control unit. Whether the commands are to be accepted from the local or from the remote control, or even from both, can be selected with the priority control in a set-up menu.

The CD players can be controlled from a PC via the RS232 interface, whereas the parallel interface supports various versions from simple controls up to external full-key pads. A parallel remote control (see illustration) with or without display used for the A727 or A730 CD player can also be connected to the D730/D731.

## *Not only built for broadcast use*


No matter how perfect the operating panels and displays are designed, they represent only one side of the coin. The true face of the opposite side, the suitability in professional use, quickly becomes apparent when the CD player needs to be integrated into the studio system. Specific audio connections, synchronization, fader and remote control requirements exist which are impossible to satisfy by conventional CD players that may pretend to be of professional design.

The connector panels of the D730 and D731 CD players are well prepared for the studio periphery. They are easily accessible and support all required inputs and outputs. Audio outputs are available for direct digital connections (XLR) and for analog signals in transformer balanced (XLR) and unbalanced (cinch) configurations. The format of the digital output can be configured according to AES/EBU as well as SPDIF. In addition to the audio data, all subcode information from the CD (ISRC code, catalog number, etc.) is transmitted in the user channel of the digital output. The word clock is coupled in via a BNC/75 ohm terminal.

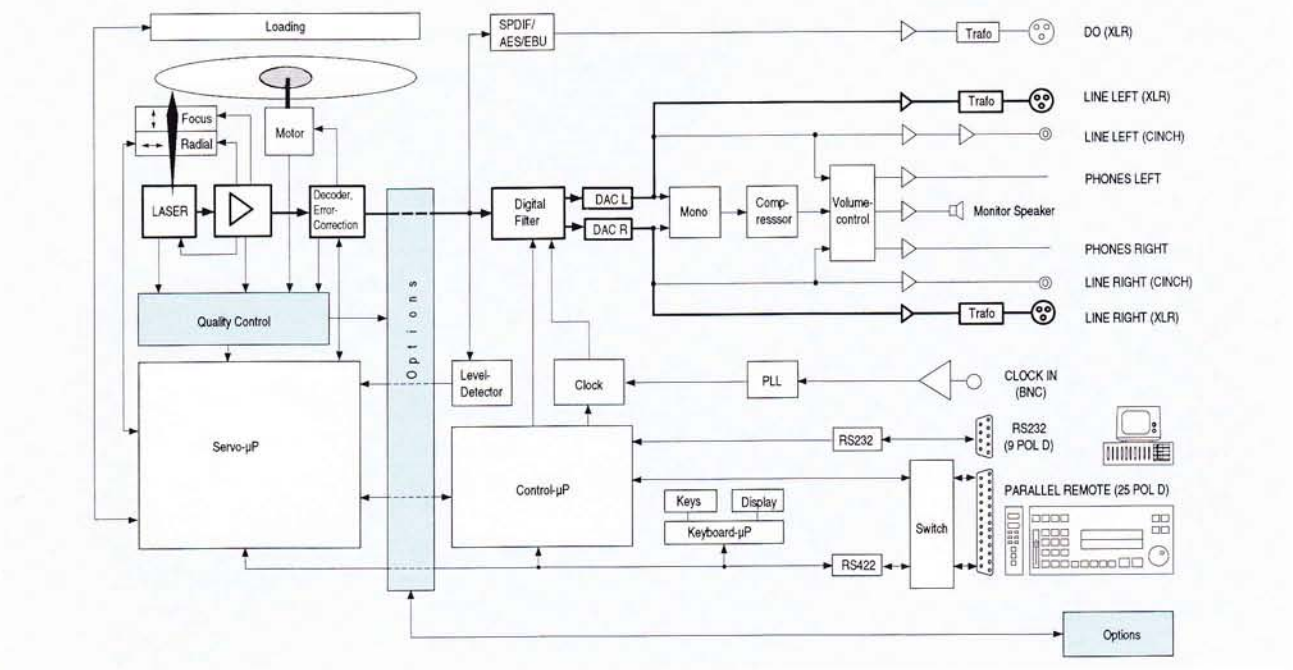
## *Highly stable, professional STUDER quality*

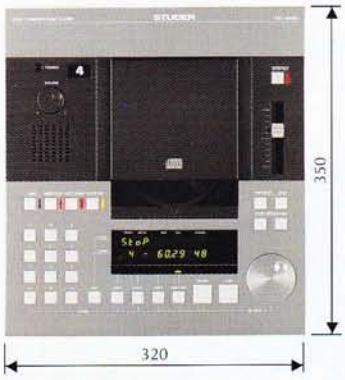
In professional audio applications the reliability is of utmost importance. The best technical specifications have only theoretical value if a unit breaks down during on-air operation or if it does not survive a shaky trip in an OB van. This applies to CD players as well. The moderator or DJ must be able to rely on the editing and display precision if the music program or show is to become a flawless performance.

The basic approach to solving professional requirements has been established at STUDER some 40 years ago and is being continuously refined ever since.

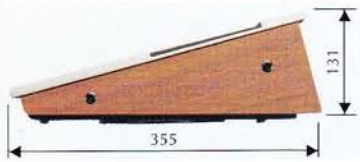
Highly rigid die-cast aluminum alloy chassis are used wherever the precision and long-term performance to the original specifications is important. The basic chassis of the new CD-drive mechanism has a sufficiently large mass for excellent shock resistance, but a small moving mass for exceptional responsiveness. The drive principle has remained unchanged: Balanced linear drive with play-free, low-friction bearings – in other words the well-proven moving coil principle in its most advanced design.

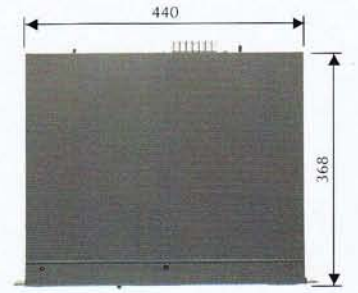
Typically STUDER, easy maintenance design, professional down to the smallest details. A special slot is reserved for an option board. For future options from STUDER – or for user developments, all important signals and supply voltages are already available on the connector (e.g. for QC version). For easy installation of peripheral connectors, the D731 is equipped with an additional blank cover plate on the rear panel.







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