LDC
audio mixing desk system

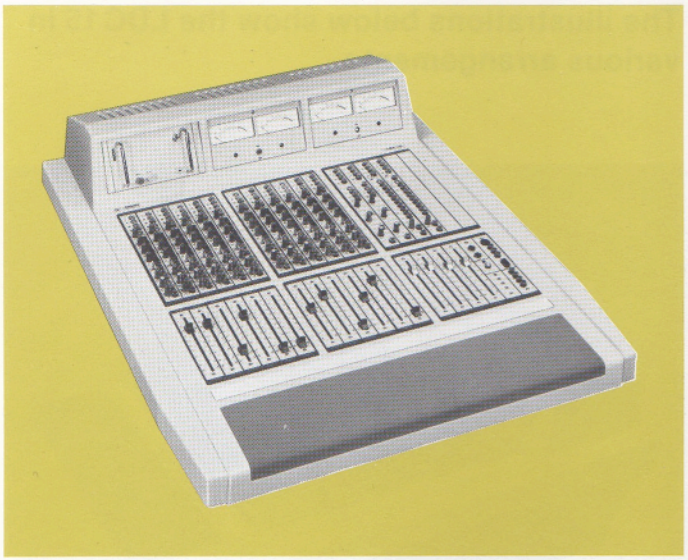
PHILIPS

OB. Van equipped with LDC 25 Audio Mixing Desk

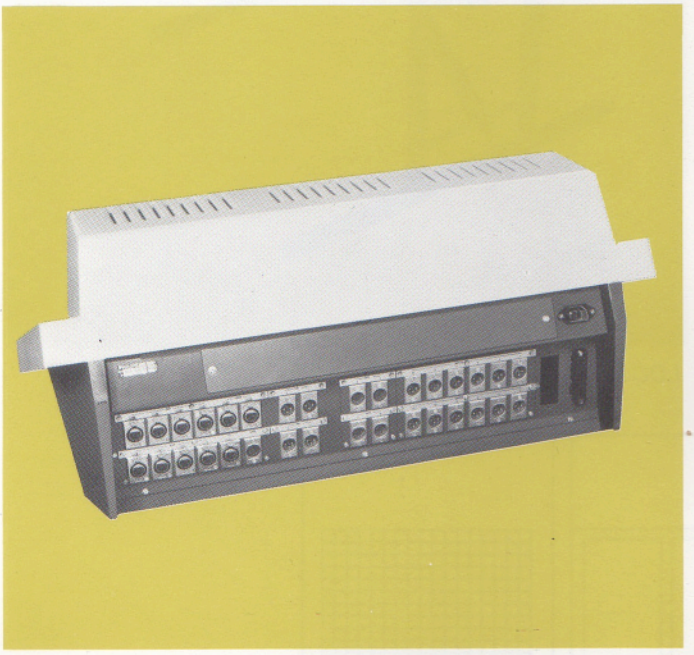
Contents

LDC - Audio Mixing Desk System

With the LDC system, modular audio mixing desks can be designed for any application.
The basis is formed by two types of input channel and two types of group channel. Available in addition is a large selection of modules for filtering, switching and control functions, allowing the assembly of customized audio mixing desks. Detailed data on these will be found in this catalogue.
The LDC audio mixing desk system is appropriate for use in television and radio studios, recording studios of the gramophone record industry, theatres, multi-purpose halls and – thanks to the compactness of the equipment – broadcasting vehicles.
The basic LDC 15 and LDC 25 (pages 2 and 5) in their standard version are available from stock. The modular construction employed throughout allows for quick and easy adaptation of the basic mixing desk whenever required.
In the developing and designing of the LDC audio mixing desks the matter of subsequent costs received special attention. In the basic modules there are only two types of amplifier plug-in cards, one for the equaliser and the other for the amplifier stages. The amplifier plug-in cards are exchangeable without need for readjustment of the module concerned.
The technical specification of the equipment is in accordance with the requirements of the IRT (German Institute for Broadcasting Techniques) Folder of conditions 3/5 (AK3).



LDC 15 audio mixing desk

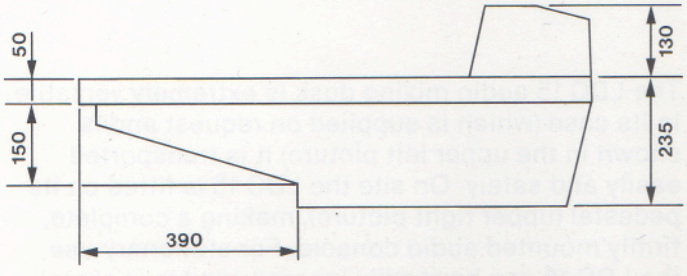


LDC 15 terminals

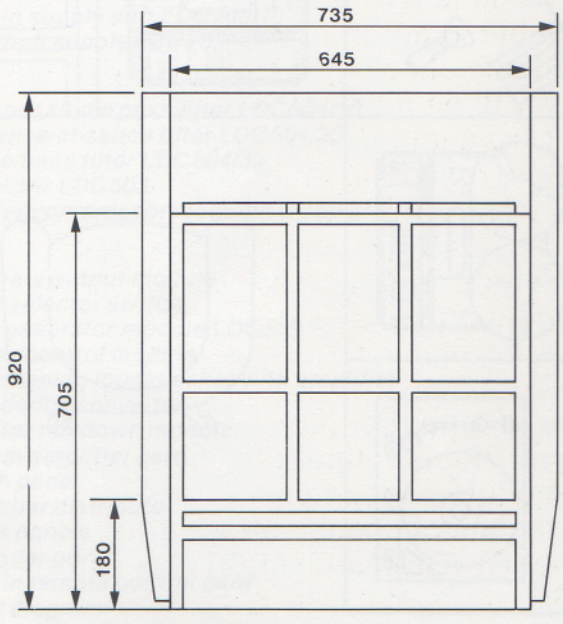
Basic LDC 15

Maximum capacity 12 inputs, four group and two intercom channels

The basic LDC 15 audio mixing desk is fully wired for the ultimate version indicated above. It also allows for assembly according to the customer's requirements.
As a standard, 12 input, four group and two intercom modules are accommodated in a space about 74 cm wide.
The metering hood offers space for the level meters (peak reading or VU) and for the plug-in power supply unit. If space in the hood is required for other accessories, however, the supply unit can be installed outside the desk.
The four auxiliary outputs for soloist, reverberation, sonorisation purposes etc. can be selected from each input channel. There are two monitoring and metering circuits for mono and stereo operation. The wiring for the plug-in phantom supply for condenser microphones is also included in the basic LDC 15.
The intercom facility is housed in two modules, a send and a return module. Besides the electret microphone the send module has four pushbuttons for selection of up to four substations and a slate system to the main output 1 and the auxiliary outputs 3 and 4. In the intercom return module are indicator lamps, e.g. for sub-station identification, one red light pushbutton and lamp and also level controls for the return intercom and the pre-listening volume.
The loudspeaker is incorporated in the metering hood.



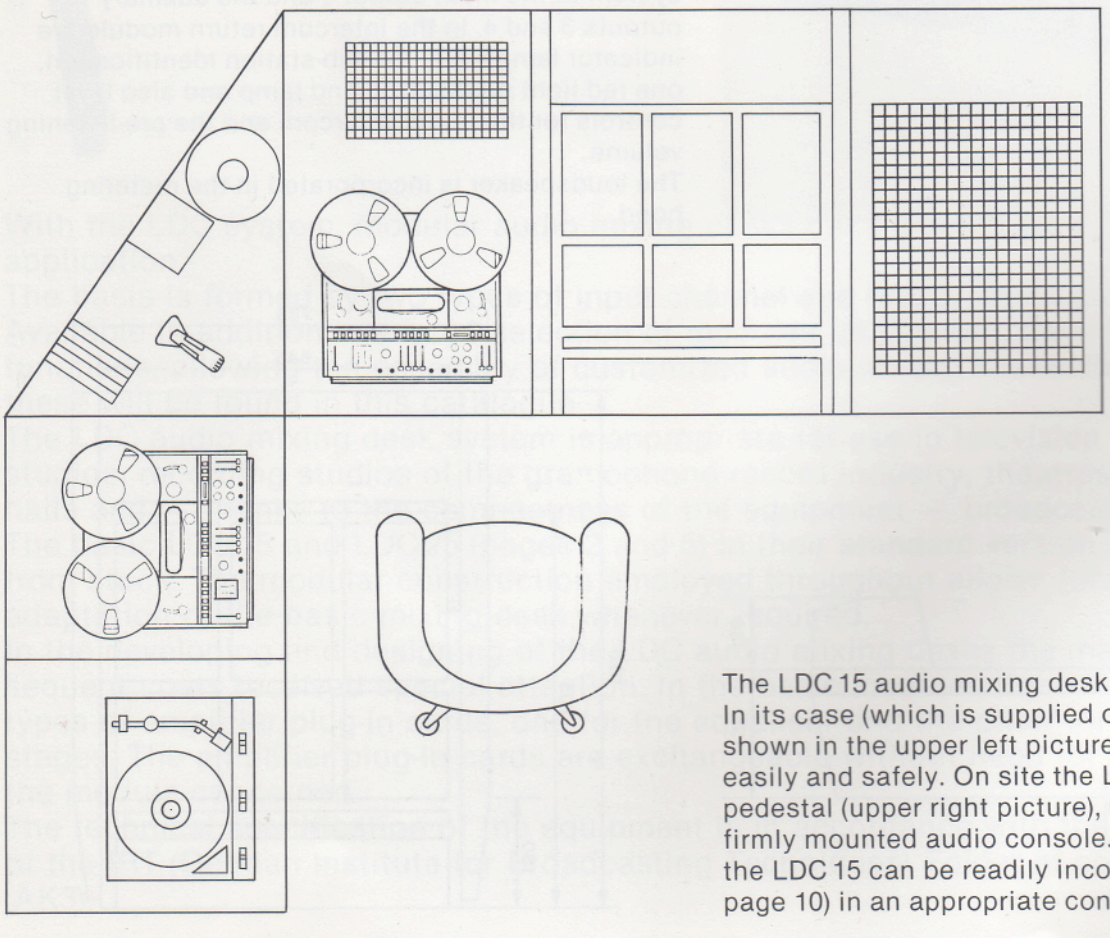
LDC 15: overall dimensions



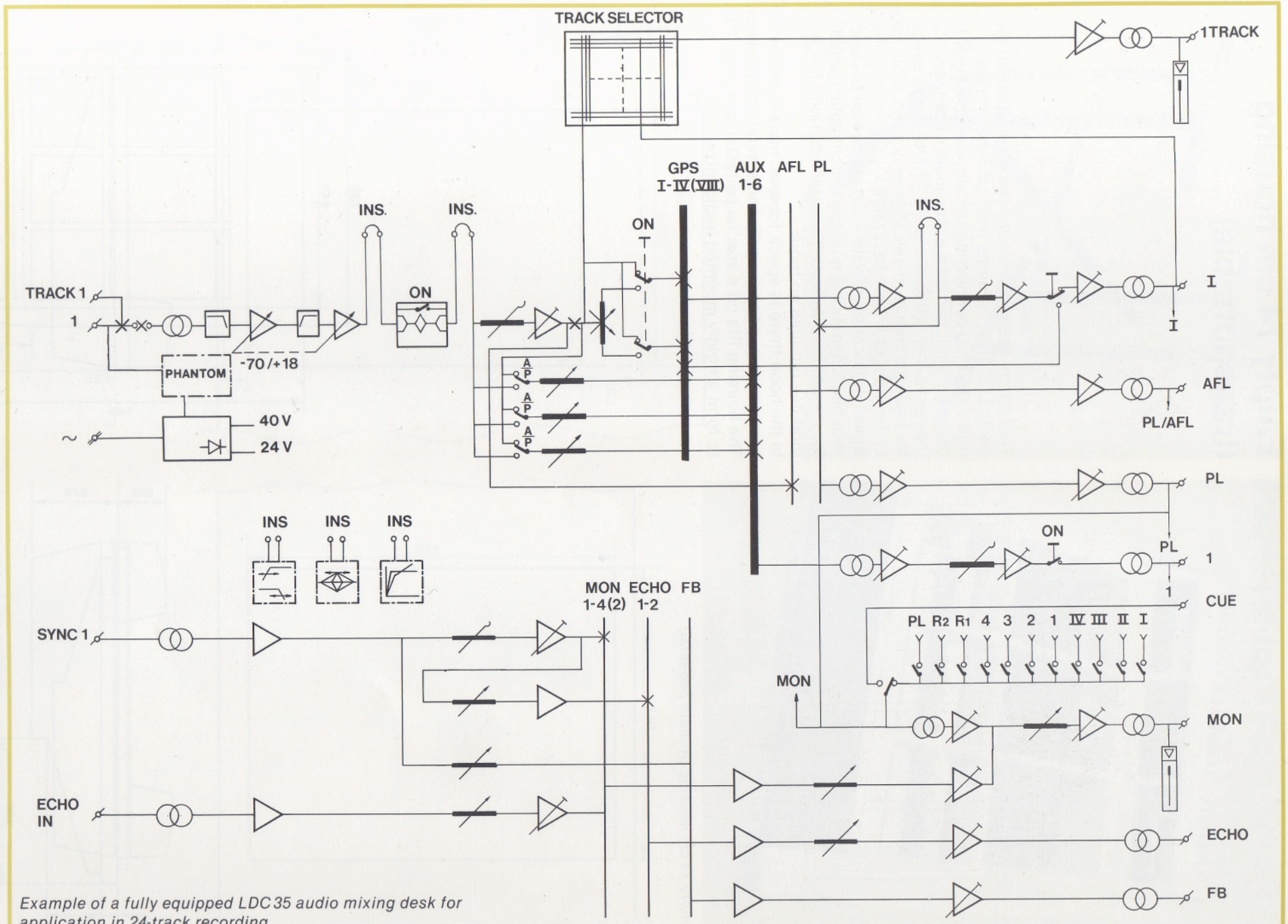
The illustrations below show the LDC 15 in various arrangements

LDC 15 with case and pedestal

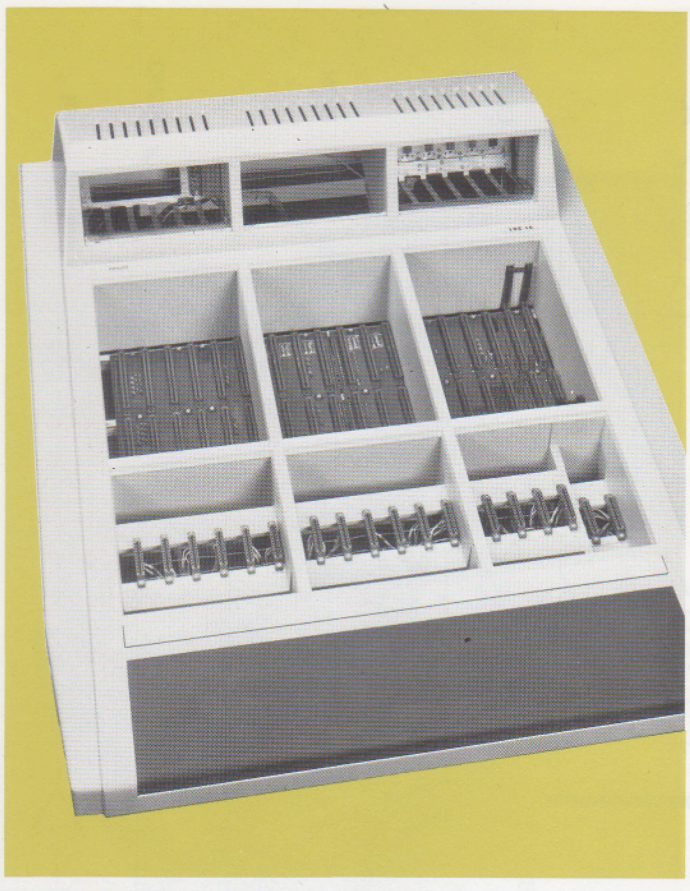
LDC 15 on pedestal



The LDC 15 audio mixing desk is extremely versatile. In its case (which is supplied on request and is shown in the upper left picture) it is transported easily and safely. On site the LDC 15 is fitted on its pedestal (upper right picture), making a complete, firmly mounted audio console. For stationary use the LDC 15 can be readily incorporated (see sketch page 10) in an appropriate control panel.



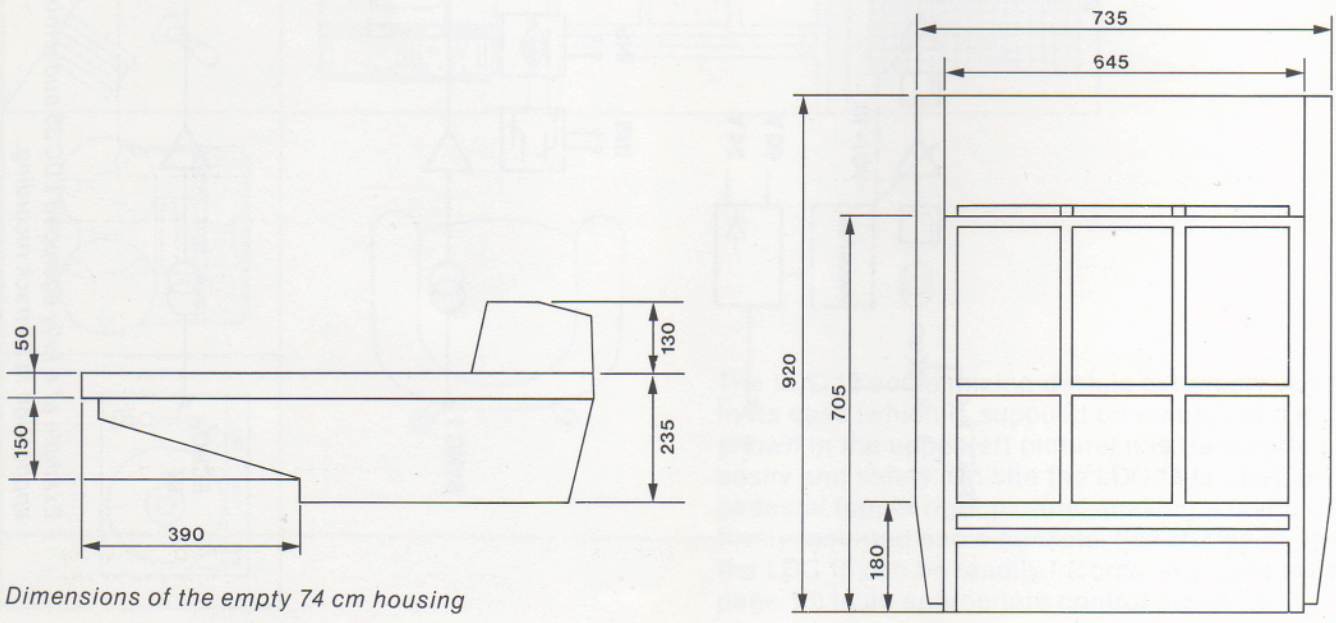
Example of a fully equipped LDC 35 audio mixing desk for application in 24-track recording.



Empty 74 cm housing (without pedestal)

Empty 74 cm housing (transportable)

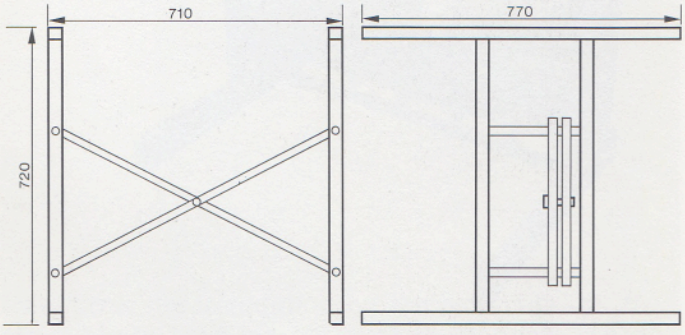
This empty housing provides the foundation for the basic LDC 15. It contains the complete, printed internal wiring connecting the active elements with one another. It can take a maximum of twelve LDC input and four group channels. There is also space for two intercom modules. (The only non-usable item is the input channel LDC 271/20.)
Space not occupied in the housing can be covered by a blank panel. The housing is completely wired for the ultimate version. The later addition of modules requires no tools.
In the hood there is space for level meters, filters, compressors, power supply and similar components. The housing fits on a special pedestal (see page 10) to form a rigidly mounted audio mixer.

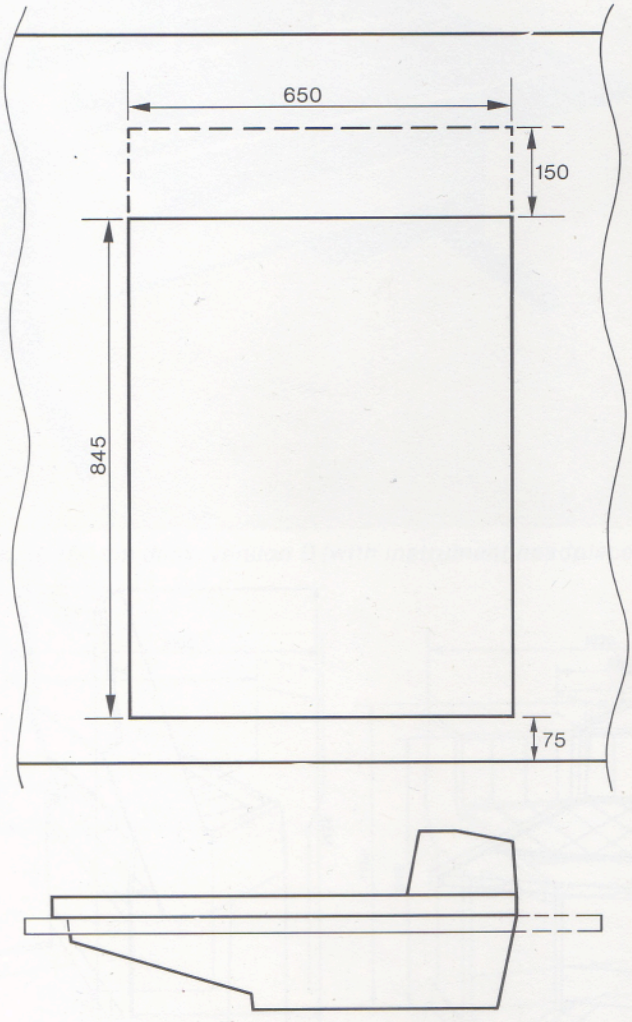


Dimensions of the empty 74 cm housing

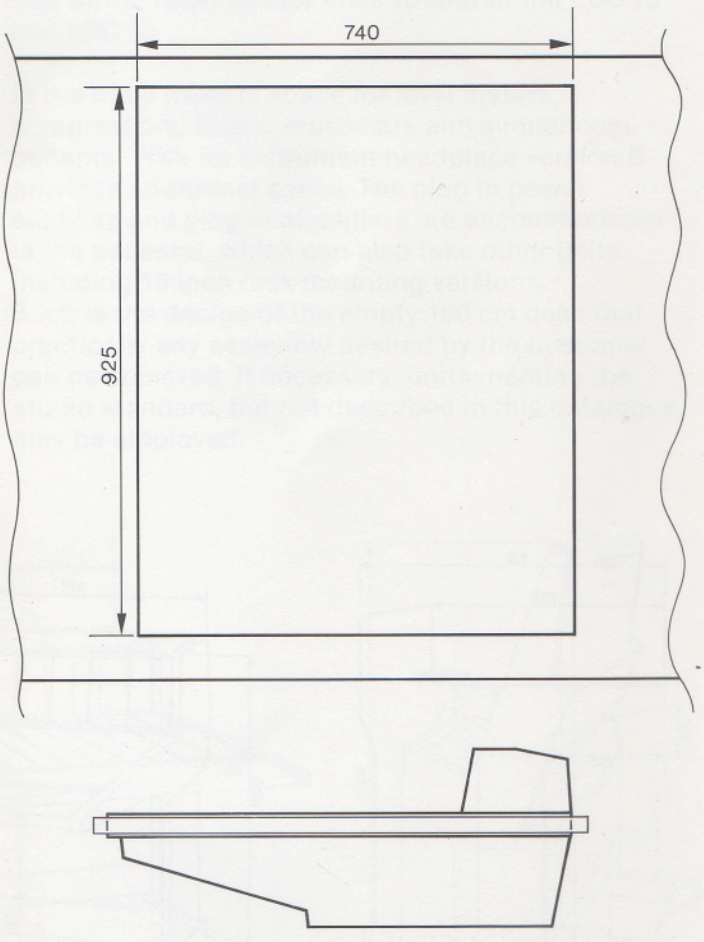
Pedestal for 74 cm housing

Pedestal for 74 cm housing





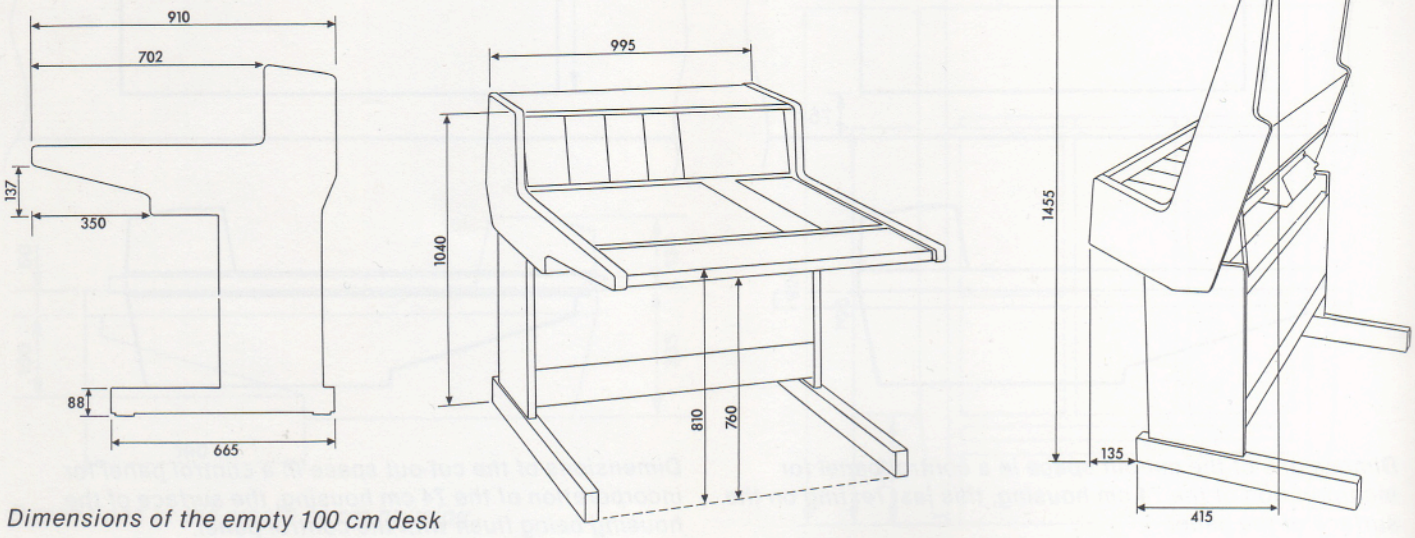
Dimensions of the cut-out space in a control panel for incorporation of the 74 cm housing, this last resting on the surface of the panel.



Dimensions of the cut-out space in a control panel for incorporation of the 74 cm housing, the surface of the housing being flush with the control panel.

Empty 100 cm desk

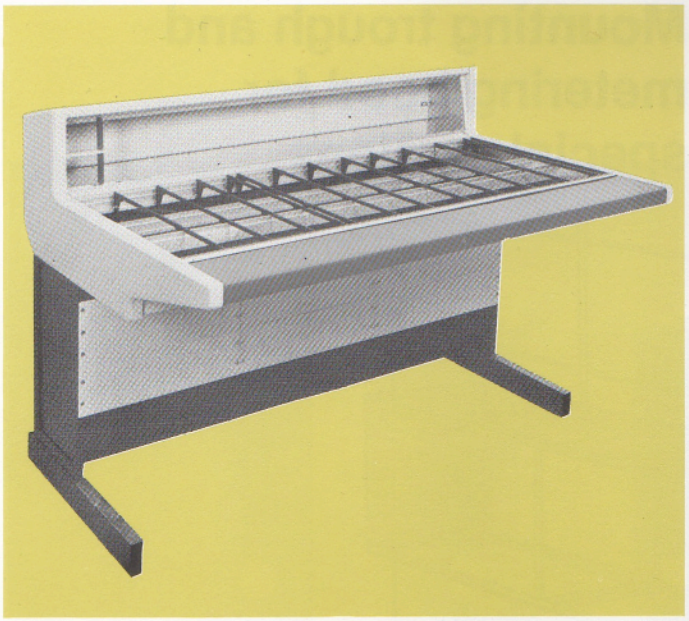
This forms the foundation for the basic LDC 25. It can accommodate a maximum of 28 channels, e.g. 24 input and four group channels or 20 input and eight group channels. The complete wiring for 20 input and four group channels is provided in printed form, whilst the wiring is partly prepared for an extension to eight group channels or 24 input channels.
The various modules are inserted by means of the quick release lock system without tools. There is also space for the intercom unit. Only the input channel LDC 271/20 cannot be employed. In the hood there is space for level meters, compressors, filters, cross-bar distributors and similar components. Power supply units, power amplifiers and other items can be plugged into or incorporated in the pedestal.
Fully equipped, the 100 cm desk weighs approximately 120 kg.



Dimensions of the empty 100 cm desk

Empty 160 cm desk

Version A/B

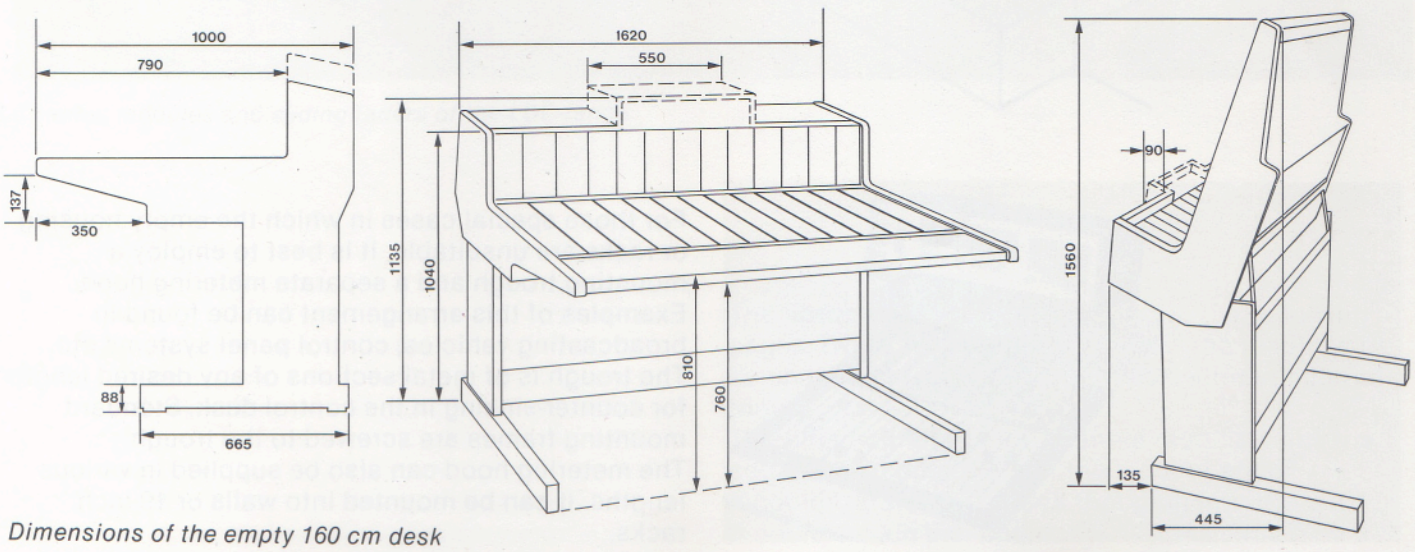


Empty 160 cm desk, version A (without instrument headpiece)

Empty 160 cm desk, version B (with instrument headpiece)

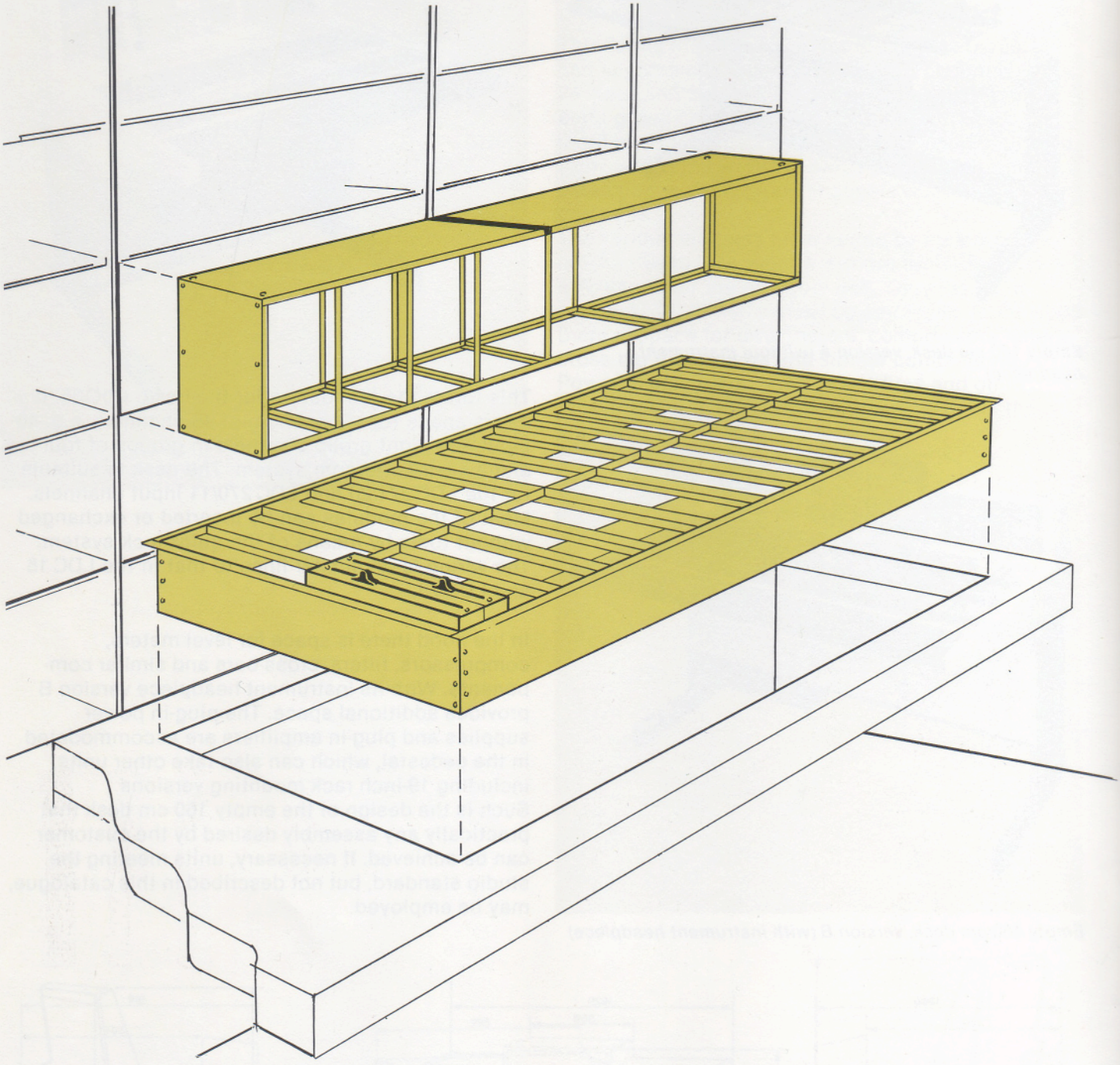
This forms the foundation for the basic LDC 35. It offers space for a maximum of 48 channels, e.g. 40 input and eight group channels in groups of four and a 4-wire intercom system. The desk is suitable for the LDC 271/20 and LDC 270/11 input channels. Most of the modules can be inserted or exchanged without tools by means of the quick-lock system. The wiring is on similar lines to that in the LDC 15 and LDC 25.

In the hood there is space for level meters, compressors, filters, cross-bars and similar components. With its instrument headpiece version B provides additional space. The plug-in power supplies and plug-in amplifiers are accommodated in the pedestal, which can also take other units, including 19-inch rack mounting versions.
Such is the design of the empty 160 cm desk that practically any assembly desired by the customer can be achieved. If necessary, units meeting the studio standard, but not described in this catalogue, may be employed.



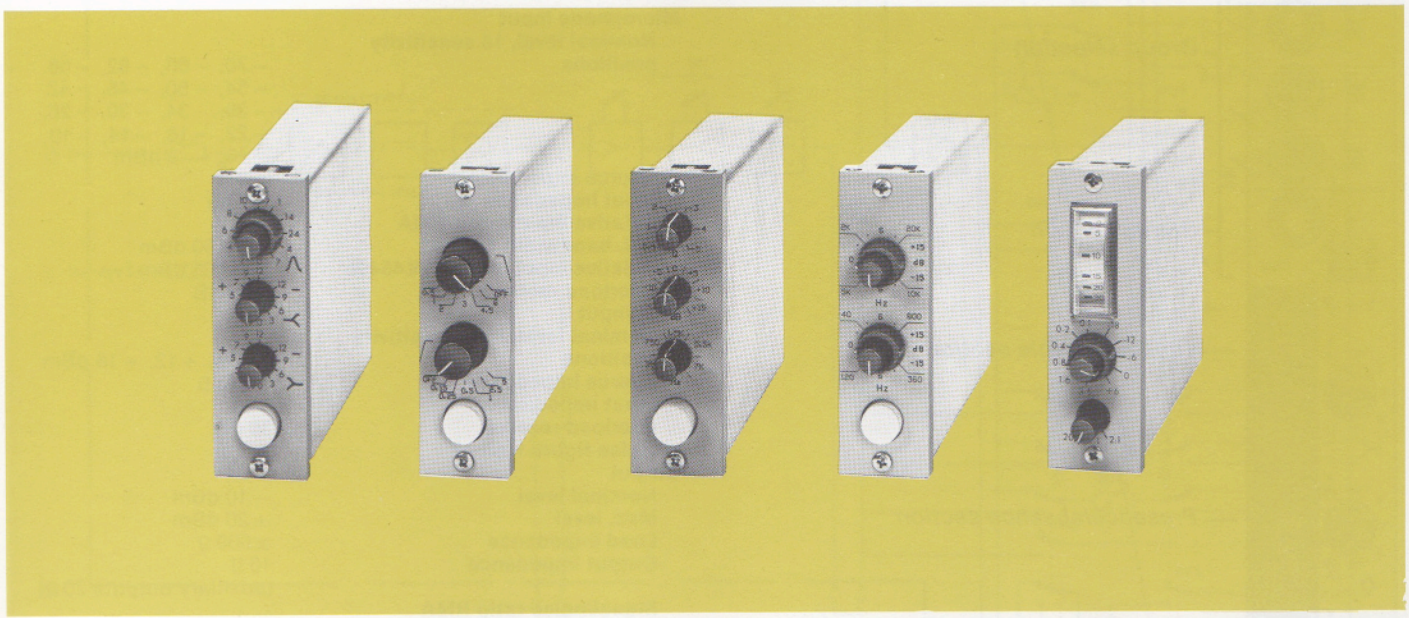
Dimensions of the empty 160 cm desk

Mounting trough and metering hood for special versions

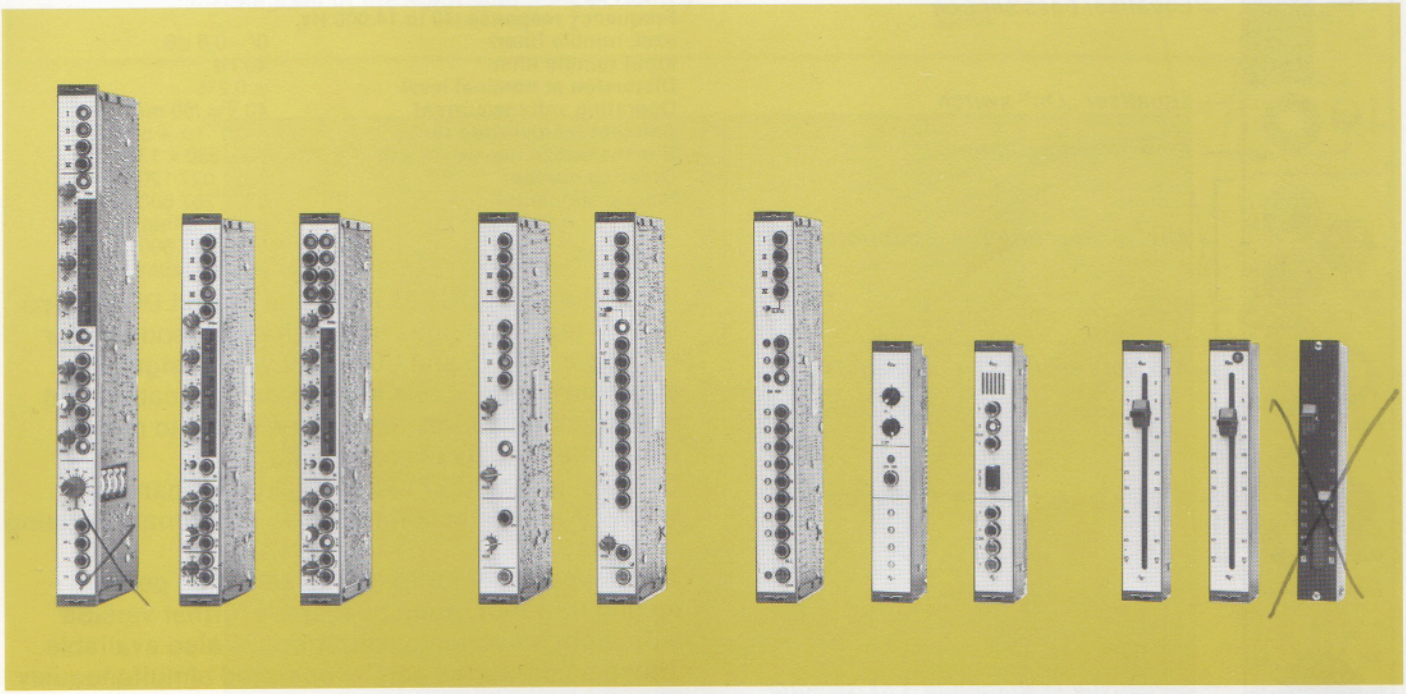


For those special cases in which the empty housing or racks are unsuitable, it is best to employ a mounting trough and a separate metering hood. Examples of this arrangement can be found in broadcasting vehicles, control panel systems etc. The trough is of metal sections of any desired length for counter-sinking in the control desk. Standard mounting frames are screwed to the trough.
The metering hood can also be supplied in various lengths. It can be mounted into walls or 19-inch racks.

Survey of LDC-Range modules

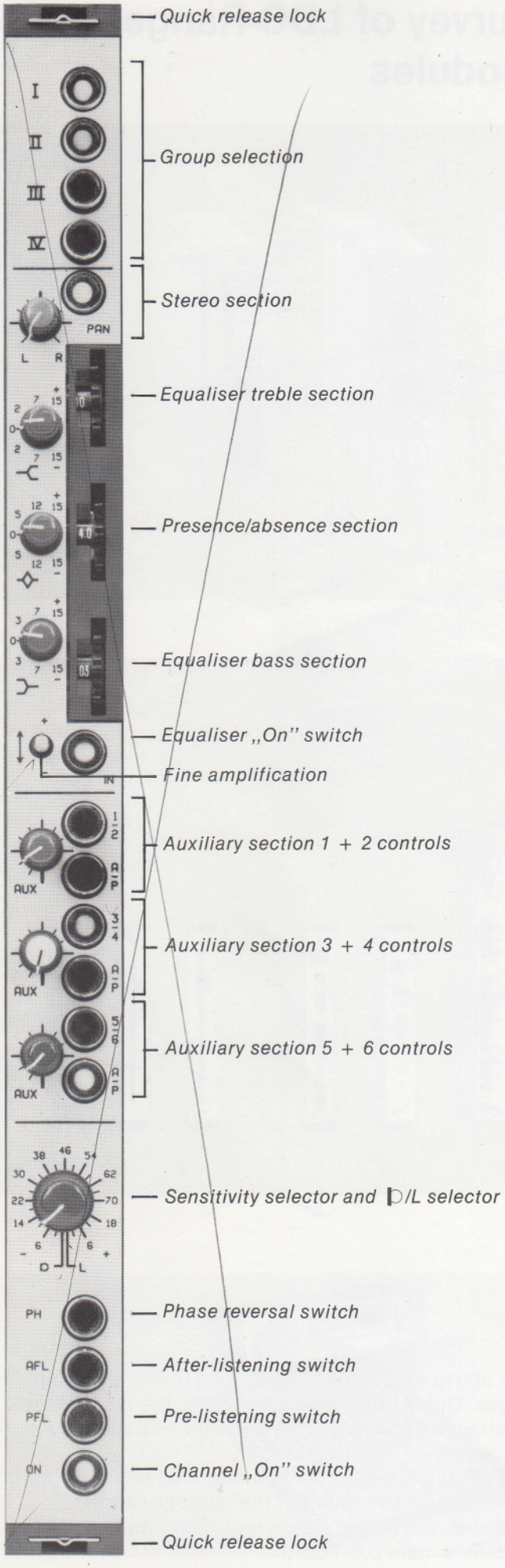


Signal processing modules in the LDC-range



Channel modules and sliding faders of the LDC-range

The above modules are described in the following pages. Quick release handles allow the modules to be changed in a matter of seconds without need of tools.
The LF amplifiers of the channel modules, like the equalisation amplifiers of the input channel modules, are on p.c. cards that plug into the module's main p.c. board.



Input channel module LDC 271/20 for LDC 35

TECHNICAL DATA

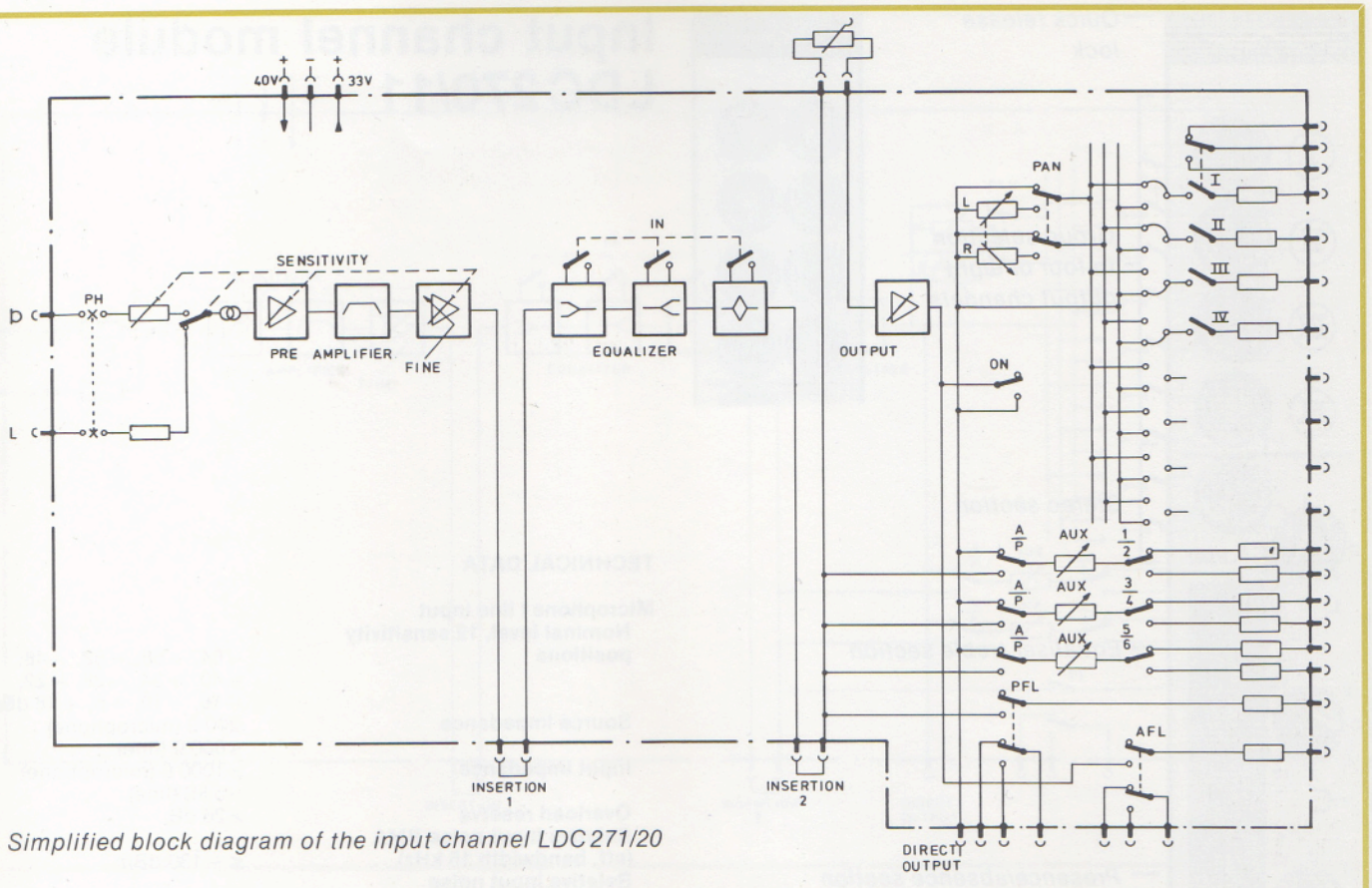
Microphone input	
Nominal level, 18 sensitivity positions	– 70, – 66, – 62, – 58, – 54, – 50, – 46, – 42, – 38, – 34, – 30, – 26, – 22, – 18, – 14, – 10, – 6, – 2 dBm
Source impedance	200 Ω
Input impedance	1000 Ω
Relative input noise RMA (eff. bandwidth 15 kHz)	≤ – 130 dBm
Relative input noise DIN 45405	≤ – 125 dBm typ
Overload reserve	≥ 30 dB
Line input	
Nominal level, four sensitivity positions	0, + 6, + 12, + 18 dBm
Source impedance	≤ 600 Ω
Input impedance	5 kΩ
Overload reserve	30 dB
Noise figure typical	2
Output	
Nominal level	– 10 dBm
Max. level	+ 20 dBm
Load impedance	≥ 600 Ω
Output impedance	10 Ω (auxiliary outputs 20 Ω)
Signal/noise ratio RMA (eff. bandwidth 15 kHz)	≥ 90 dB
Signal/noise ratio DIN 45405	≥ 80 dB
Frequency response (40 to 14.000 Hz, excl. rumble filter)	0/ – 0,6 dB
Input rumble filter	40 Hz
Distorsion at nominal level	≤ 0.2%
Operating voltage/current	40 V = /60 mA
Ambient temperature range	– 15° to + 55°C
Dimensions in mm (w × h × d)	30 × 380 × 130
Ordering number	8921 027 12001
Mating connector	5322 267 60034 (solder pins) 5322 267 60023 (solder tags)

Input channel LDC 271/20 for the basic LDC 35 is on similar technical lines to the channel modules for the basic LDC 15 and LDC 25. It was designed to allow maximum scope as regards application and operational facilities in the case of audio mixers which are entirely custom-built.

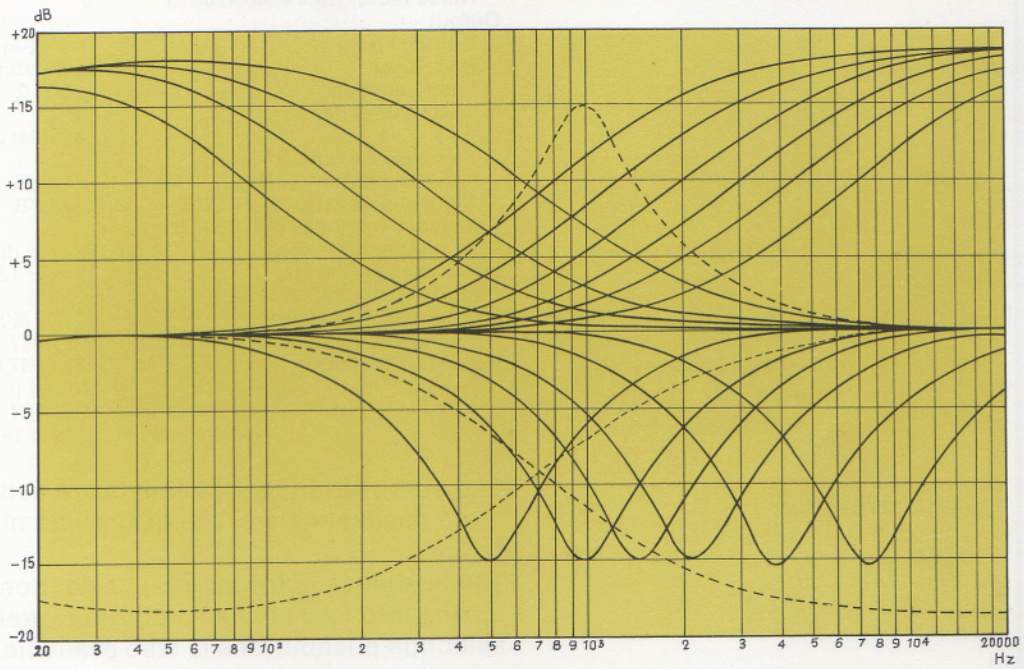
Channel unit LDC 271/20 being longer than the LDC 270 version accommodates additional operating controls.

The busbar selector for group selection permits mixing into four group busbars; a further version with eight selection pushbuttons is also available. These pushbuttons can be operated simultaneously. The output signal is also available at the direct output. The panpot control with separate in/out switch permits mixing into two busbars earlier selected by operation of two group selection push-buttons.

There are three equalisers in tandem. Each has an edgewise selector for the working frequencies and a continuous control for setting of boosting or damping. All three equalisers are switched on or off together by the equaliser „on" pushbutton. In the switched off state these filters have unity gain. Insertion points are available at the input and output of the equalisation section. To these can be connected external signal-processing apparatus as well as a remote control unit for on and off



Simplified block diagram of the input channel LDC 271/20



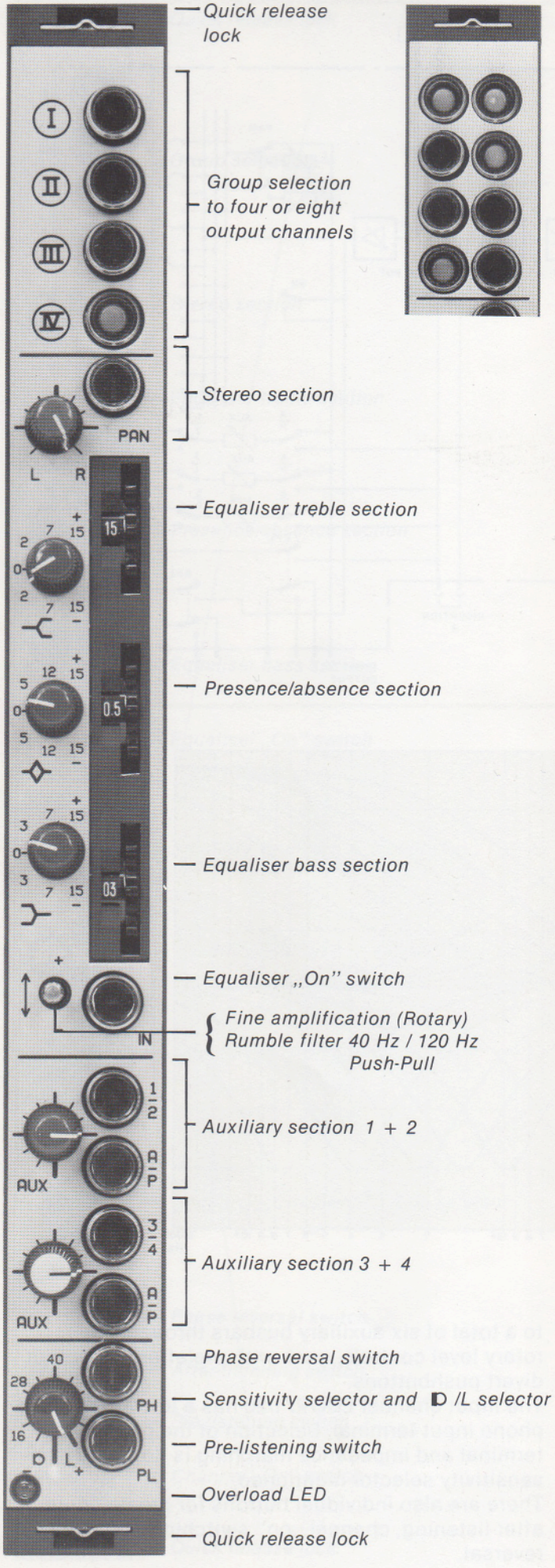
Filter curves of the input channel LDC 271/20

switching of the equaliser section (audio follows video etc.). The external sliding fader and possibly a remotely controlled fader unit are connected to the second insertion point. The rotary control for fine adjustment of the amplification is beside the equaliser „on" switch. It allows continuous fine adjustment of the amplification over a 6 dB range. The module amplification is set by a selector with 18 positions for microphone sensitivity and four positions for line sensitivity. The module has access to a total of six auxiliary busbars through three rotary level controls, each with pre/after and output divert pushbuttons.

The input channel LDC 271/20 has a line and a microphone input terminal. Selection of the proper terminal and impedance matching is done with the sensitivity selector mentioned.

There are also individual buttons for pre-listening, after-listening, channel „on" switching and phase reversal.

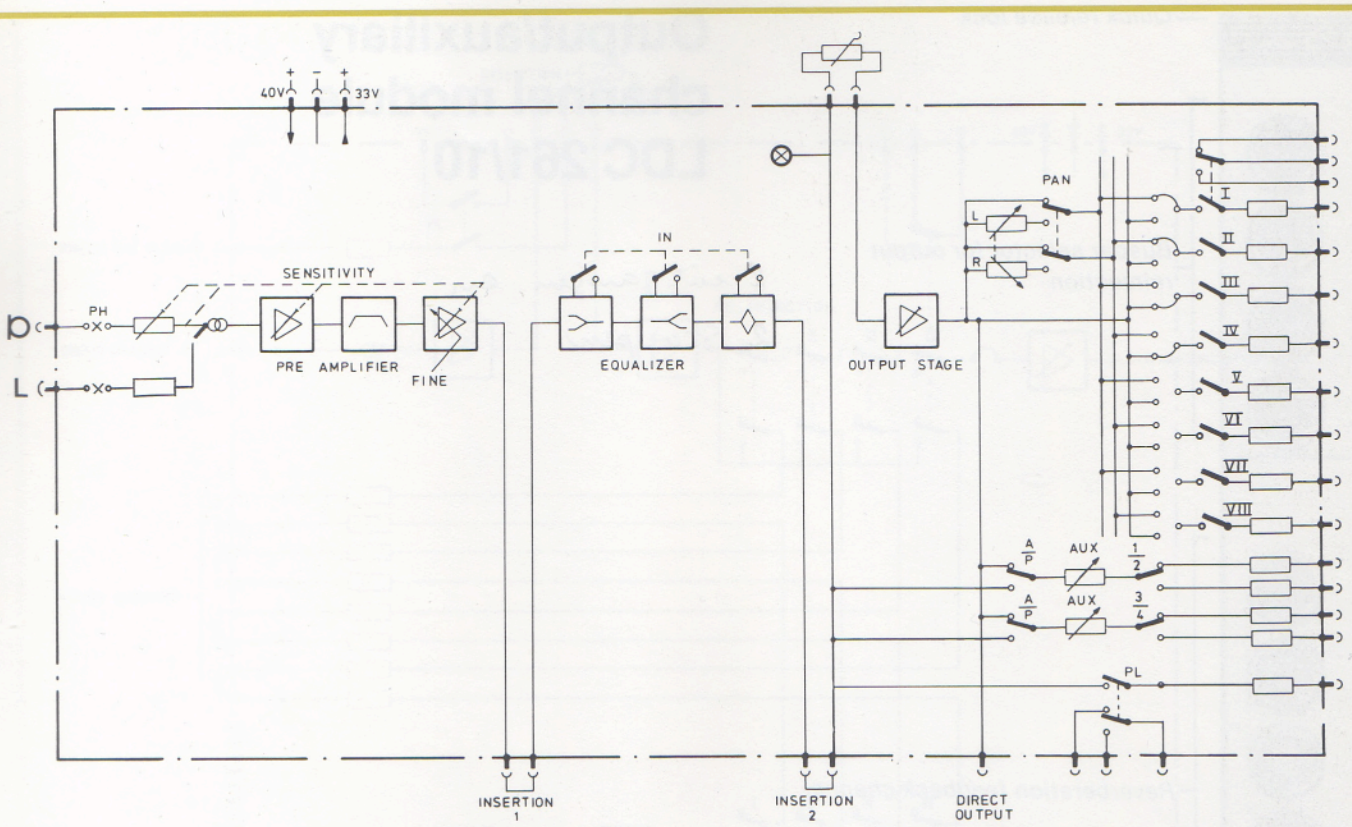
Input channel module LDC 270/11



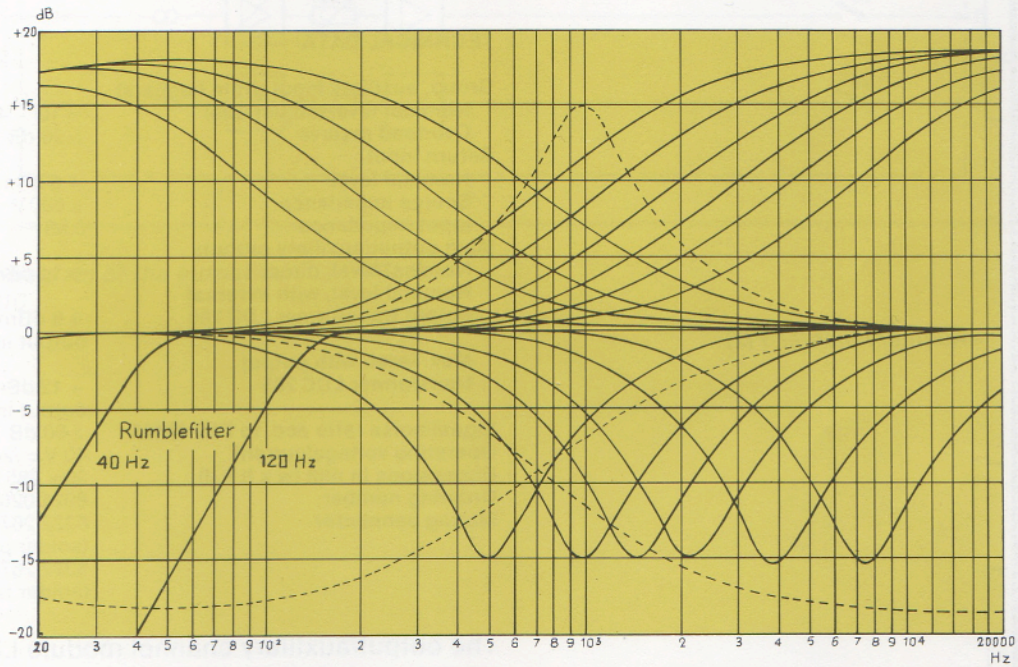
TECHNICAL DATA

Microphone / line input	
Nominal level, 12 sensitivity positions	– 64, – 58, – 52, – 46, – 40, – 34, – 28, – 22, – 16, – 10, + 6, + 18 dBm
Source impedance	200 Ω (microphone) ≤ 600 Ω (line)
Input impedance	≥ 1000 Ω (microphone) > 5 kΩ (line)
Overload reserve	≥ 26 dB
Relative input noise RMA (eff. bandwidth 15 kHz)	≤ – 130 dBm
Relative input noise (DIN 45405/200 Ω)	– 125 dBm typ.
Noise factor (DIN 45405/200 Ω)	2
Output	
Nominal level	– 6 dBm
Max. level	+ 20 dBm
Load impedance	≥ 600 Ω
Output impedance	10 Ω (auxiliary outputs 20 Ω)
Signal/noise ratio RMA (eff. bandwidth 15 kHz)	> 90 dB
Signal/noise ratio (DIN 45405)	≥ 84 7B
Frequency response (40 · 15 kHz, excl. rumble filter)	0/ – 0,6 dB
Input rumble filter	40 Hz / 120 Hz
Distortion at nominal level	≤ 0.2%
Operating voltage/current	40 V = /60 mA
Ordering number	8921 027 01101
Mating connector	5322 267 60034 (solder pins) 5322 267 60023 (solder tags)

The LDC 270/11 input channels are suitable for all three basic stages of the LDC audio mixing desk range.
The busbar selector for group selection permits mixing into four busbars; a further version with eight selection pushbuttons is also available. The group selection pushbuttons can be operated simultaneously. The output signal is also available at the direct output.
The panpot with separate in/out switch permits mixing into two busbars earlier selected by operation of two selector push-buttons.
There are three equalisers in tandem. Each has an edgewise selector for the working frequencies and a continuous control for boosting or damping. All three equalisers are switched on or off together by the equaliser „on" pushbutton switch. In the switched off state the filters have unity gain.
Insertion points are available at the input and output



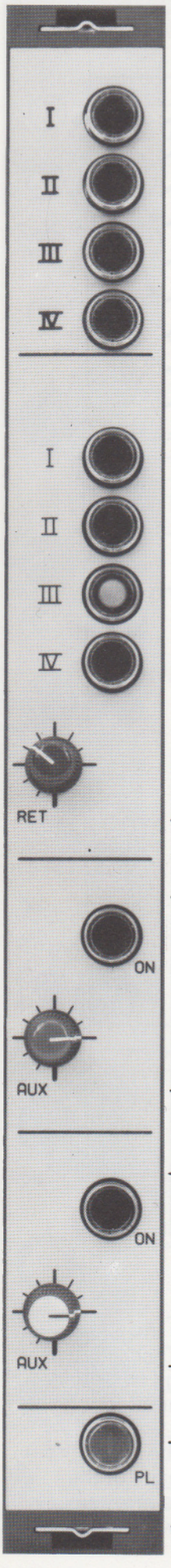
Simplified block diagram of the input channels LDC 270/10



Filter curves of the input channels LDC 270/11

of the equalisation section. To these can be connected external signal-processing apparatus as well as a remote control unit for on and off switching of the equaliser (audio follows video etc.). The external sliding fader and possibly a remotely controlled fader unit are connected to the second insertion point. The rotary control for fine adjustment of the amplification is beside the equaliser switch. It allows continuous adjustment of the amplification over a 6 dB range.

The module's amplification is set by the 12-position sensitivity selector. The module has access to a total of four auxiliary busbars through two rotary level controls, each with pre/after and output divert pushbuttons.
Both microphone and line level can be fed to the input, impedance matching is by means of the sensitivity selector mentioned. There are also individual pushbuttons for phase reversal and pre-listening.



— Quick release lock

Busbar selector for output reinjection

Reverberation feedback channel

Auxiliary master 1 (2)

Auxiliary master 3 (4)

— Group pre-listening pushbutton

— Quick release lock

Output/auxiliary channel module LDC 261/10

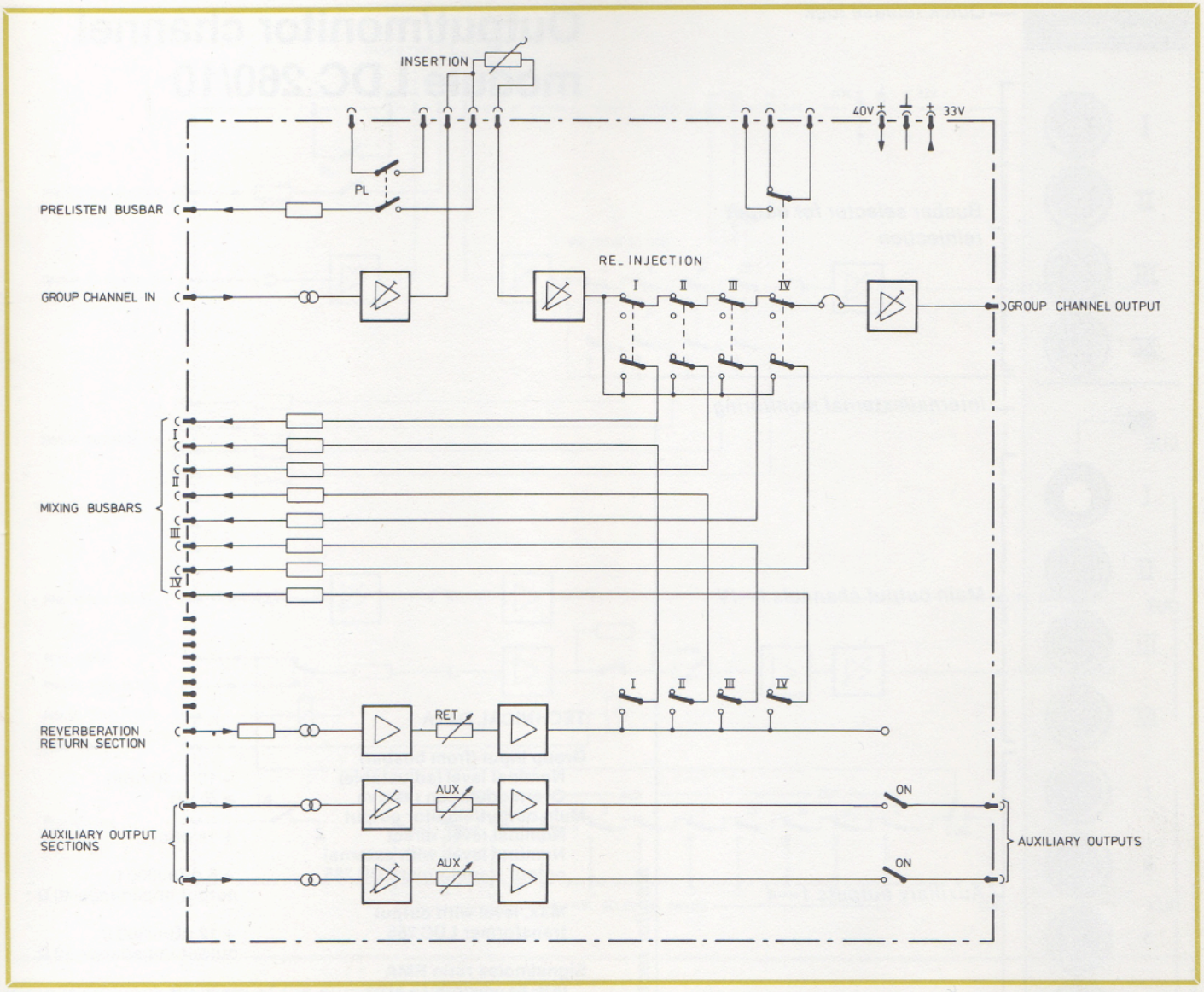
2 uitgangen en
2 groepen

TECHNICAL DATA

Group, auxiliary input (from busbars)	
Nominal level (adjustable)	– 10/ – 40 dBm
Overload reserve	≥ 26 dB
Return input	
Nominal level	+ 6 dBm
Source impedance	≤ 600 Ω
Input impedance	5 kΩ
Main output/auxiliary outputs	
Nominal level, direct	+ 14 dBm
Nominal level, with external output transformer LDC 285	+ 6 dBm/300 Ω output impedance 40 Ω
Max. level, with output transformer LDC 285	+ 12 dBm/300 Ω output impedance 40 Ω
Signal/noise ratio acc. to DIN 45405	≥ 90 dB
Operating voltage/current	40 V = /240 mA
Dimensions in mm (w × h × d)	30 × 285 × 130
Ordering number	8921 026 11001
Mating connector	5322 267 60034 (solder pins) 5322 267 60023 (solder tags)

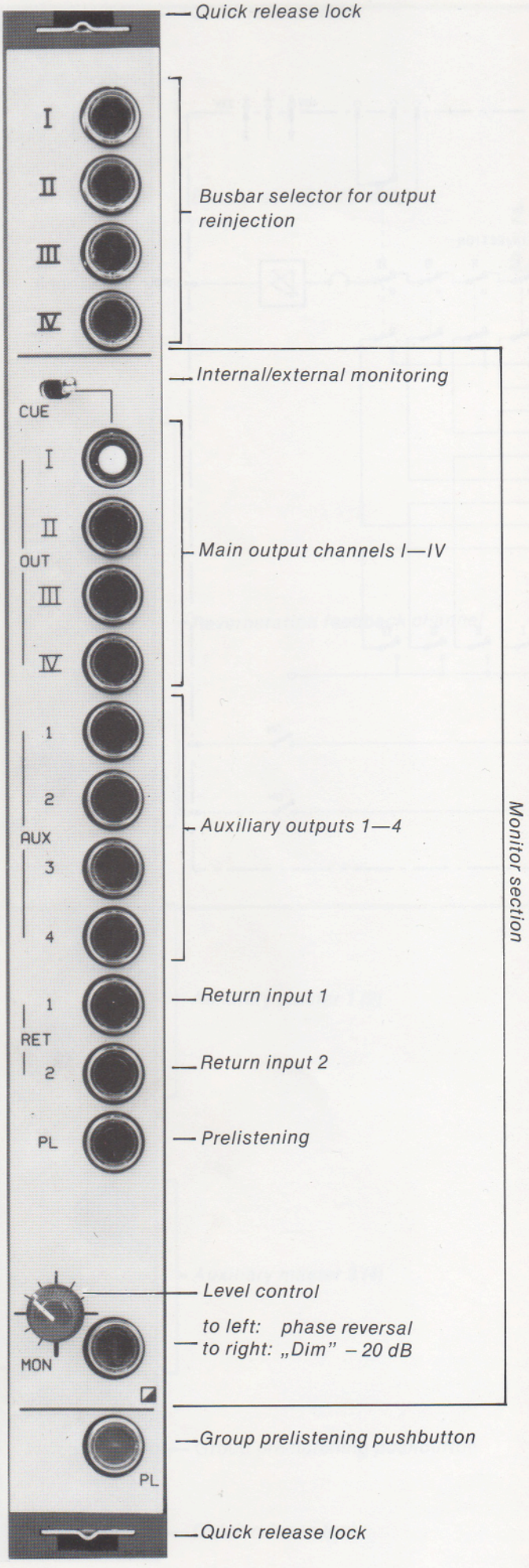
The output/auxiliary channel module LDC 261/10 contains an output stage with busbar selector and pre-listening pushbutton. As with the input channels the busbar selector gives access to the group busbars for reinjection of the channel's output signal to operate the module as a main output or group channel.

The external sliding fader and if necessary a remotely operated level control are connected to the insertion point. The channel also contains two rotary controls, each with an on/off push-button for the auxiliary outputs and a return input with rotary control and busbar selector for mixing into the group busbars.



Simplified block diagram of the output/auxiliary channel module LDC 261/10

Output/monitor channel module LDC 260/10



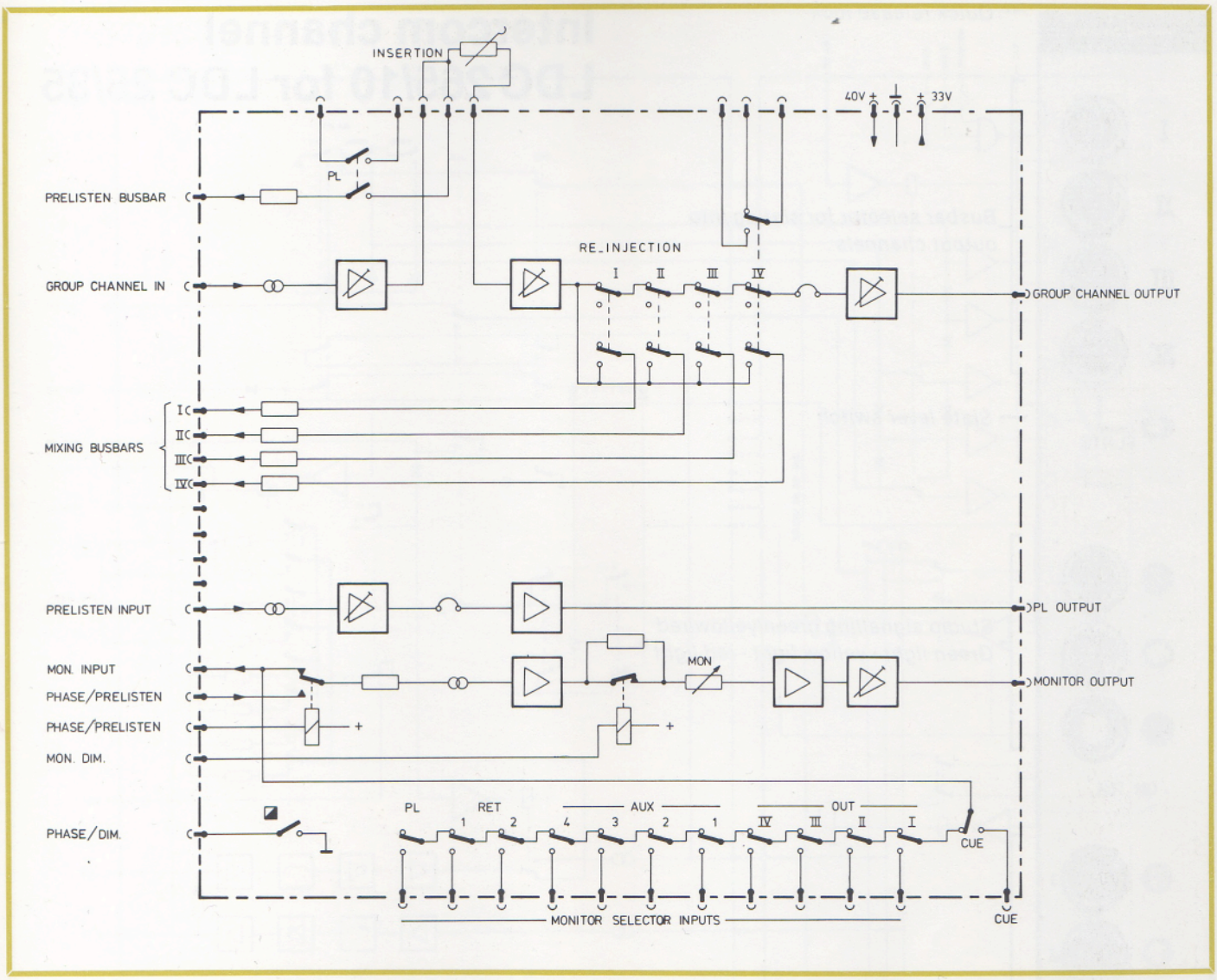
TECHNICAL DATA

Group input (from busbar)	
Nominal level (adjustable)	– 10/ – 40 dBm
Overmodulation reserve	≥ 26 dB
Main output/Monitor output	
Nominal level, direct	+ 14 dBm
Nominal level, with external output transformer LDC 285	+ 6 dBm/300 Ω output impedance 40 Ω
Max. level with output transformer LDC 285	+ 12 dBm/300 Ω output impedance 40 Ω
Signal/noise ratio RMA (eff. bandwidth 15 kHz)	≥ 90 dB
Monitor section	
Nominal input level	+ 6 dBm, symmetrical
Source impedance	≤ 600 Ω
Input impedance	5 kΩ
Nominal output level	+ 6 dBm
Operating voltage/current	40 V = /180 mA
Dimensions in mm (w × h × d)	30 × 285 × 130
Ordering number	8921 076 01001
Mating connector	5327 264 60034 (solder pins) 5322 264 60023 (solder tags)

The output/monitor channel module LDC 260/10 contains an output stage with busbar selector and pre-listening pushbutton. As with the input channels the busbar selector gives access to the group busbars for reinjection of the channel's output signal to operate the module as a main output or group channel.

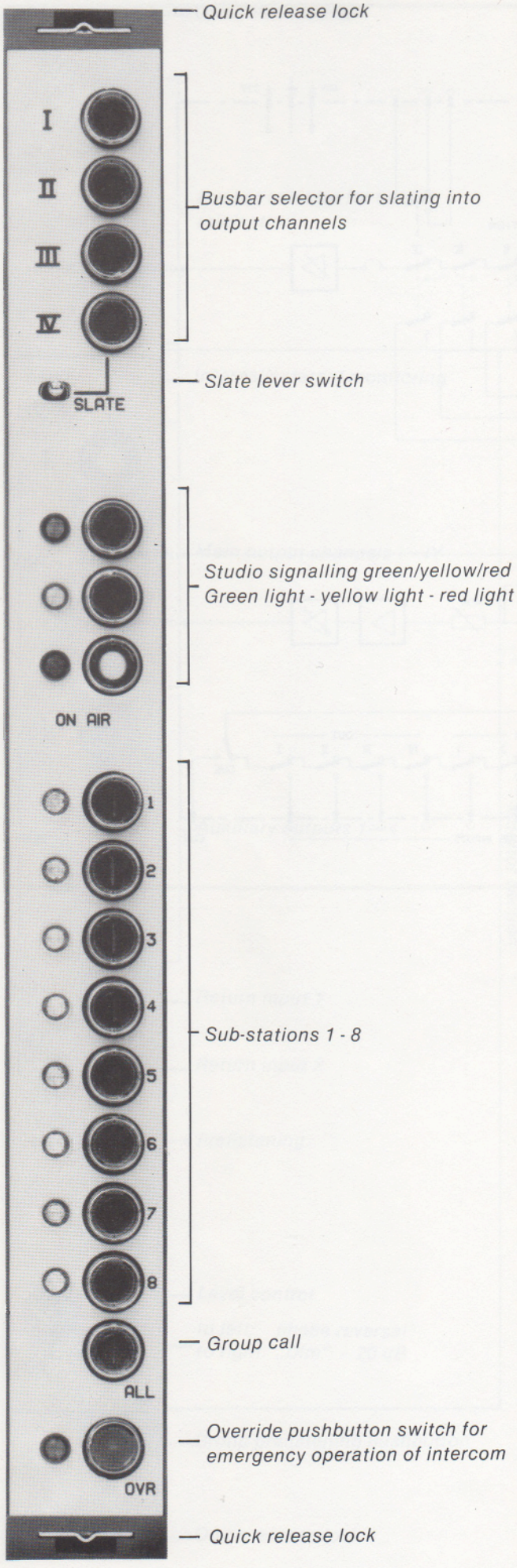
The external sliding fader and possibly a remotely operated level control are connected to the insertion point.

The channel also contains a rotary level control and control panel with 11 interlocked pushbuttons for monitoring of the main outputs, auxiliary outputs, return inputs and pre-listening circuit. There is also a toggle switch for an auxiliary input (cue) and a pushbutton for monitor „dim" – 20 dB or phase reversal.



Simplified block diagram of the output/monitor channel module LDC 260/10

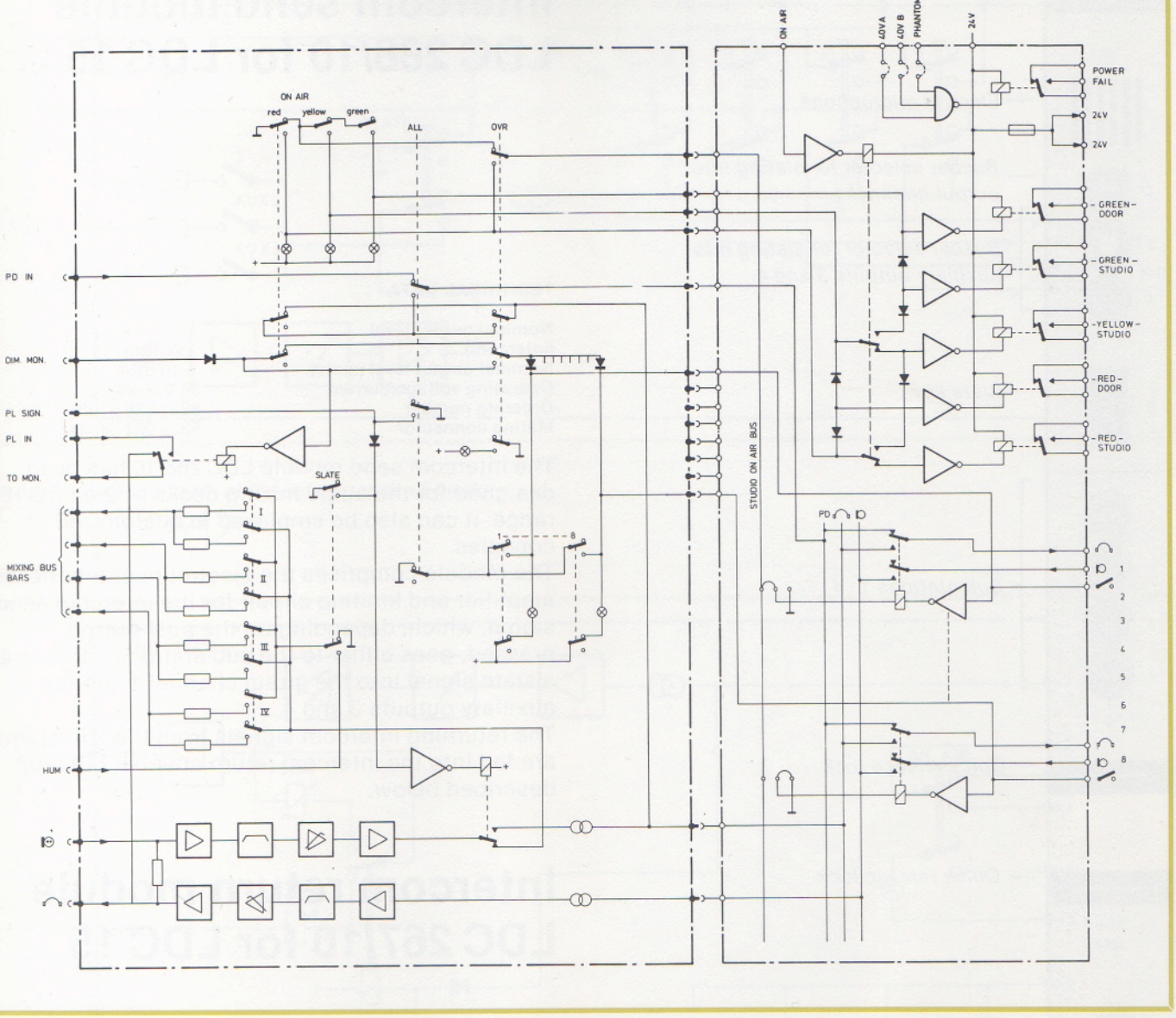
Intercom channel LDC 265/10 for LDC 25/35



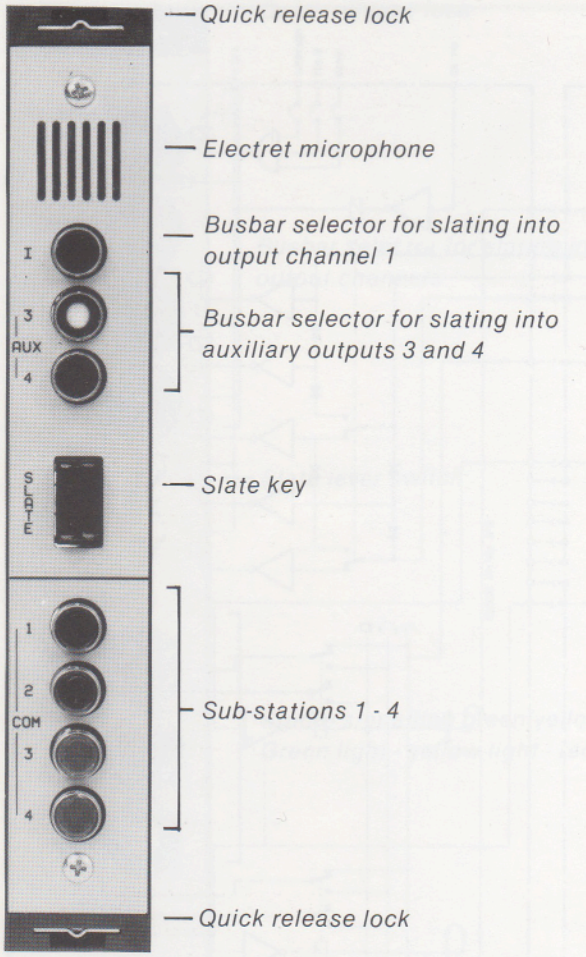
TECHNICAL DATA

Intercom inputs	– 60 dBm
External input (PD)	+ 6 dBm
Nominal output level	+ 6 dBm/600 Ω
Output level (slate)	– 10 dBm
Operating voltage/current	40 V = / 60 mA 24 V = /200 mA
Dimensions in mm (w × h × d)	30 × 285 × 130
Ordering number	8921 026 51001
Mating connector	5322 267 60034 (solder pins) 5322 267 60023 (solder tags)

The intercom channel provides two-way communication with a maximum of eight sub-stations. The channel also contains the switches and tally lamps for „Safe", „Attention" and „ON AIR" with corresponding light and intercom output control. For slating to the group busbars I-IV the channel has a busbar selector similar to the input channel modules and a slate master lever switch.
The intercom microphone can be mounted on a goose-neck directly above the narrow side of the intercom channel in the desk. With the intercom pushbuttons not pressed, the channel permits an external signal (Public Distribution - PD) to be passed on to the intercom sub-stations.



Simplified block diagram of intercom channel LDC 265/10, for LDC 25 and LDC 35

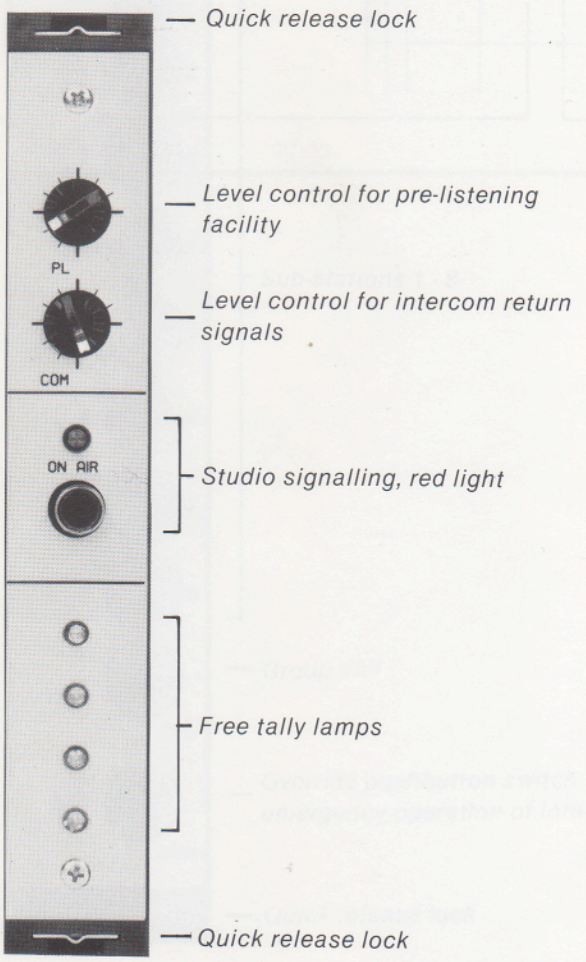


Intercom send module LDC 266/10 for LDC 15

TECHNICAL DATA

Nominal output level (intercom)	+ 6 dBm
Nominal output level (slate)	– 10 dBm
Operating voltage/current	40 V = /60 mA
Ordering number	8921 026 61001
Mating connector	5322 267 54044

The intercom send module LDC 266/10 has been designed for the audio mixing desks of the LDC 15 range. It can also be employed in customized consoles.
The module comprises the electret microphone with amplifier and limiting circuit for the intercom send signal, which, depending on the pushbutton pressed, goes either to the sub-stations 1 to 4 or as a slate signal into the group channel 1 and the auxiliary outputs 3 and 4.
The returning intercom signals from the sub-stations are fed into the intercom return channel LDC 267 described below.

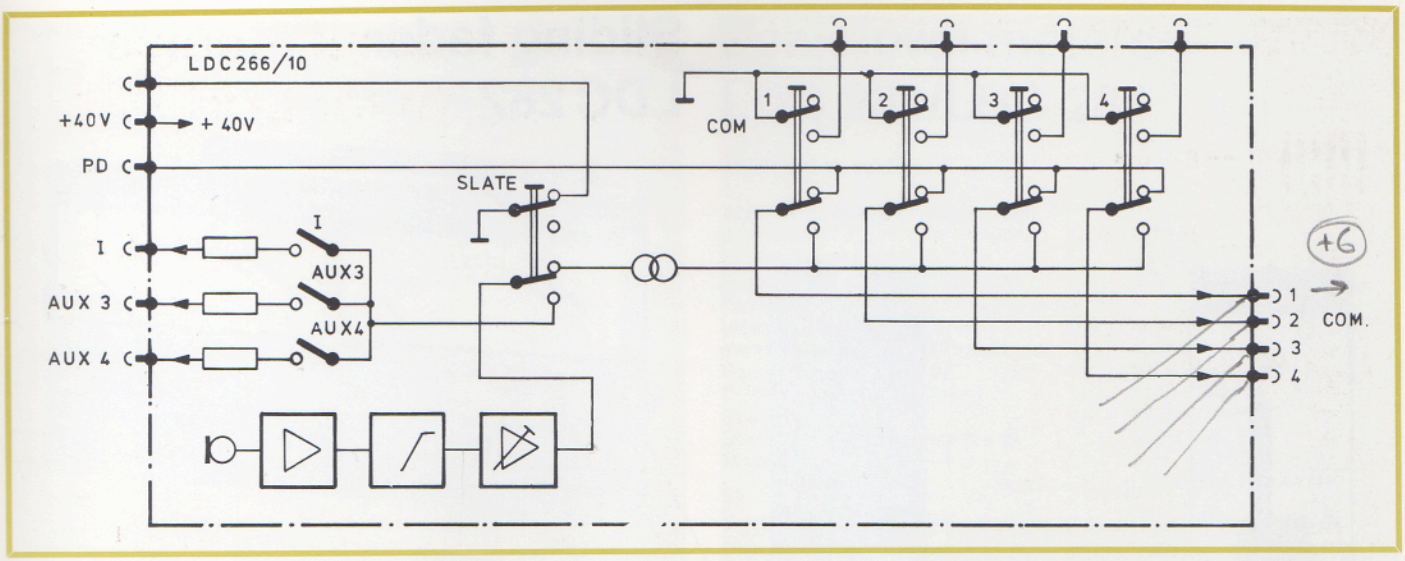


Intercom return module LDC 267/10 for LDC 15

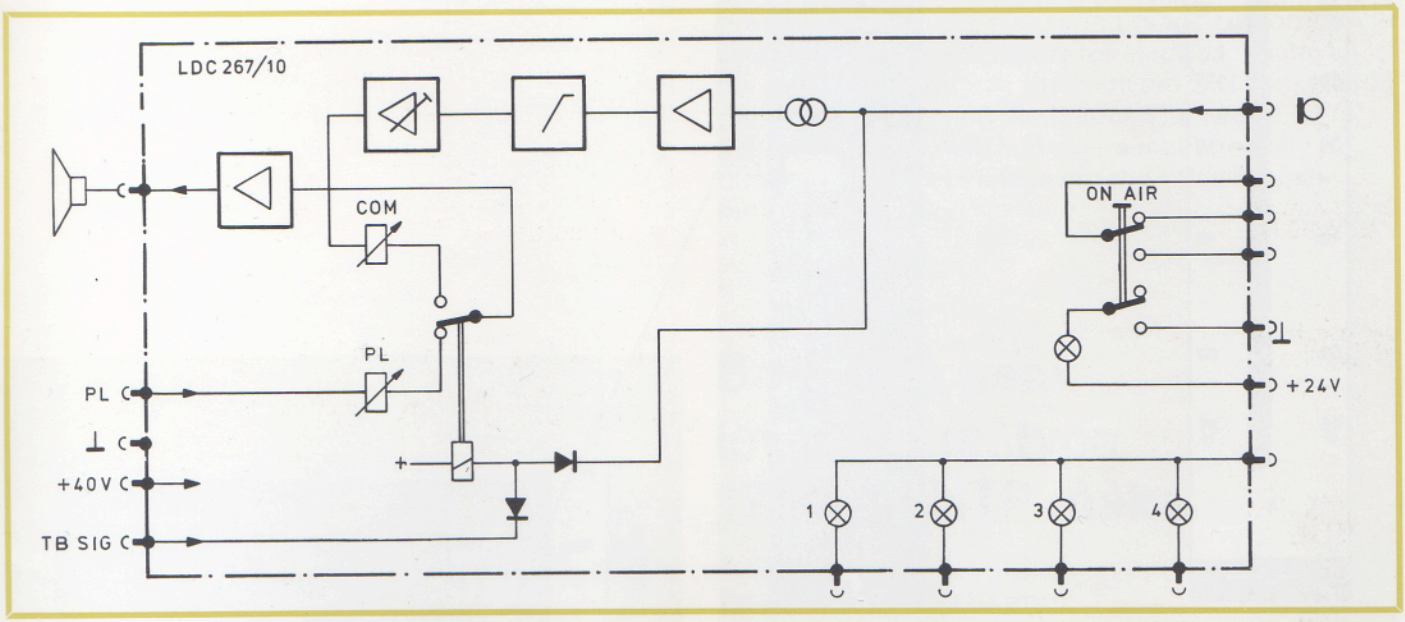
TECHNICAL DATA

Input level (microphone)	– 48 dBm
Input level (pre-listening)	+ 6 dBm
Input impedance (microphone)	> 5 kΩ
Output max.	3 W/25 Ω
Operating voltage/current (amplifier)	40 V = /200 mA max.
Operating voltage/current (signalling)	24 V = /200 mA max.
Dimensions in mm (w × h × d)	30 × 190 × 30
Ordering number	8921 026 71001
Mating connector	5322 267 54044

The intercom return module LDC 267/10 is employed in the audio mixing desks of the LDC 15 range. It can also be employed in customized consoles.
It contains an amplifying circuit with limiter and volume control for the signals from the substations. The amplifier is also employed for pre-listening; a second volume control is provided for this.
The equipment also comprises switches and a tally lamp for studio signalling as well as four free tally lamps for any desired purpose.

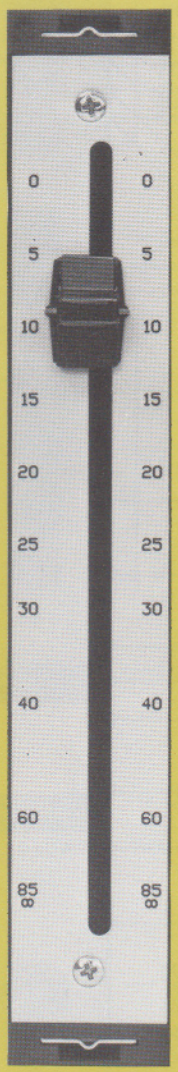


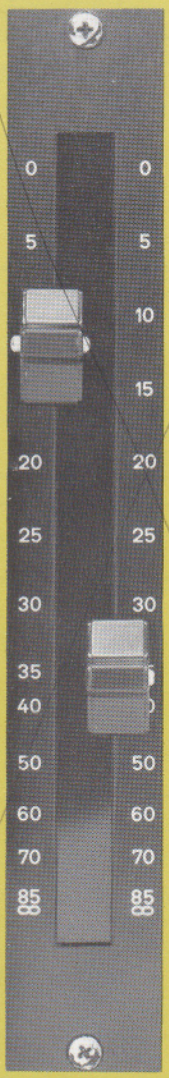
Simplified block diagram of the intercom send module LDC 266/10



Simplified block diagram of the intercom return module LDC 267/10

Sliding fader
LDC 282



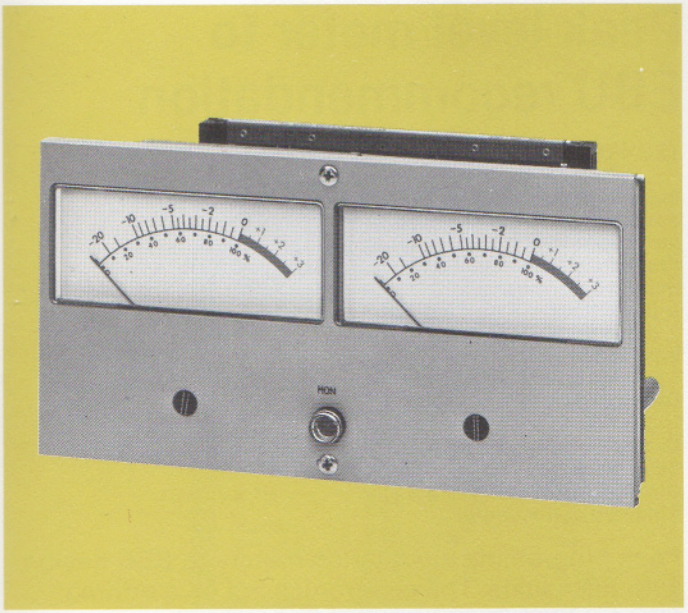


Left: Sliding fader, standard version

Right: Stereo fader with separable knobs

TECHNICAL DATA FOR ALL SLIDING FADERS

Input resistance	5 kΩ
Source resistance	≤ 50 Ω
Output resistance	variable
Load resistance	≥ 40 kΩ
Frequency response	0 dB ± 0,1 dB
Control range (continuous)	0 . . . 85 dB
Accuracy	
Operating range 0-35 dB	≤ 1 dB
Fade-out range	≤ 5 dB
Tracking error (stereo version)	≤ 1 dB
Crosstalk attenuation (stereo version)	≥ 90 dB
Max. attenuation (20 kHz)	≥ 120 dB
Initial attenuation	≤ 1,5 dB
Dimensions in mm (mono version) (w × h × d)	30 × 190 × 38
Dimensions in mm (stereo version) (w × h × d)	30 × 190 × 56
Mating connector	5322 267 54044



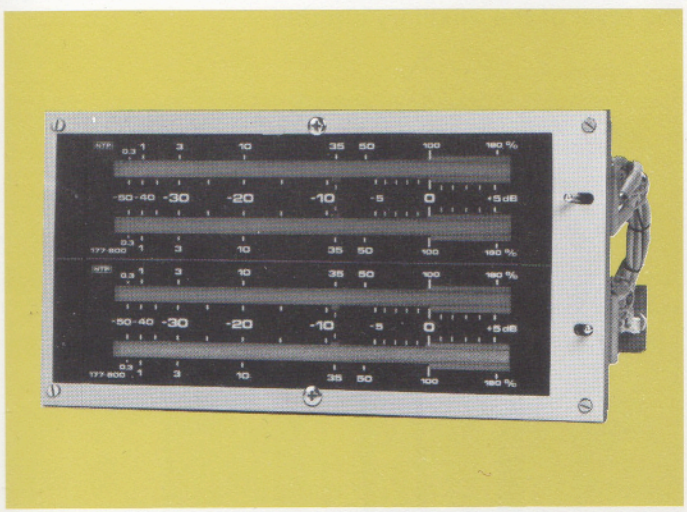
Peak level meters LDC 281/LDC 284

TECHNICAL DATA

Input impedance (symmetrical, earth free)	≥ 10 kΩ
Source impedance	≤ 600 Ω
Input level for 0 dB indication	+ 6 dBm
Frequency response (40 Hz-18 kHz)	± 0,5 dB
Integration time (nominal level – 1 dB ± 0,5)	10 ms
Decay time (0 dB-20 dB)	1,5 s
Operating voltage/current	24 V = /40 mA
Scale illumination	12 V = /70 mA
Dimensions in mm (w × h × d)	185 × 95 × 100
Mating connector	DIN - 180° 5-pole (2) DIN - 270° 6-pole (1)

• Simple to build in • No calibration in operation • Switch for two sources • Conversion possibility into ASA-standard VU meter

The LDC 281 contains two peak level meters. The electronics are accommodated in a joint plug-in print card LDC 284. Integration time, return time and overshoot within the measuring range conform to DIN 45406 – „Level meters for electroacoustic wide-band transmission". At the back are DIN sockets for the power supply and the inputs. The two instruments are switched over simultaneously to different sources by means of the „MON" push-button.



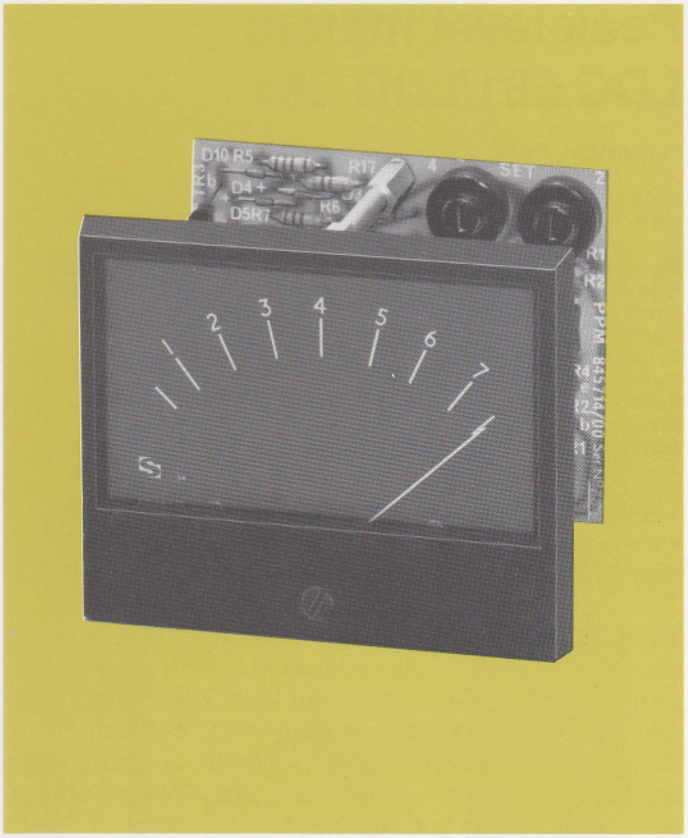
Bargraph peak level meter, type 177-800, NTP make

TECHNICAL DATA

(refer as well to NTP's data sheet)

Input impedance (40 Hz-15 kHz)	20 kΩ
Source impedance	≤ 600 Ω
Input level for 0 dB indication	+ 6 dBm
Indication accuracy (1 kHz)	
from + 5 to – 10 dB	± 0,5 dB
below – 10 dB	± 1 dB
Integration time (indication – 1 dB ± 0,5 acc. to DIN 45406)	10 ms
Decay time (from 0 to – 20 dB)	1,5 s
Tracking error	≤ 0,5 dB
Scale length	127 mm
Opperating voltage/current	24 V = /190 mA
Dimensions of mounting frame in mm (w × h × d)	185 × 95 × 127
Ordering number of mounting frame	
for one instrument	8993 202 36001
for two instruments	8993 202 43001
Mating connectors for mounting frame	DIN - 180° 5-pole (2) DIN - 270° 6-pole (1)

Supplied with frame for horizontal incorporation of one or two instruments.
Both mounting frames are equipped per instrument with a „MON" source changeover switch. At the back of the frame are DIN sockets for the two or four inputs and the power supply.



Peak level meter to EBU recommendation

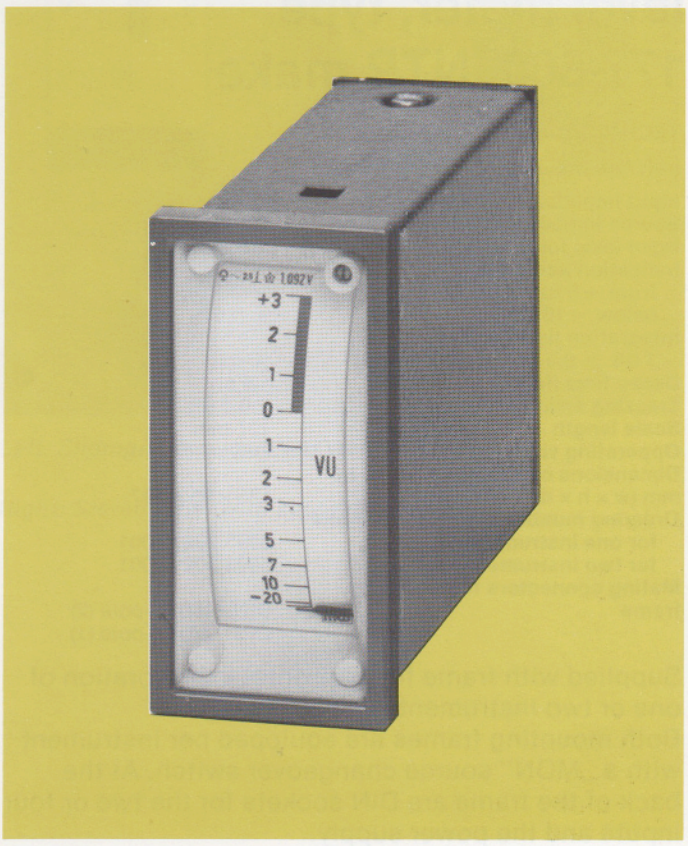
TECHNICAL DATA

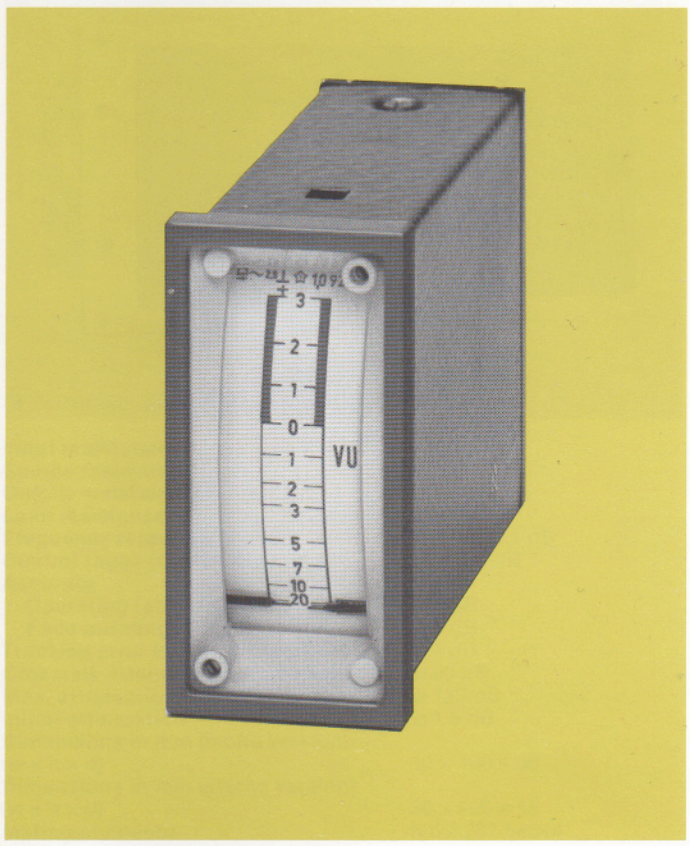
Input impedance (40 Hz to 15 kHz)	> 20 kΩ
Source impedance	≤ 600 Ω
Input level for 0 („test") indication	0 dBm
Frequency response (40 Hz to 15 kHz)	± 0,5 dB
Indication accuracy	
(level from − 8 to + 8 dBm)	± 0.3 dB
(level from − 12 to + 12 dBm)	± 0.5 dB
Integration time	
(nominal level − 2 dB ± 0.5)	10 ms
Decay time	
(level from + 12 to − 12 dBm)	2.5 to 3 s
Operating voltage	24 V =
Scale width	80 mm
Dimensions in mm (w × h × d)	91 × 74 × 81
Soldered connections	

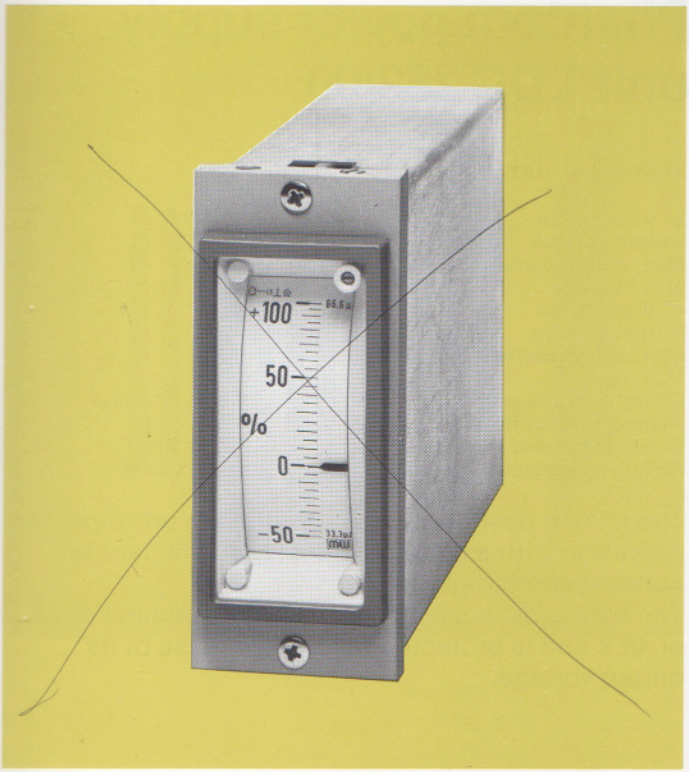
Peak programme modulation meters to BBC design with EBU scale. The electronics are on a printed circuit panel fixed to the rear of the instrument. The EBU instrument can also be supplied with a scale of greater width.

Edgewise VU instruments, ASA type

Single or dual instruments of this kind are preferred when space in the metering hood is short. Such instruments are employed preferably for monitoring the level of the auxiliary circuits.







Correlation meter LDC 516

TECHNICAL DATA

Input impedance	≥ 2 kΩ (symmetrical, earth free)
Input level, selectable	+ 18/ + 6/ – 6 dBm
Limiter range	20 dB to nominal input level
Frequency response (40 Hz-15 kHz)	0 dB ± 2 dB
Operating voltage/current	24 V = /30 mA max.
Dimensions in mm (w × h × d)	40 × 95 × 126
Ordering number	8921 051 60001
Mating connector	8921 087 80001

- **Clear, percentual reading**
- **Largely independent of input levels**

This meter indicates the correlation of two signals. A reading of + 100% represents full correlation (mono signal).
A reading of 0% represents the complete absence of correlation, signifying two different signals. A negative reading indicates signals in opposite phase.

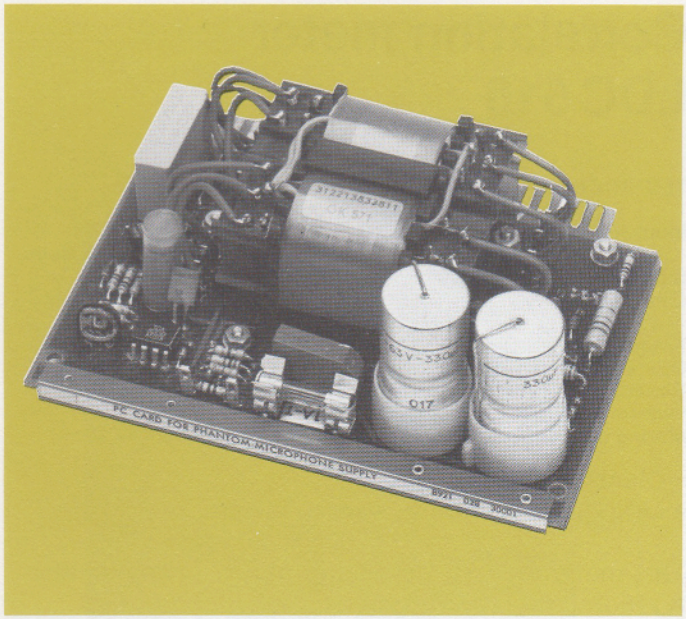
Plug-in supply unit LDC 280/10

TECHNICAL DATA

Mains voltage	110/127/220/240 V ± 10%
Mains frequency	50-60 Hz
Power consumption max.	160 W
Outputs	40 V =, max. 1.25 A (at 0 A 24 V =) 24 V =, max. 0.5 A and 12 V ~, max. 1 A or 24 V =, max. 2 A and 12 V ~, max. 1 A
Output resistance	40 V = ≤ 0.05 Ω 24 V = ≤ 0.5 Ω or 24 V = ≤ 0.05Ω
Residual ripple	10 mV_{p-p}
Dimensions in mm (w × h × d)	160 × 95 × 170
Ordering number	8921 028 00001
Mating connector	8921 087 90001

- **Short-circuit-proof • Stabilised output voltages**
- **Signal lamps for function monitoring**

The LDC 280/10 provides the stabilised d.c. voltages for the channel modules (40 V) and the accessory equipment (24 V), as well as the 12 V a.c. voltage for the phantom supply units and the signal lamps. Rewiring of the mating connector sets the unit for 24 V d.c. output only at increased output power, the 12 V a.c. output remaining unchanged.
The LDC 280/10 is protected against overload, short-circuit and increase of the output voltage.

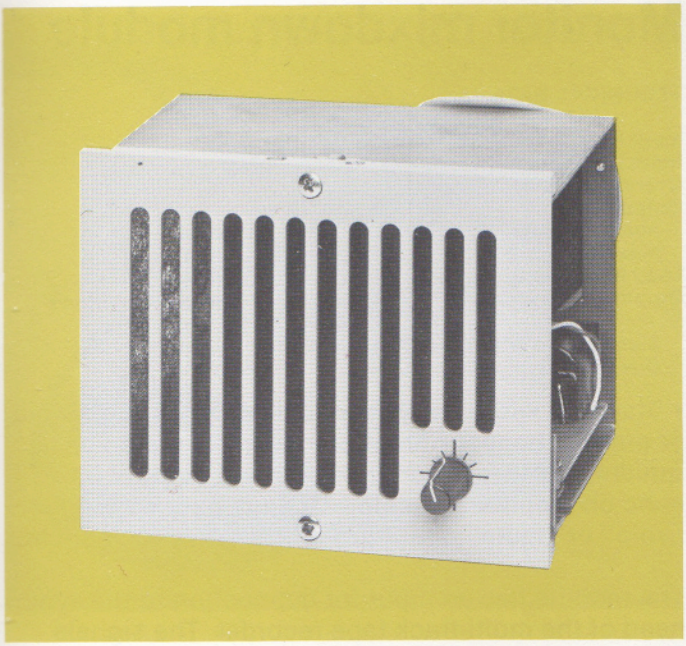


Phantom power supply unit LDC 283/00

TECHNICAL DATA

24 V operation	
Output voltage	24/9 V =
Max. output current	125 mA
Max. ripple	0.2 mV
48 V operation	
Output voltage	48 V =
Max. output current	20 mA
Max. ripple	5 mV
Operating voltage	12 V a.c., 50-60 Hz
Dimensions in mm (w × h × d)	116 × 60 × 80
Ordering number	8921 028 30001
Mating connector	5322 267 60023

The mixing desks of the LDC range are pre-wired for operation with a phantom supply plug-in card for condenser microphones.
The card provides a stabilised supply voltage of 24 or 48 V and is protected against increase of its output voltage.

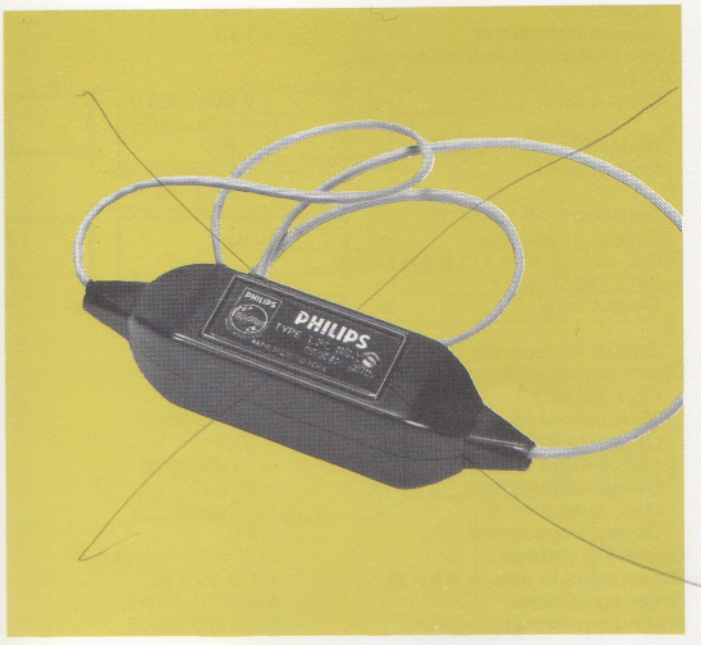


Pre-listening loudspeaker with amplifier

TECHNICAL DATA

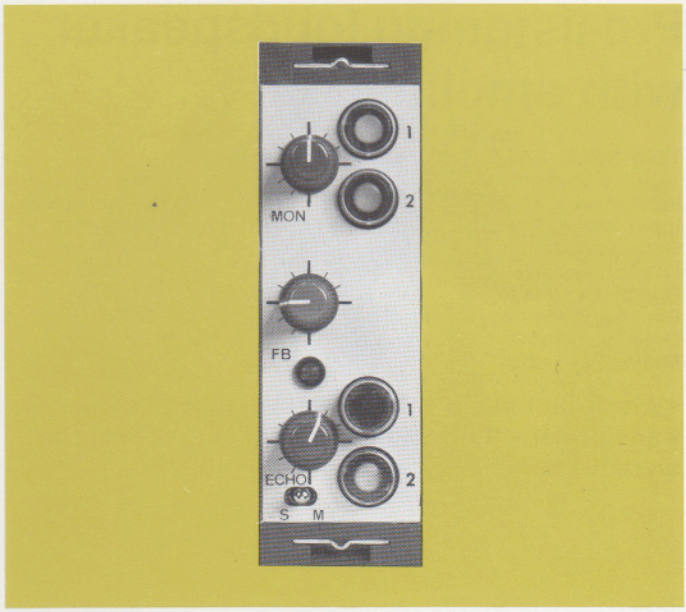
Input level	– 6 dBm (nominal value)
Input impedance	10 kΩ, unsymmetrical
Output power	3 W (cont. sine wave)
Load impedance	8 Ω
Operating voltage	24 V =
Dimensions in mm (w × h × d)	120 × 95 × 130
Ordering number	8993 202 13011
Mating connector	DIN 270°, 7-pin

• Amplifier built-in • Can be supplied with input transformer • Relay for input switching (2 sources) on request



Impedance converter

This is required for matching high-impedance signal sources (e.g. diode outputs of tape recorders) to the input channels of the desk. It is powered via a 48 W phantom circuit, in similar manner to condenser microphones.



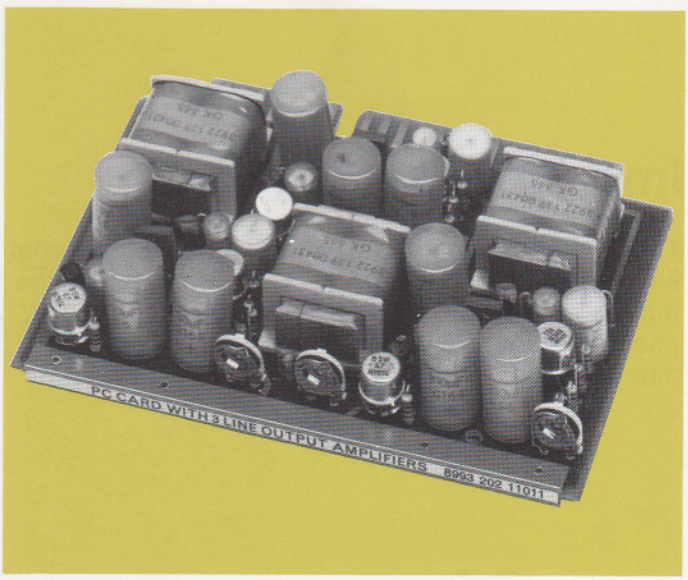
Monitor mixdown module

TECHNICAL DATA

Input level	+ 6 dBm
Input impedance	10 kΩ
Overload reserve	> 14 dB
Output	
nominal level	– 6 dBm
max. level	+ 20 dBm
Load impedance	≥ 600 Ω
Output impedance	10 Ω (auxiliary outputs 20 Ω)
Signal/noise ratio according to DIN 45405, typical	≥ 84 dB

• Standard width permits mounting in line with input or output channel • Monitor mixing for stereo or quadraphonic monitoring • Auxiliary outputs for echo on monitor and solo • Change-over switch for „solo" or „mute" operation of the mixdown module

The module has an input for connection to the sync. head of the multi-track tape recorder. The signals travel via a rotary monitor fader (or external sliding fader) and a monitor bus selector to two or four monitor mixing busbars. The input signal is also fed into the solo busbar via a second rotary fader. The reverberation output is tapped after the monitor fader and fed via another fader into two reverberation mixing busbars. The change from „solo" to „mute" is effected electronically; if no monitor mixing busbar has been selected, this switch operates in position „S" as pre-listening switch.

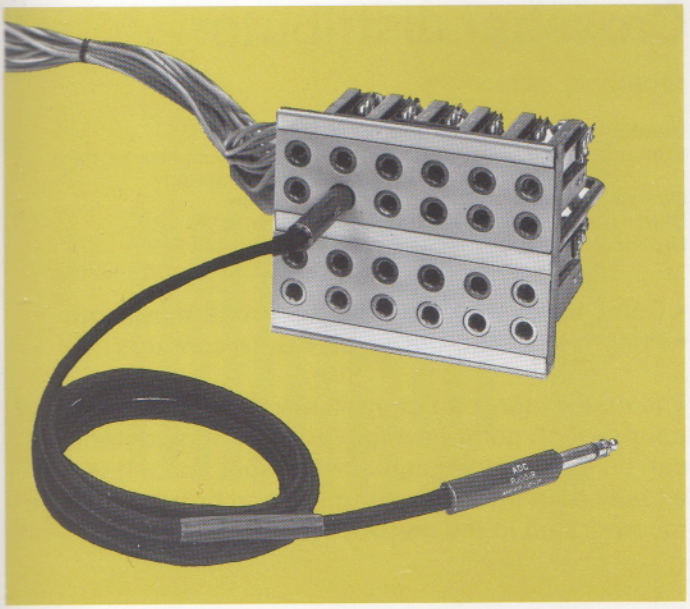


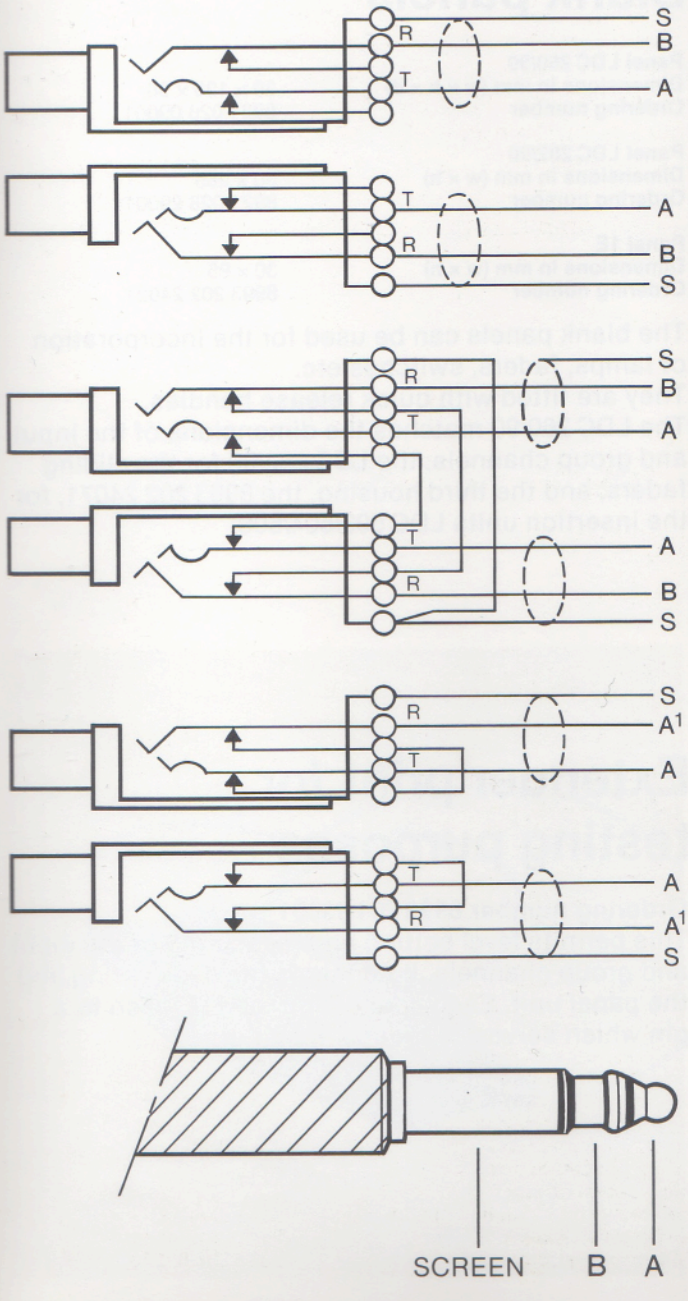
Plug-in amplifier card

TECHNICAL DATA

Input	
Level	– 6 dBm (nominal value)
Adjustment range	+ 5/ – 4 dB to nominal value
Impedance	≥ 10 kΩ unsymmetrical
Source impedance	< 1 kΩ
Output with built-in transformer LDC 285	
Output level	+ 6 dBm/300 Ω (nominal value)
Distortion (40-15.000 Hz)	≤ 0.1%
Output level	+ 12 dBm/300 Ω (max. value)
Distortion (40-15.000 Hz)	≤ 0.2%
Output impedance	40 Ω
Direct output with 1 : 1 transformer 3913 139 50560	
Output level	+ 21 dBm/600 Ω (max. value)
Output impedance	40 Ω
Direct output with transformer 8921 086 00001	
Max. output level	+ 24 dB/600 Ω
Output impedance	≤ 80 Ω or
max. output level	+ 18 dB/200 Ω
Output impedance	≤ 25 Ω or
max. output level	+ 12 dB/80 Ω
Output impedance	≤ 8 Ω
Operating voltage	24 V =
Dimensions in mm (w × h × d)	116 × 30 × 80
Ordering number	8993 201 11011
Mating connector	5322 267 60023

Patch panel





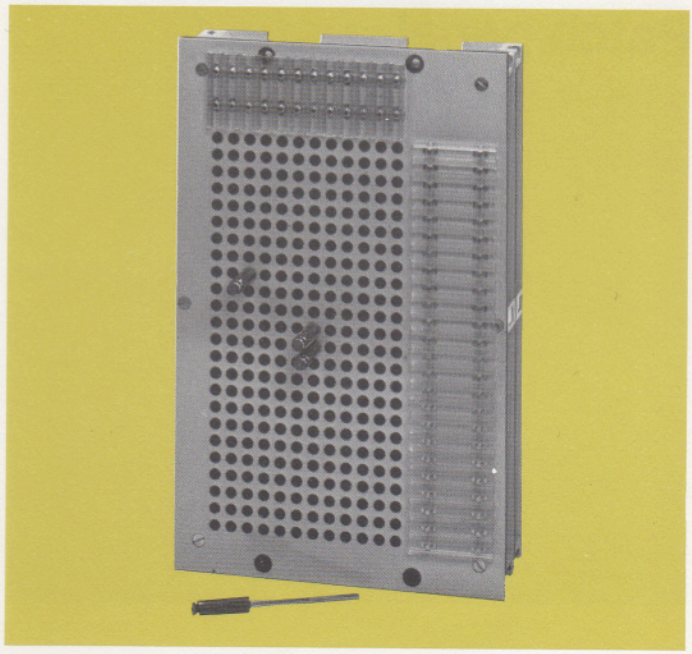
TECHNICAL DATA

Number of patch points	24
Socket type	Bayly NE 239-A
Material	nickel silver alloy, hard gold-plated
Contact raster	horizontal 20 mm vertical 16 mm
Dimensions in mm (w × h × d)	120 × 95 × 100
Ordering number:	
patch panel	8993 202 12011 *
cords	8222 306 86021
Plug type	ADC PJ 051 RM 642/2-2

* including wiring, length 2 m

• Twenty-four patch points • Standard, compact unit • Suitable for distributors of any required size • Cut-out switch per patchpoint • Gold contacts

This can be used as input-output or insertion distributor, in either case with one or two latches per connection. Standard cords of 1 m length are employed. The patch panel can be built into the metering hood or the control panel.



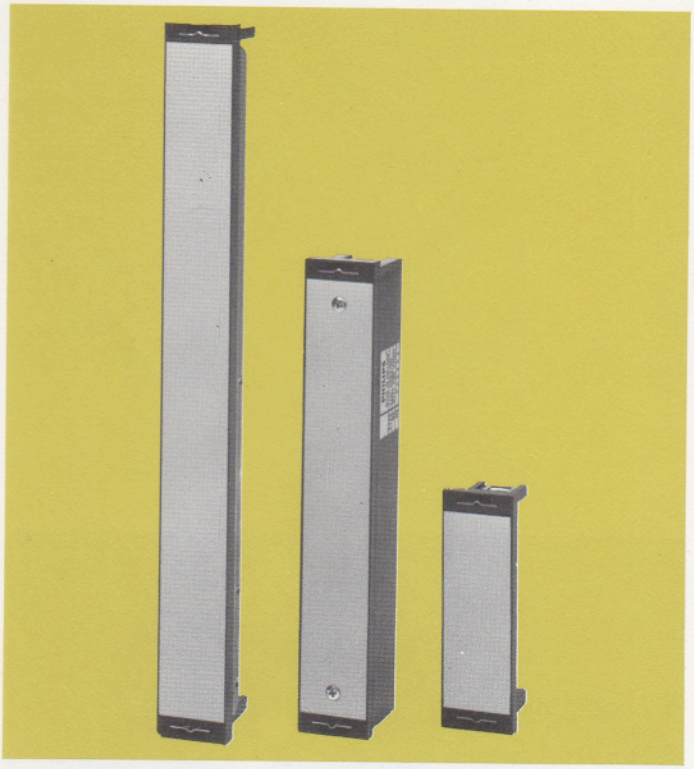
Crossbar distributor

TECHNICAL DATA

Number of crossbar points	24 × 12
Contact material	beryllium bronze, hard gold-plated
Contact raster	3 mm
Dimensions in mm (w × h × d)	120 × 190 × 60
Ordering number	8222 306 94570 supplied with 14 pins

• Compact construction • Low installation depth
• Push-in pins without cords • Gold contacts

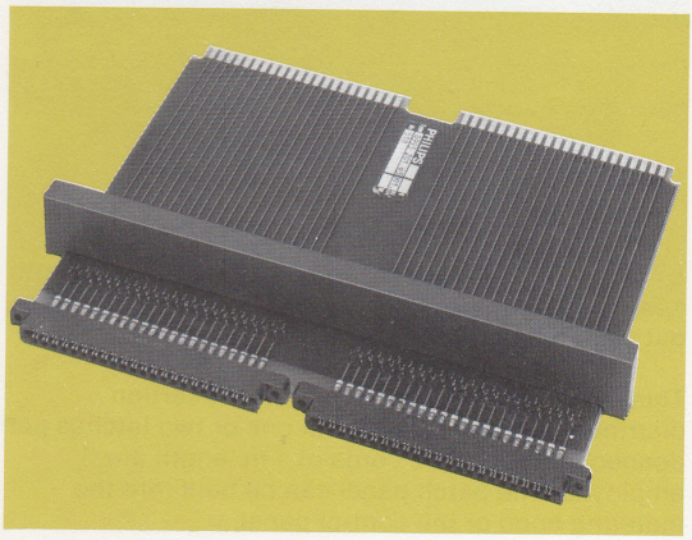
The distributor („Ghilmetti" make) comprises 24 × 12 points, each point having two operating contacts. It can be employed in input and output lines. It is usually built into the metering hood but can also be incorporated in the control panel.



Blank panels

Panel LDC 260/90	
Dimensions in mm (w × h × d)	30 × 190 × 30
Ordering number	8921 026 09001
Panel LDC 282/90	
Dimensions in mm (w × h)	30 × 285
Ordering number	8921 028 29001
Panel 1E	
Dimensions in mm (w × h)	30 × 95
Ordering number	8993 202 24021

The blank panels can be used for the incorporation of lamps, faders, switches etc.
They are fitted with quick release handles.
The LDC 260/90 matches the dimensions of the input and group channels; the LDC 282/90 for the sliding faders; and the third housing, the 8993 202 24071, for the insertion units LDC 503/504/506.



Extender print for testing purposes

Ordering number 8993 201 63001
This permits level setting and measuring of the input and group channels. It connects the desk wiring and the panel unit. Each connecting lead is taken to a pin which serves as measuring point.

Plug-in remote control card

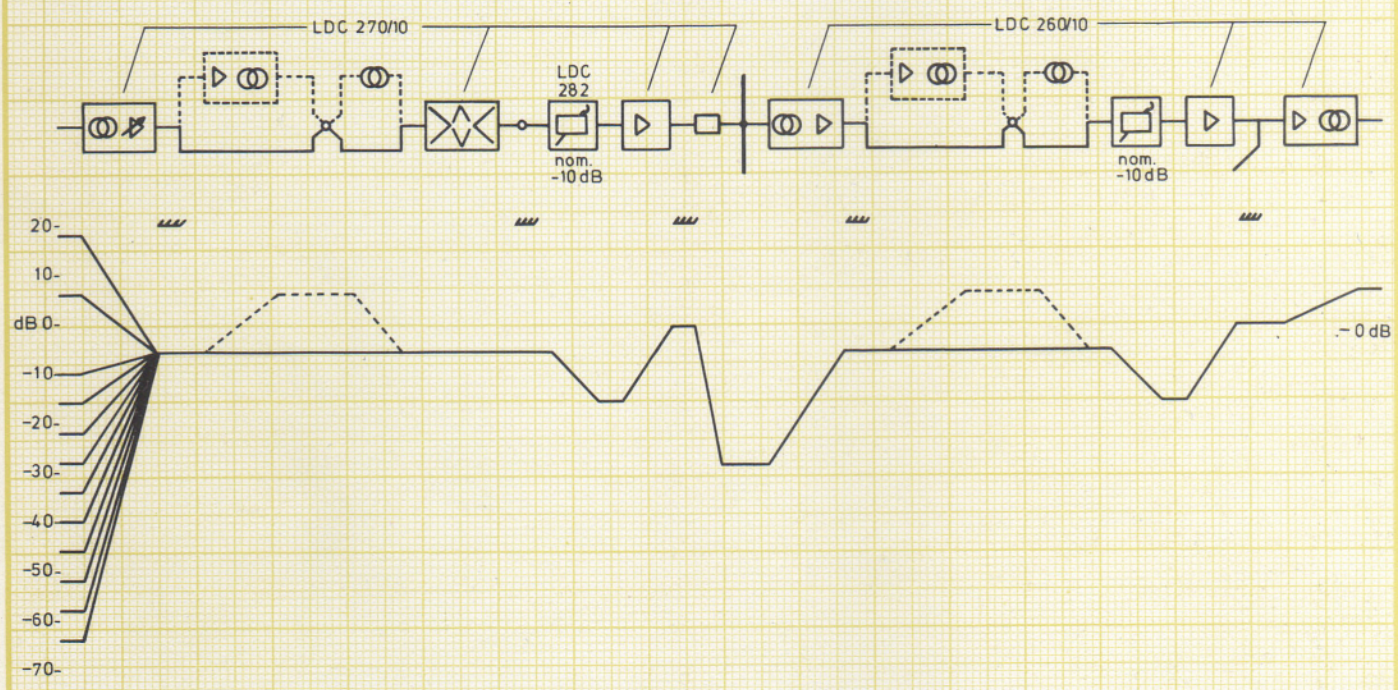
TECHNICAL DATA

Input level	≤ + 22 dBm
Input impedance	≥ 30 kΩ
Source impedance	≤ 600 Ω
Load impedance	≥ 600 Ω
Output impedance	≤ 10 Ω
Control range	> 100 dB
Frequency response (40 Hz-14 kHz)	within a 0.2 dB wide band
Distortion factor	< 0.1%
Crosstalk attenuation	≥ 90 dB
Signal/noise ratio according to DIN 45405	≥ 84 dB
Remote control by linear 100 kΩ fader with correction resistors	

- **Level control from any distance**
- **Takes over the function of the channel level control without noticeable deterioration**

The plug-in card contains three separate control circuits, each of which can be used in place of a fader. The technical data are largely in line with those of a passive fader.

LEVELDIAGRAM LDC MIXING DESK SYSTEM (EXAMPLE WITH 24 INPUT CHANNELS)



For further information contact your local Philips organisation (ELA dept.) or:

N.V. Philips' Gloeilampenfabrieken
Electro-Acoustics Division
Professional Audio
HBS EINDHOVEN - The Netherlands

3922 976 70012