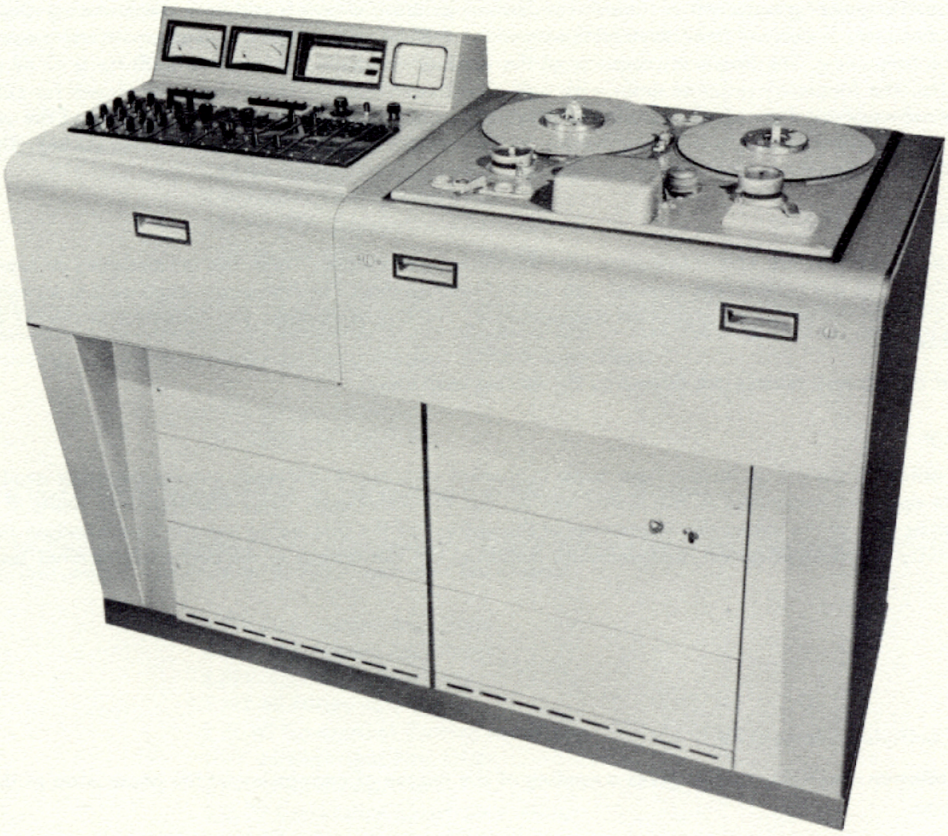
CONTROL CONSOLE SP 66 S MONO - STEREO

SP66S-910-02-00

Modern methods of cutting discs must fulfil a number of new and modern requirements. Commercial reasons demand that it should be possible to cut both STEREO and MONO discs from the same tape. In addition, STEREO discs must be compatible for use with MONO playback equipment. As a result of international agreements, many companies are forced to process tape recordings from countries with deviating standards. A guarantee must therefore be provided that when tape-to-disc transfer of such recordings is repeated, all variables can be reproduced with precision.



In recent years as a result of close cooperation with our customers a range of equipment has been developed which meets the above requirements. All this equipment together with a tape recorder incorporating a tape spacing arrangement for controlled cutting of grooves is conveniently grouped together in the SP 66 S control console. The console also contains all the equipment required for taking measurements and supervising the whole of the tape-to-disc transfer equipment.

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Playback Amplifier TW 20

The voltage generated in the playback heads is amplified in the TW 20 playback amplifiers. Each playback amplifier is associated with two WE 66 playback equalizers for NAB and CCIR. The relevant card is cut in by operation of a press button. Operation of the tape speed switch (19/38 cm/s) causes related automatic switch-over of the playback equalization system. The PEV equalizer amplifier contains high-pass, low-pass and presence filters. These permit corrections to be made during the tape-to-disc transfer.

Rotary Attenuator RR 66

The RR 66 rotary attenuator is designed as a two-channel system. The pre-listening channel and the modulation channel are controlled together. Adjustments can be made in steps of 0.5 dB within a range of ± 10 dB referred to the nominal level. Further steps are -15 dB, -20 dB and -∞.

On occasions it is desirable to adjust the level of the pre-listening channel at variance to the level of the modulation channel. A second control in RR 66 caters for this eventuality. Referred to the level of the modulation channel, a variant deviation of from -2 dB to +1 dB for the pre-listening channel can be set in steps of 0.5 dB. From +1 dB to +6 dB the deviation can be set in steps of 1 dB. Settings where the levels of the pre-listening and modualtion channels deviate from one another are indicated by a red lamp in RR 66.

Compatibel Cutting Equalizer EE 66

An EE 66 compatibel cutting equalizer is included in both modulation channels and both pre-listening channels. Here the vertical component is derived from the information of the left-hand and right-hand channels and processed as a function of the frequency. The frequency response of the vertical component referred to 1000 Hz is -3 dB at 150 Hz. Beneath 150 Hz, the frequency response drops with 6 dB / octave. This equipment can be employed for cutting "compatible" stereo discs, i.e. discs which can also be played back with MONO pickups. Restriction of the vertical amplitude at low frequencies results in a lengthening of the maximum playing time due to space saving. The influence of the compatibel cutting equalizers can be switched off.

High-Low Pass Filter HT 66

HT 66 high-low pass filters are also incorporated for additional corrections. These too are designed as two-channel systems. Pre-listening and modulation channels are controlled together. The frequency response can be cut off with a gradient of 12 dB/octave below the transition frequencies 8, 11.2 and 15 kHz. The influence of the HT 66 systems can be switched off.

The outputs of the control console are formed by PV 46 line amplifiers.

Level Indicator

The level is indicated via a J 55 double light beam instrument with two PTMV peak volume indicator amplifiers. Two VU-meters are operated in parallel to this system via VU 66 VU-meter amplifiers. The technical limits of the level control system as well as the subjective impression of the volume of the disc being cut can be supervised in this manner. A sensitivity switch-over system is provided for matching the instruments to the particular nominal level.

Correlation Coefficient Meter U 79

The U 79 correlation coefficient meter gives a reading of the degree of correlation of the phase state of the two stereo channels.

Test Oscillator

A PPG test oscillator is incorporated for testing purposes. A test voltage can be fed in at all inputs via cut off jacks.

Monitor Outputs

Two variable 0-dB-outputs are available for monitoring tests. These can be employed for monitoring a series of test points and the outputs of the control console as well as the outputs of the playback amplifiers of the connected amplifier equipment for the cutterheads. Two AV 66 loudspeaker amplifiers can be incorporated in the control console on request.

All amplifiers and instruments contained in the control console are equipped with silicon transistors. They are designed either as card amplifiers on printed circuits or when equipped with controls as mixing console modules.

The following equipment and instruments are contained in the control panel:

4 PEV Equalizer Amplifiers
2 RR 66 Rotary Attenuators (two-channel)
2 HT 66 High-Low Pass Filters (two-channel)
2 PTMV Peak Volume Indicator Amplifiers
1 J 55 Double Light Beam Instrument
2 VU-meters
1 Correlation Coefficient Meter
1 Press Button Assembly for operational switching
1 Press Button Assembly for switching test and monitoring systems
Switch for test circuit sensitivity
AR 66 Monitor Attenuator
1 Telefunken Magnetophon M 10A with special tape spacing arrangement

The control console in its standard form is equipped for playback of MONO and STEREO tapes. The "Magnetophon" is therefore equipped with special interchangeable head assemblies for MONO and STEREO.

The power supply is accomodated on the right hand side of the console frame. In the standard design, two component-assembly supports with the following plug-in units are situated on the left hand side:

4 TW 20 Playback Amplifiers
8 WE 66 Playback Equalizers (NAB/CCIR) with 19/38 cm/s change-over arrangements
4 PV 46 Line Amplifiers
2 EE 66 Compatible Cutting Equalizers
2 VU 66 VU-meter Amplifiers
1 U 79t-100 Correlation Coefficient Meter
1 UE 66 Switching Spark Suppressor

If the "Magnetophon" incorporated in the SP 66 S control console is also intended for recording purposes, a further component-assembly support can be accommodated in the console frame to take the plug-in units required for recording. The following amplifiers are required for producing STEREO recordings:

2 TA 20 Record Amplifiers
1 TL 20 Erase Oscillator

In addition the special head assembly must be replaced by a standard head assembly.

The SP 66 M MONO control console is fully designed for STEREO purposes but is only equipped for MONO usage. The following instruments, required for STEREO operation are absent:

2 TW 20 Playback Amplifiers
4 WE 66 Playback Equalizers
2 PEV Equalizer Amplifiers
1 MR 66 Rotary Attenuator
2 EE 66 Compatibel Cutting Equalizers
1 HT 66 High-Low Pass Filter
2 PV 46 Line Amplifiers
1 U 79 Correlation Coefficient Meter
1 VU 66 VU-meter Amplifier
1 VU-meter
1 PTMV Peak Volume Indicator Amplifier

The J 55 double light beam instrument is also employed in the MONO control console to avoid unnecessary extra cost on conversion of the equipment to STEREO. The "Magnetophon" is equipped with a special MONO head assembly. The record amplifier and erase oscillator can be incorporated on request. In addition the special head assembly must be replaced by a standard head assembly.

The tape spacing arrangement is adjustable. The tape length between the heads is therefore variable. The following table provides information on the relationship between the turntable speed, the tape speed and the tape length between the heads:

	33 1/3 rpm	45 rpm
19 cm/s	21 cm	16 cm
38 cm/s	42 cm	32 cm

Technical Data

Tape speed	38.1 cm/s and 19.05 cm/s
Tape width	6.25 mm
Head assembly	Special head assembly, MONO or STEREO for variable groove pitch control
Equalization	Switch-over facilities for two different tape flux standards CCIR - NAB
Output	0 dB ≙ 775 mV
Maximum output level	+16 dB
Signal-to-noise ratio	
unweighted	≧ 65 dB
weighted	≧ 70 dB (DIN 45 405)
Input for recording	balanced floating
Input resistance	≧ 2000 Ω
Input level	+ 6 dB
Remote control facilities	Start, Stop
Output level of complete system	0 dB across 600 Ω
Maximum output level	+ 21 dB
Output level (monitoring)	0 dB across approx. 2.7 kΩ
Power supply	Variable 110 ... 240 V, 50/60 Hz approx. 400 W
Dimensions	1,410 mm wide, 600 mm deep, 1,150 mm high
Weight	Approx. 300 kg