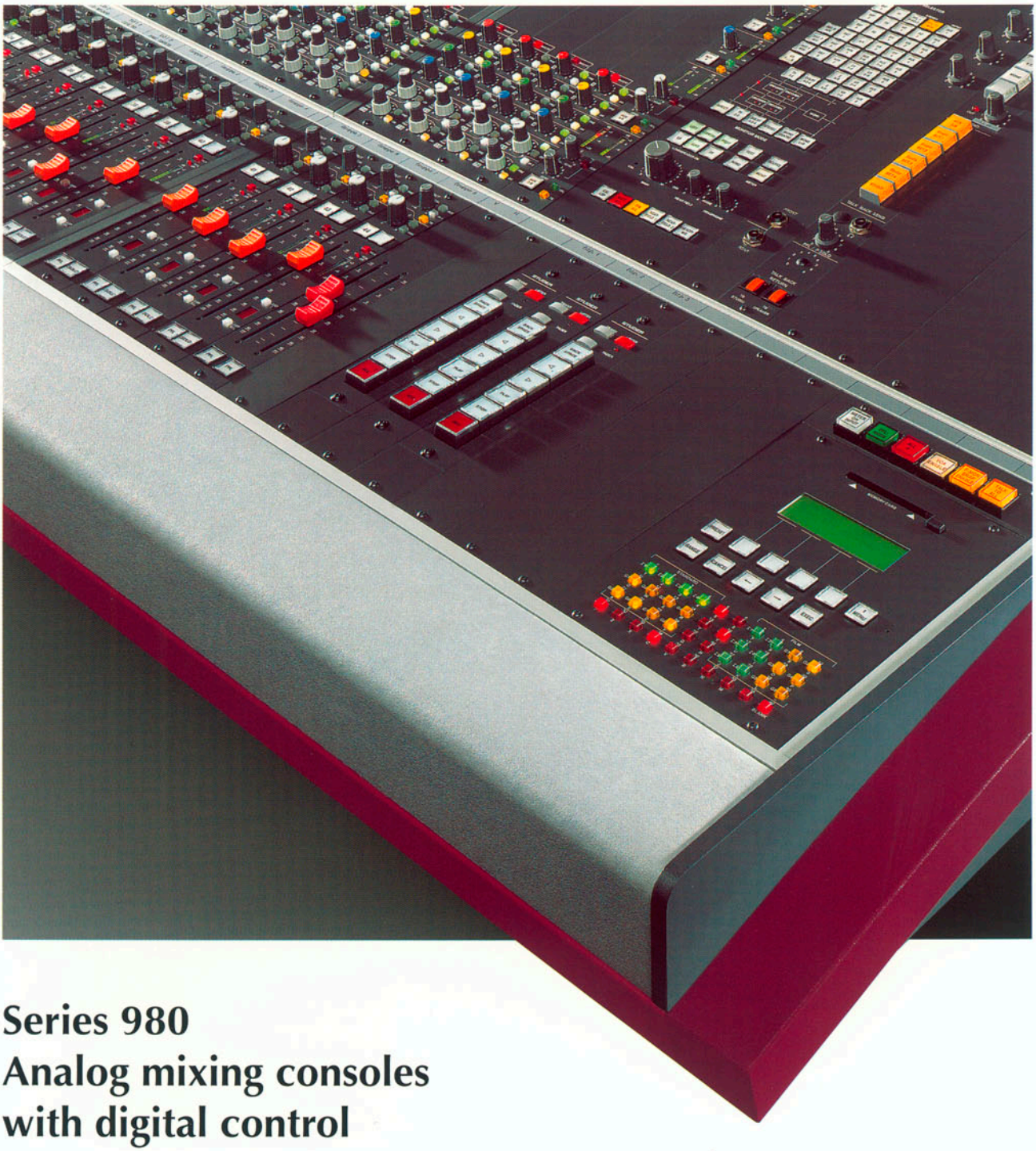
STUDER
PROFESSIONAL AUDIO EQUIPMENT



# Series 980
# Analog mixing consoles with digital control

# STUDER Series 980 – The future of the analog audio mixer technology

In the age of multichannel sound in films and television and at the dawn of multimedia technology, a completely new level of audio mixing performance is required. But also the «traditional» field of radio broadcasting has changed its requirements profile; direct and «n-1» outputs per channel are nowadays taken for granted. In addition, a large number of special requirements must be met.

STUDER offers the perfect answer: the 980 family of mixing consoles. Eight different types of input channels, four to six master buses, and almost 200 different special modules are available for configuring a system to any application



requirement. And the renowned audio quality of the STUDER mixing consoles has again been demonstrated by the newly developed microphone input stage.

A novel concept is the «top layer» automation that functions either statically (snapshot automation with information stored on a PCMCIA card the size of a credit card) or dynamically as an option (faders and mutes) with time code control. «Top layer» means «superposed»; that is, the mixing console can also be operated manually without automation (or if the automation system is defective).

This brochure illustrates the principal elements in the format 1:1 so that you can get an accurate picture of how functionally the controls and modules are arranged on the STUDER 980 series.



# Film/HDTV Module

The STUDER 980 mixing console is basically available in two versions:

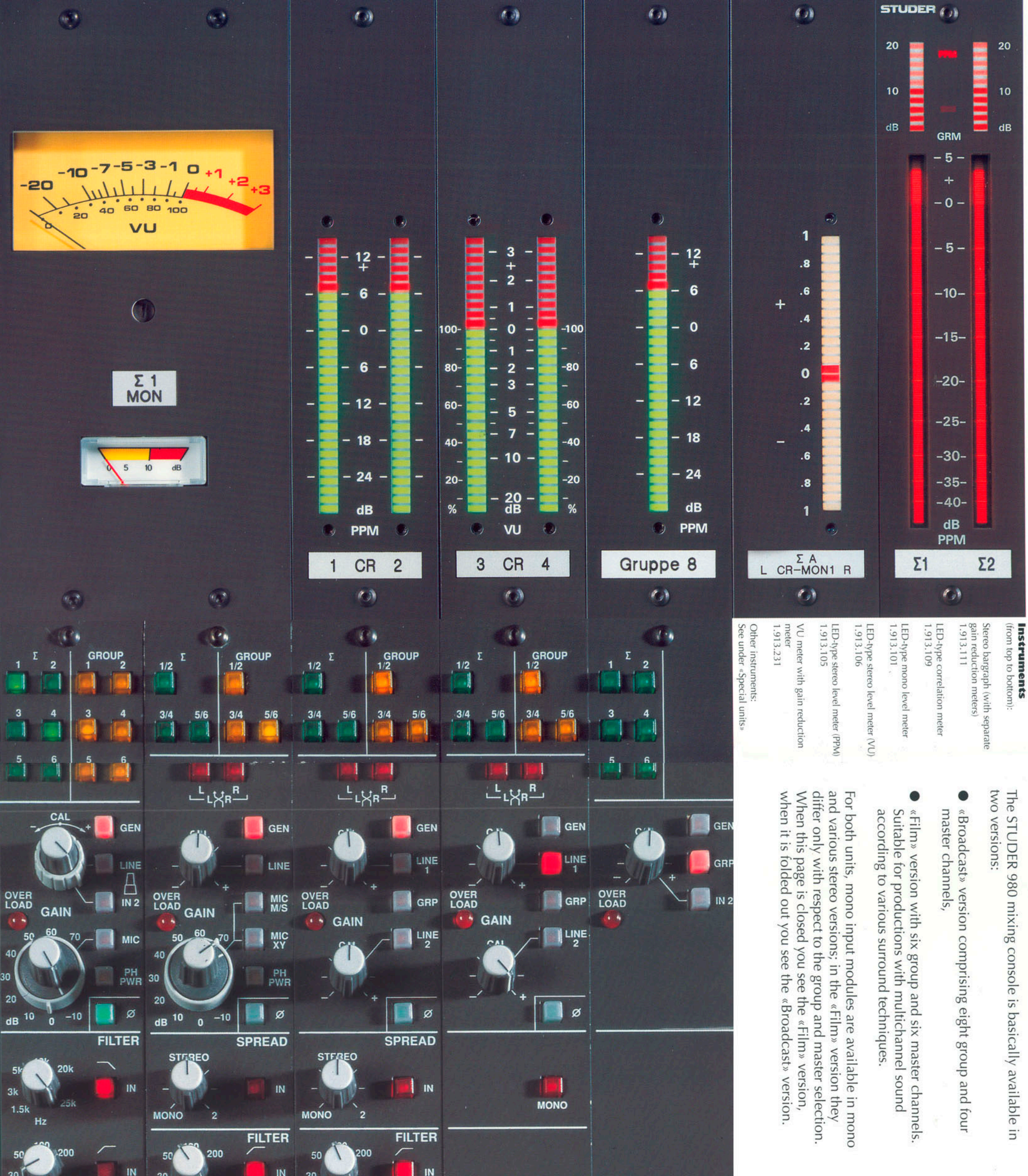
- «Broadcast» version comprising eight group and four master channels,
- «Film» version with six group and six master channels. Suitable for productions with multichannel sound according to various surround techniques.

For both units, mono input modules are available in mono and various stereo versions; in the «Film» version they differ only with respect to the group and master selection. When this page is closed you see the «Film» version, when it is folded out you see the «Broadcast» version.

**Instruments**
(from top to bottom):

| | |
|---|---|
| Stereo bargraph (with separate gain reduction meters) | 1.913.111 |
| LED-type correlation meter | 1.913.109 |
| LED-type mono level meter | 1.913.101 |
| LED-type stereo level meter (VU) | 1.913.106 |
| LED-type stereo level meter (PPM) | 1.913.105 |
| VU meter with gain reduction meter | 1.913.231 |

Other instruments:
See under «Special units»



# Broadcast / Recording Module

AUX master Module 1.980.310

(with transformer balanced outputs 1.980.320)

Group module 1.980.230

(for film/HDTV 1.980.231)

Stereo HL module without equalizer 1.980.242

(for film/HDTV 1.980.243)

Stereo HL input module 1.980.240

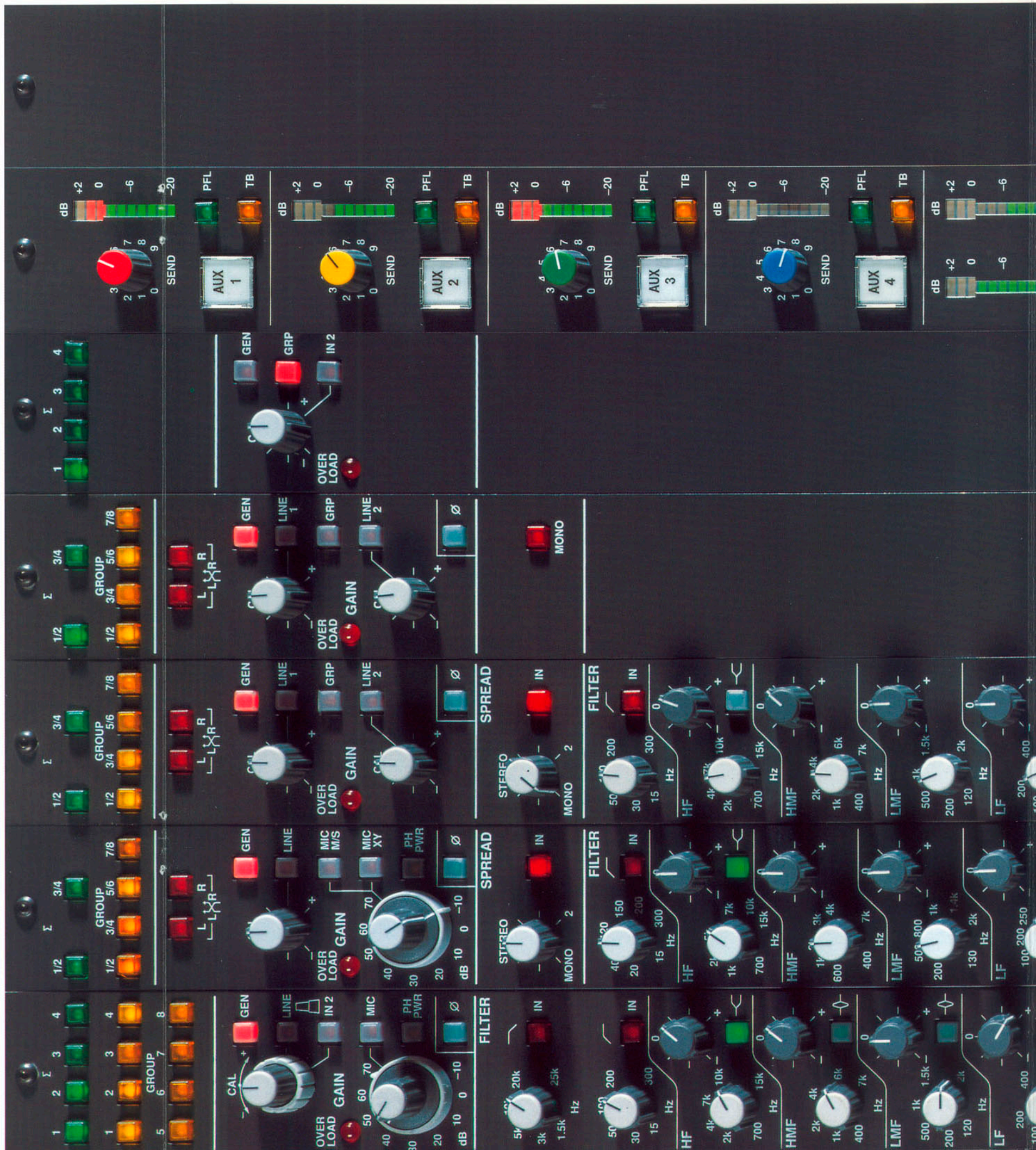
(for film/HDTV 1.980.241)

Stereo universal module 1.980.250

(for film/HDTV 1.980.251)

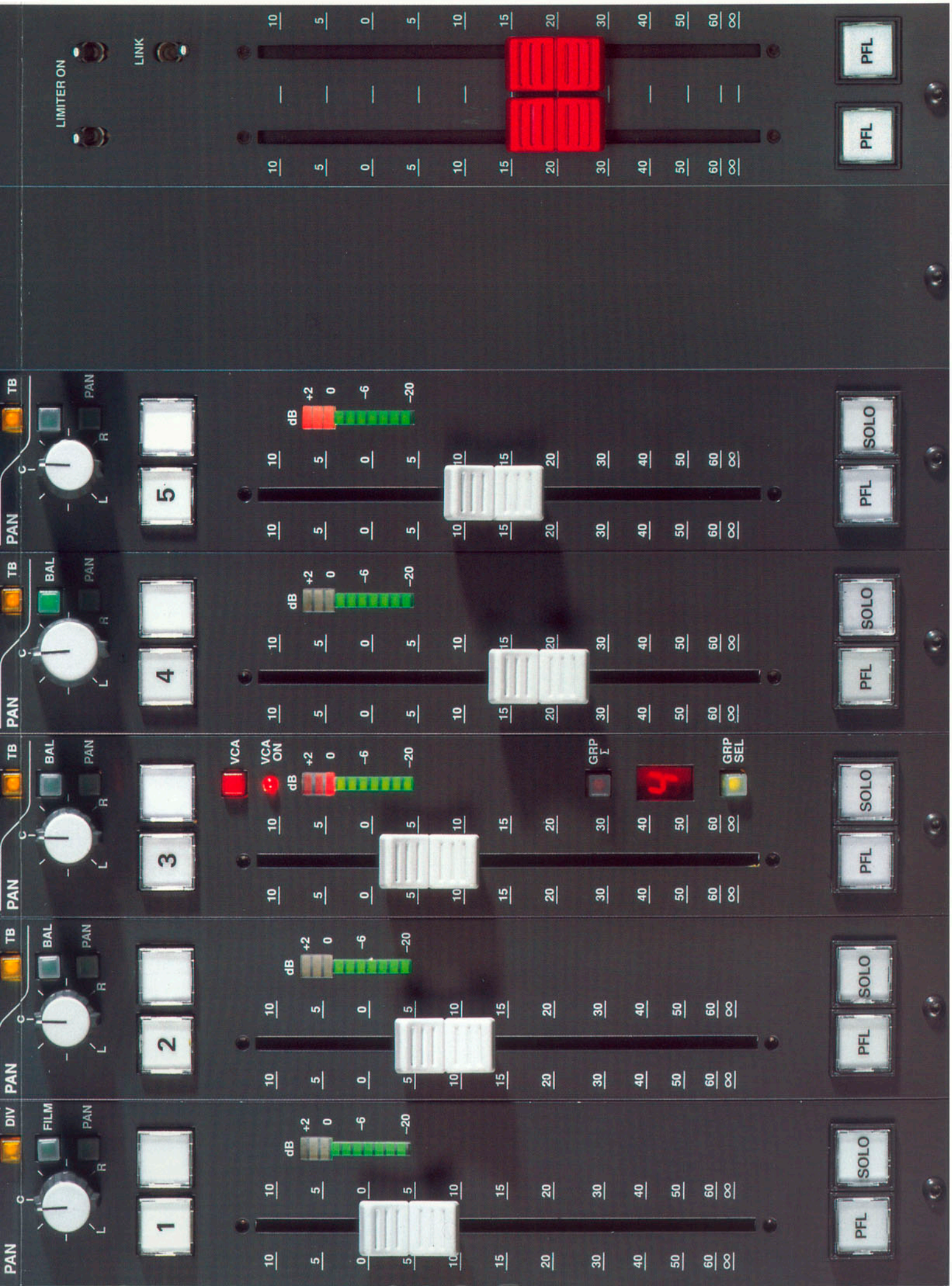
Mono module 1.980.220

(for film/HDTV 1.980.221)




EQUALIZER
INSERT
IN
AUX
PRE
ON
PAN
BAL
LINE
IN 2
LINE 2
DIVERGENCE
DIR OUT
CAL
N–1
FRONT
REAR
PAN
DIV
TB
dB
+2
0
–6
–20
C
L
R
2CH
BAL / SEND
SEND
AUX 5+6
AUX 7+8
PFL
TB

# Faders




Stereo master fader 1.980.181

avaliable also without limiter switch (1.980.180)
or two link switches (1.980.182)

Mono fader 1.980.110

also available as VCA fader (1.980.130) or as
motor fader (1.980.150)
film/HDTV version 1.980.111 (or 131 and 151 respectively)

Stereo fader with motor drive 1.980.160

Stereo fader with VCA 1.980.140

Stereo fader, normal version 1.980.120

Mono fader for film/HDTV 1.980.111

also available as VCA fader (1.980.131) or as
motor fader (1.980.151)

# Special Units

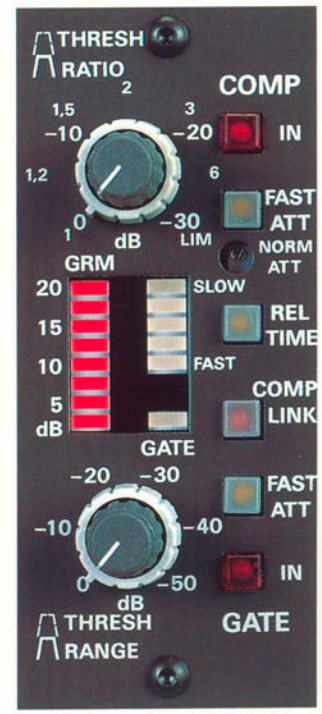



The large number of available special modules makes it easy to adapt the mixing console to a variety of applications. Almost 200 such modules are available.
The following summary shows only a small selection.

The special modules with a length of 170 mm include, for example:

- Stopwatch 1.913.310
- Pointer-type correlation meter 1.913.211
- Pointer-type peak voltage meter 1.913.221
- Test generator 1.913.150
- Remote control for tape recorders 1.913.503

A special dynamic unit with a height of 85 mm is avaliable that contains a limiter, compressor, and a gate. It can be installed above any channel unit; also central installation with patch panel distribution to individual stages is feasible. The most important static and dynamic parameters can be set. Automatic operation is available.
Part No.: 1.990.510



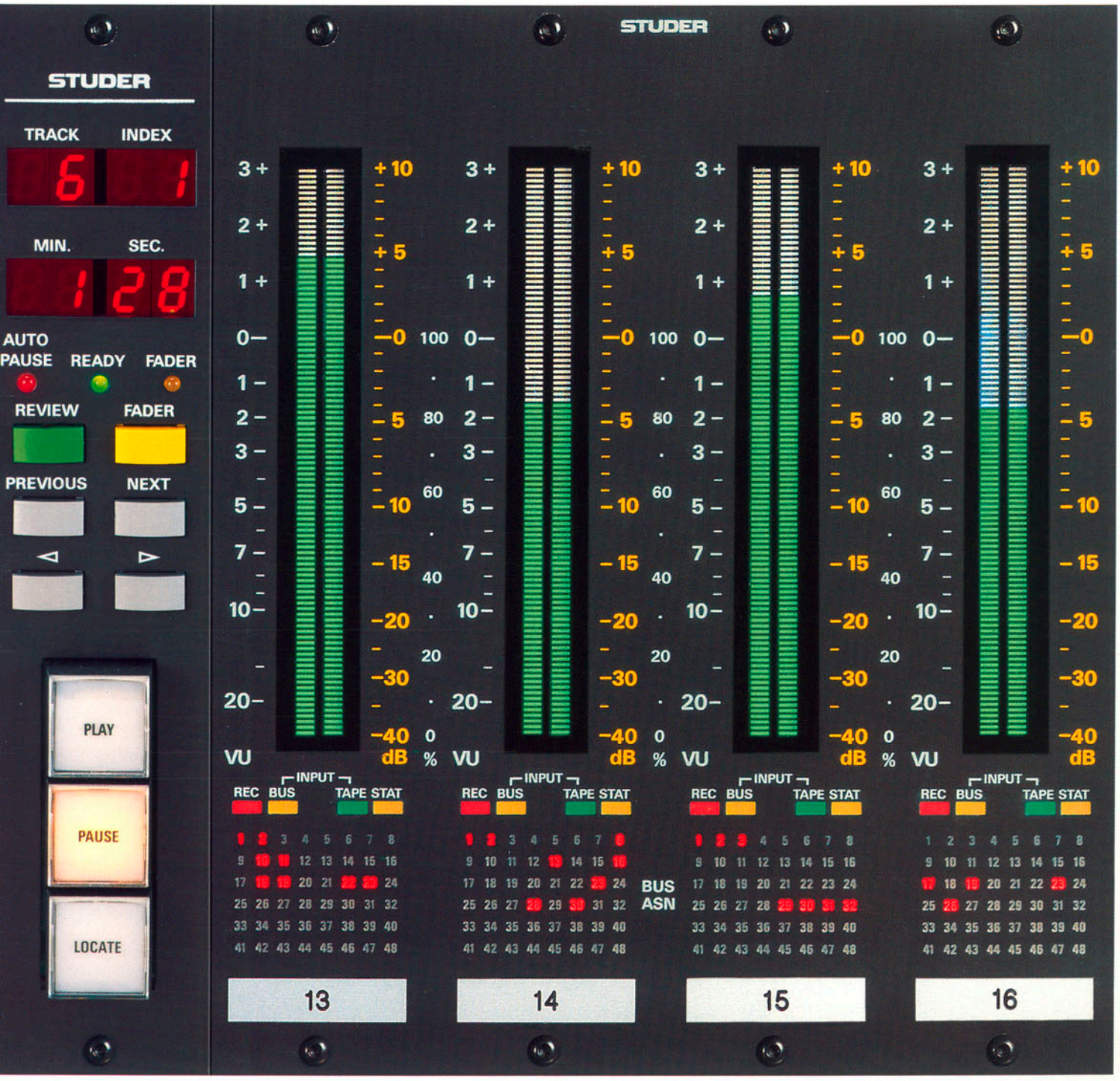






The special modules with a length of 190 mm include, for example:

- Remote control unit for R-DAT or CD player, 1.328.660
- Remote control unit for tape machines, 1.328.255
- Remote control unit with track and time indication, 1.630.900

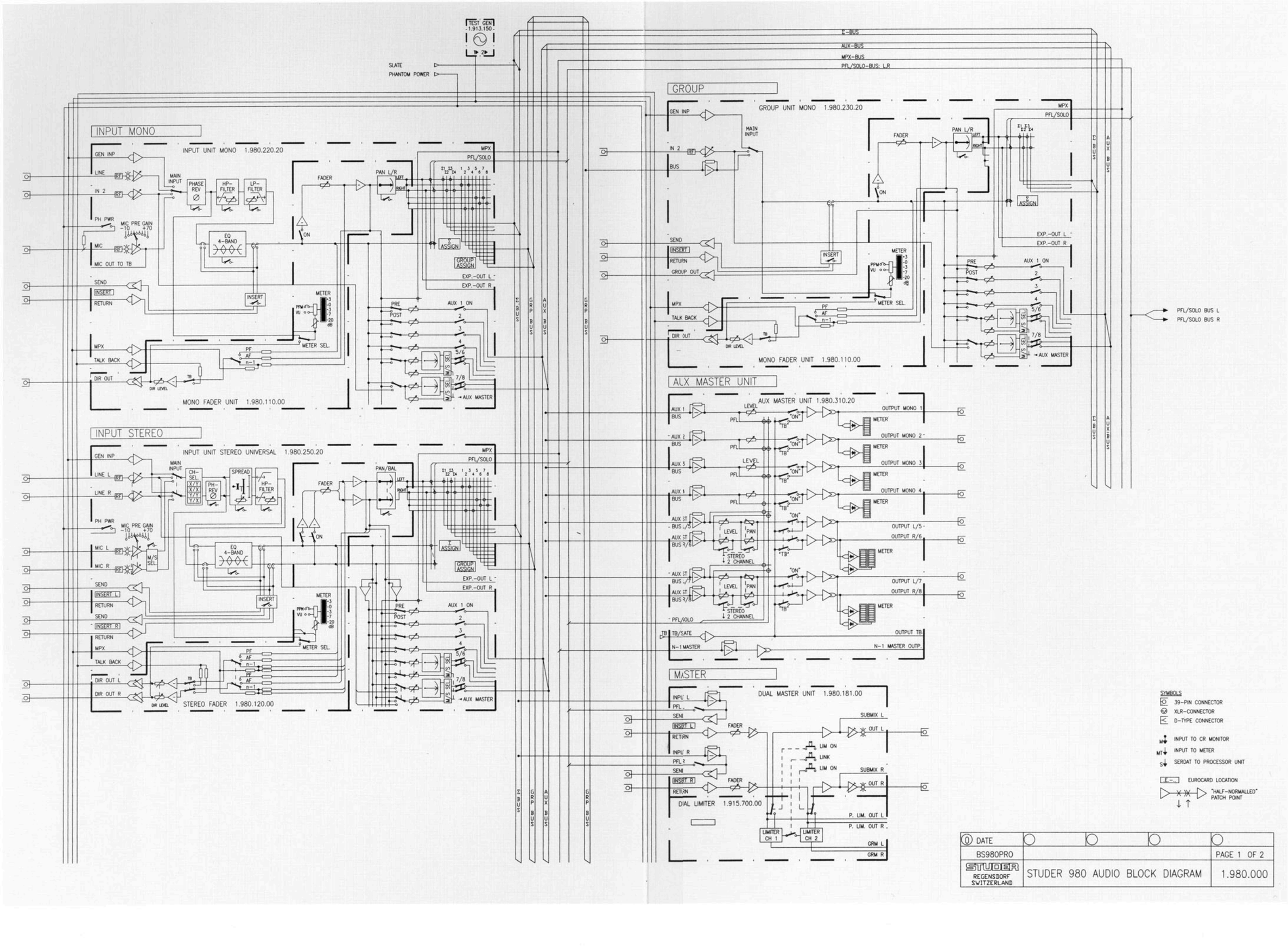



- Four-way output meter (bargraph) with track indication for the routing of outputs to a multitrack machine. With the aid of a relay board the 980 console can be extended to a multitrack production console. Also in-line versions are feasible.
  Part No.: 1.990.609.00

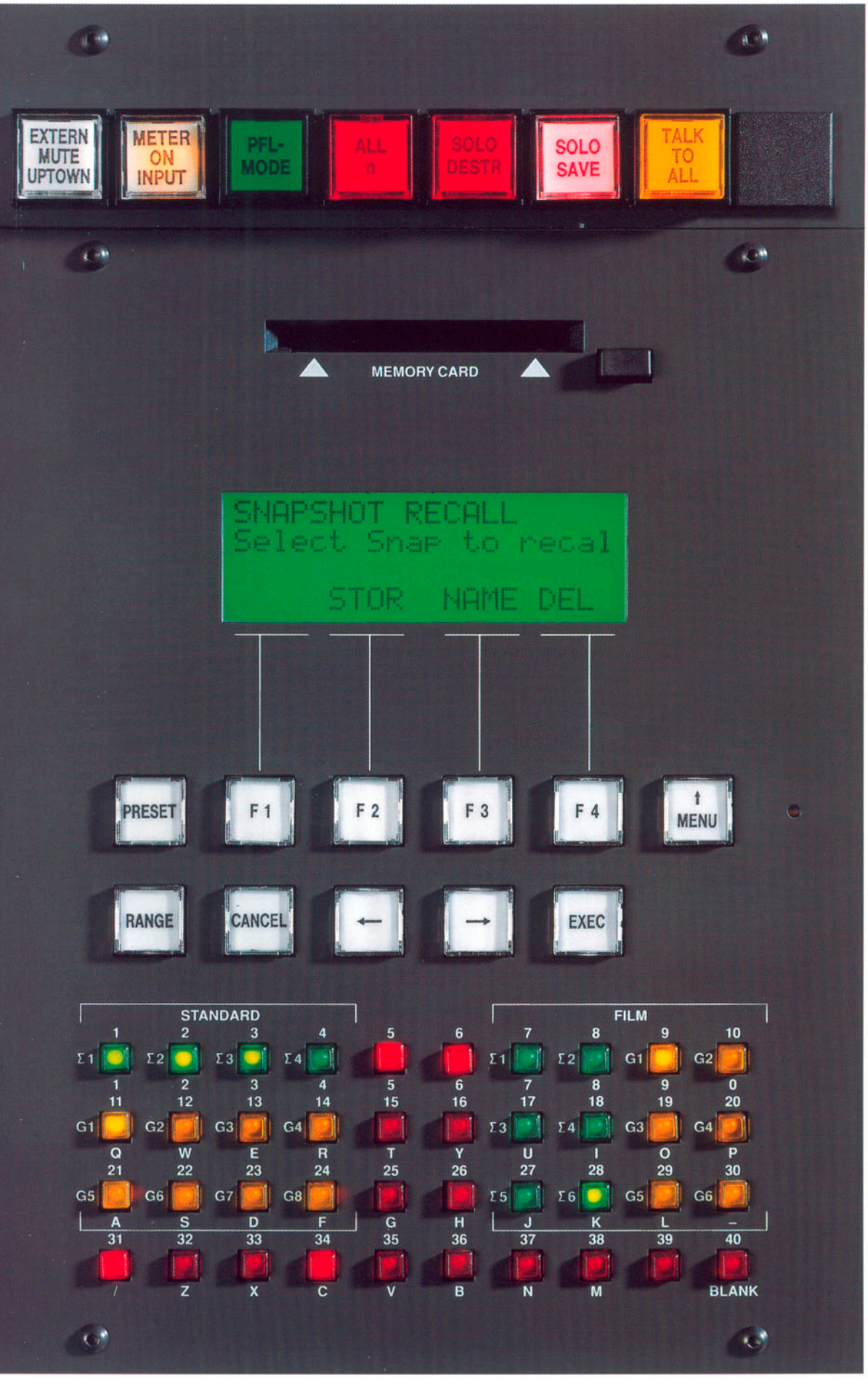
Different monitoring versions are available for the mixing console. In the «Broadcast» version the standard modules for the control room (top) and studio (center) are normally used. The latter module also contains the control elements for the talkback channel.

For the «Film» version a special monitor panel (bottom) is available. A source matrix allows monitoring of the mixing console information in mono to six-channels as well as monitoring of the surround channels in direct, encoded and decoded form and consequently offers quality control of the recording via the Codec links. The selected signal paths are clearly marked by LEDs. Individual speakers can be turned on and off. This panel is also able to control the near-field monitors.

# Block Diagram



# Snapshot automation



## Snapshot automation

On the Studer 980 all switch functions can be controlled through automation. A snapshot of the momentary mixing console state is stored. Different snapshots can be linked into sequences. Snapshots or sequences can be recalled as desired.

Identification labels can be assigned to the individual snapshots or sequences. These labels are entered either automatically or via a keyboard with a QWERTZ layout.

The same keyboard is also used for assigning the input stages to the groups, masters or multitrack buses.

The automation is menu controlled via softkeys.

## Dynamic automation

Dynamic control of the channel faders and the MUTE switches is available as an option.

## «Top layer» automation

The automation functions in a «top layer» configuration, that is, it is superposed on the manual operating level. For this reason automated mixing consoles can be operated without automation at any time, be it on request of the operator or in case of a malfunction.

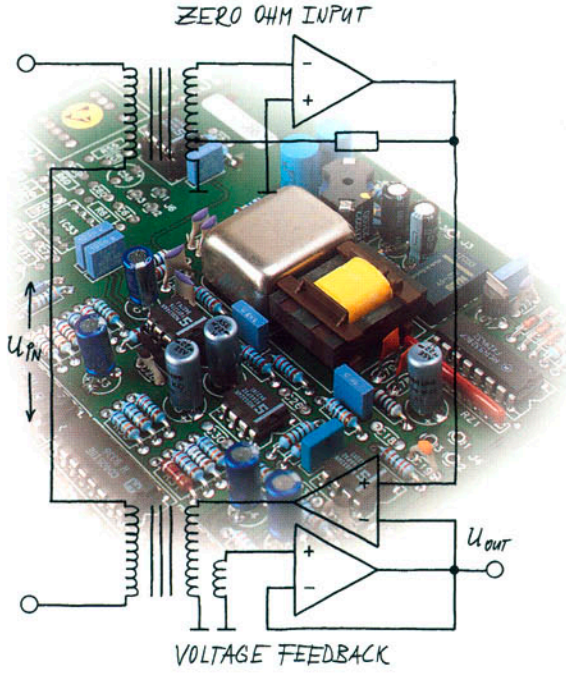
## PCMCIA memory cards

Snapshots and sequences can be stored on modern and very convenient PCMCIA cards. In this way each sound engineer can save his personal snapshots and sequences on an external medium. Nothing could be easier!

## Superb microphone input circuit

Maximum dynamic range, freedom of distortion as well as minimal basic noise were the design specifications of an input stage for the digital age. This objective has been met, the circuitry has been patented (USA, Europe and Japan).

Ratings: Lowest distortions within the entire dynamic range from –74 to +24 dBu, the impedance remains constant across the entire frequency range, and the noise figure is only about 3 to 4 dB. These perfect data have been achieved with a dual system of very small transformers and an actively controlled flux density.



# Functions

## HDTV / Film

**Output selection** of 6 groups and 6 masters.

**Mono module:** MIC input level –74 to +24 dBu; 2 line inputs, generator.

**Stereo high level module:** 2 Stereo line inputs, generator Channel selection/channel swapping/stereo width.

**Filter selection:** Mono: High and low pass filter; Stereo: High pass filter

**Equalizer:** 4-Band equalizer with shelving/peaking at the lower and upper frequencies. Q-changeover at the medium frequencies.

4 mono AUX outputs plus either 2 stereo or 4 additional mono AUX outputs.

**Stereo high level input unit with equalizer** >
**Mono microphone input unit with equalizer** >>



With the special HDTV/film faders it is possible to distribute and pan a mono signal to 4, 5 or 6 output channels. The width of the frontal sound image can be additionally modified with the divergence potentiometer. Direct output and «N-1» circuit are preserved in simplified form.

**Stereo VCA fader** >
**Mono VCA fader** >>



## New modules, specially designed for the latest requirements

These mixing consoles out of the 980 series have been built in the uncluttered and ergonomically favorable 40 mm format. To complement the existing compatible input and fader modules, several sets of new, specialized modules have been developed. These are perfectly matched to the current and future function requirements of live and post productions in:

**Radio broadcasting**

**Public address systems**

**Dolby Surround™**

**HDTV Video**

**Film**

## Radio Broadcasting/ PA Systems

**Output selection** with up to 8 groups and 4 masters.

**Mono module:** MIC input level –74 to +24 dBu; 2 line inputs, generator.
**Stereo module:** MIC input level –74 to +24 dBu, with XY/MS changeover, line input, generator, channel selection/channel swapping/stereo width.

**Filter selection:** Mono: high and low pass filter; Stereo: High pass filter

**Equalizer:** 4-Band equalizer with shelving/peaking at the lower and upper frequencies. Q-changeover at the medium frequencies.

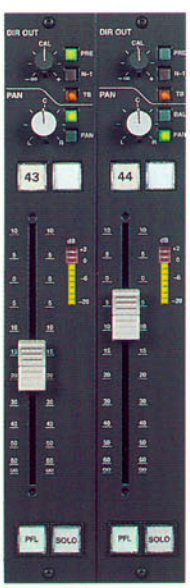
4 mono AUX outputs plus either 2 stereo or 4 additional mono AUX outputs.

<< **Mono microphone input unit**
< **Stereo microphone/ high level input unit**

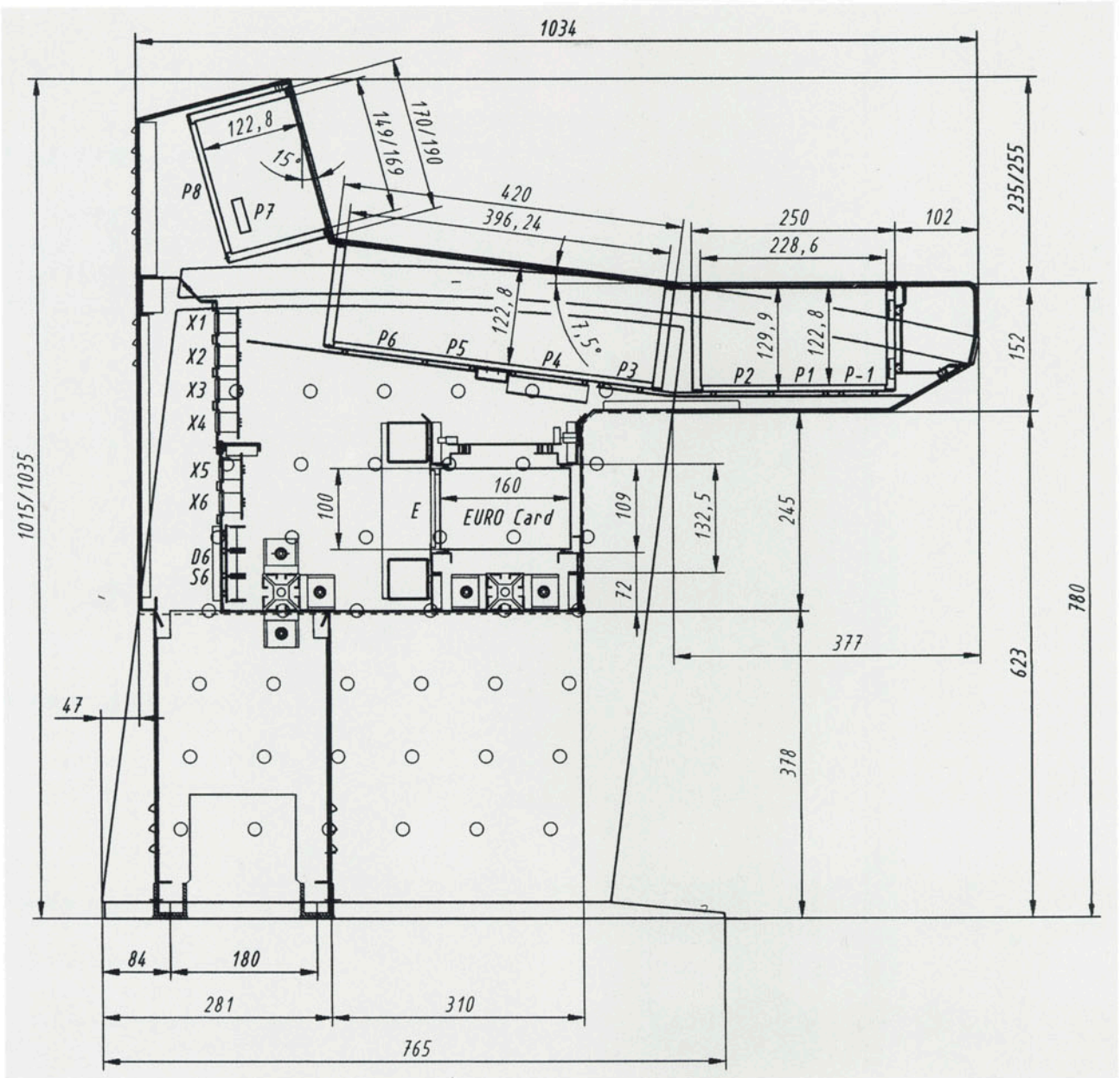


Particular attention has been given not only to the influencing of the level by the fader, but also to the output distribution. The stereo fader can be changed over between panorama and balance function. The direct output can be connected before or after the fader; «N-1» can be activated on any channel. There is a central facility that controls whether all channels or only those with selected «N-1» function are to be added.

<< **Mono fader**
< **Stereo fader**



# Dimensions




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