

Dynacord

17 WATT
UNIVERSAL HI-FI
MIXING AMPLIFIER



**7-stage Mixing Amplifier * 3 Channels able to be mixed *
8 Inputs * 4 Inputs with Key Switching
Separate Treble and Bass Controls * Total Volume Control *
Level Control for 4 Inputs * All Inputs to be used with and
without Echo and/or Reverberation ***

MV 17

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General remarks

The Mixing Amplifier "MV 17" replaces the earlier "MV 15", which, because of its good technical properties and its small dimensions, had enjoyed particular popularity. The "MV 17" marks a great improvement over the "MV 15". According to the latest minimal claim in Hi-Fi for amplifiers, it is to be regarded as a genuine Hi-Fi unit.

Sound-film and tape-recorder fans today are eager for home use of high-value amplifiers of small output and great mixing possibilities; therefore, in accord with these requirements, suitable equipment has been designed. To make the amplifier especially versatile, it was provided, in consideration of the use in the orchestra-electronic, with the in- and out-puts required there, e.g., a connection for and corresponding sound possibilities through Echo/Reverberation units.

The input selector switch allows by means of keys a rapid change of sound voltage sources, which is significant in use with orchestras. The mixing possibilities of the three amplifier channels, as well as the Total Volume Control, are of special interest to both the musician and the tape-recorder or sound-film fan.

By reason of its interesting general concept, as well as by its pleasing appearance, the Hi-Fi Mixing Amplifier "MV 17" is a worthy enrichment of the extensive DYNACORD range of equipment.

The "MV 17" is an amplifier of many-sided applications. For full utilization of its multiple possibilities, a precise study of the directions for operation is recommended.

Service instructions, abridged

1.) Mains connection

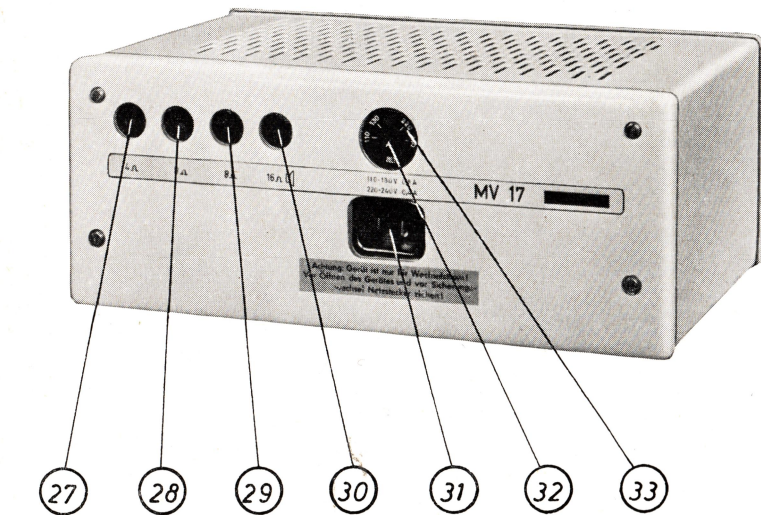
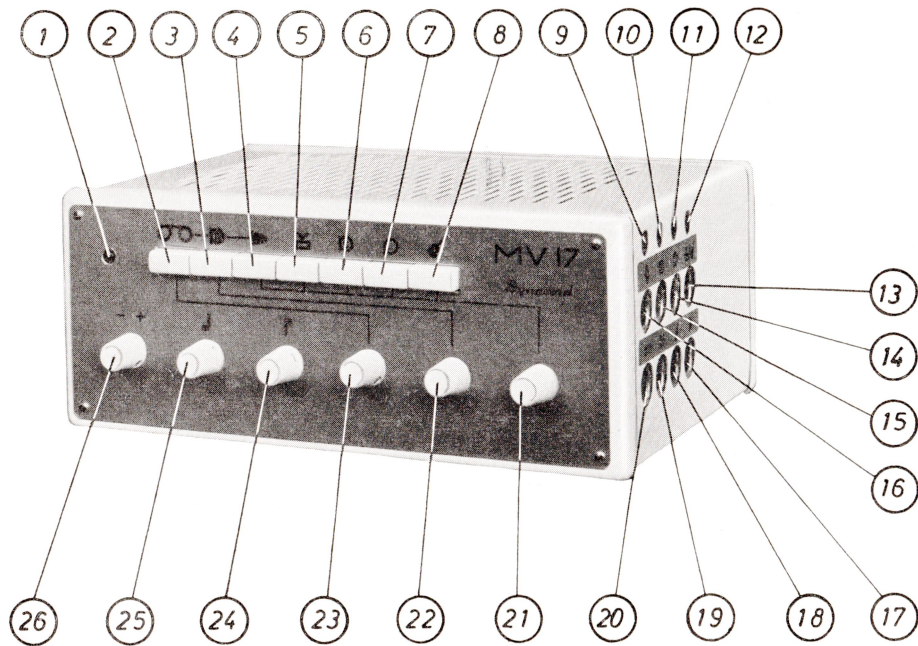
- Check local mains connection
- Set mains voltage selector ③③ (on 220 volts factory-delivered)
- Connect mains cable to socket ③①
- Switch on mains switch ②⑥ (right turn of Total Volume Control)
- Signal lamp ① lights up
- In case of trouble, replace mains fuse by screwing out fuse base ③② by means of a screw driver
- Caution! Use only the correct fuse elements. In case of repeated deficiency, consult a specialist.

2.) Inputs

- Channel I: jack ①⑨ = dynamical microphone (200 ohms)
- Channel II: jack ①⑧ = guitar
①⑥ = sound-film (in- and out-put)
①⑤ = crystal microphone
①④ = sound pick-up
①③ = radio (electrobass)
- Channel III: jack ②⑦ = tape recorder unit (in- and out-put)
- Connection for Echo/Reverberation unit jack ①⑦ with red dot (in-and out-put)

3.) Outputs

- For loudspeaker with 4 ohm impedance = jack ②⑦
For loudspeaker with 8 ohm impedance = jack ②⑧ and ②⑨
For loudspeaker with 16 ohm impedance = jack ③⑦
Sample connection: two DYNACORD loudspeakers, of type „SUS 18" with 15 ohm impedance each, on jacks ②⑧ and ②⑨. Thus the correct parallel operation is achieved.



Code number explanations

- ① = Signal lamp
- ② = Echo/Reverberation switching key for "Tape Recorder" input
- ③ = Echo/Reverberation switching key for "Dynamical Microphone" input
- ④ = Echo/Reverberation switching key for remaining inputs
- ⑤ = "Radio unit" key
- ⑥ = "Crystal Microphone" key
- ⑦ = "Sound Pick-up" key
- ⑧ = "Guitar" key
- ⑨ = Level Control for Film Sound-Tracking Playback
- ⑩ = Level Control for Crystal Microphone
- ⑪ = Level Control for Sound Pick-up
- ⑫ = Level Control for Radio unit (or Electrobass)
- ⑬ = Input Jack for Radio unit (or Electrobass)
- ⑭ = Input Jack for Sound Pick-up
- ⑮ = Input Jack for Crystal Microphone
- ⑯ = In- and Out-put Jack for Sound Trackfilm
- ⑰ = In and Out-put Jack for Echo/Reverberation unit (with red dot)
- ⑱ = Input Jack for Guitar
- ⑲ = Input Jack for Dynamical Microphone
- ⑳ = In- and Out-put Jack for Tape Recorder
- ㉑ = Volume Control for Inputs ⑬ ⑭ ⑮ ⑱
- ㉒ = Volume Control for Dynamical Microphone
- ㉓ = Volume Control for Tape Recorder Playback
- ㉔ = Treble Control
- ㉕ = Bass Control
- ㉖ = Total Volume Control with Mains Switch
- ㉗ = Loudspeaker Jack 4 ohms
- ㉘ = Loudspeaker Jack 8 ohms
- ㉙ = Loudspeaker Jack 8 ohms
- ㉚ = Loudspeaker Jack 16 ohms
- ㉛ = Mains Connection Socket
- ㉜ = Fuse Base
- ㉝ = Mains Voltage Selector

4.) Controls

- a) Channel I = dynamical microphone
Volume: control ②② and Total Volume Control Control ②⑥ (after right turn from the 0-position = Mains "One")
Tone control: Bass = Control ②⑤
Treble = Control ②④
Operation Echo/Reverberation: Key ③ pressed down
- b) Channel II = guitar, sound-film, crystal microphone, sound pick-up, radio
Volume: Control ②① and Total Volume Control ②⑥ (after right turn from 0-position = Mains "One")
Tone Control: Bass = Control ②⑤
Treble = Control ②④
In addition to Key ④:
Echo/Reverb. operation: Key ⑤ for radio
Key ⑥ for crystal microphone
Key ⑦ for sound pick-up
Key ⑧ for guitar
Level Setting: Control ⑨ for sound-film play-back
Control ⑩ for crystal microphone
Control ⑪ for sound pick-up
Control ⑫ for radio (or electrobass)
- c) Channel III = Tape Recorder Unit
Volume : Control ②③ and Total Volume Control ②⑥ (after a right turn out of the 0-position = Mains "One")
Tone control: Bass = Control ②⑤
Treble = Control ②④
Echo/Reverb. operation: Key ② pressed down

Service instructions in detail

1.) Mains connection

At delivery from the factory the unit is set on 220 volts (for A. C. only!). Switching over to another voltage is done by means of the voltage selector ③③ on the back of the unit. By means of a suitable screw driver the central cap ③② on the voltage selector ③③ has so to be turned toward the inside direction that, while a slight pressure is applied, the marking points to the desired mains voltage.

The mains fuse is incorporated in the centrally placed switch-over cap ③② of the voltage selector. When the cap is so rotated that the marking points in the direction of the groove in the voltage selector, the cap comes off so that the fuse which is placed beneath becomes accessible.

The value of the fuse is at:
110 - 240 volts = 3 amps., $1\frac{3}{64} \times 2\frac{25}{32}$ ins., medium-lagging type.

Repeated blowing of a properly dimensioned fuse indicates a defect in the apparatus, for example, in the tubes. A repaired fuse or an overdimensioned fuse can occasion destruction of the apparatus and nullify any guarantee. To comply with the usual safety prescriptions for electrical apparatuses and in order to ensure the greatest freedom from amplifier humming, the mains connection cable as well

as the plug supplied with the unit should be employed exclusively. Depending on local mains conditions, it may be useful (to ensure the greatest freedom from humming) to change the polarity of the mains plug. In exportation models this will not be necessary, since the design of the unit already takes into account the special safety prescriptions of the country considered.

In order to avoid the so-called "humming loops", it is strongly recommended not to use sockets which are located at a certain distance from each other in the event that units, e. g. an echo unit with a special plug connection, have to be combined with the „MV 17“.

The use of multiple plugs is advantageous in this instance. If the amplifier still hums despite a correctly regulated mains connection, a radio specialist had best be consulted. Frequent causes of humming are defective or incorrect earth connections (and/or screening) through faulty connection cables for microphones and instruments. To determine the cause, remove all connection lines from the amplifier input and close the input control.

2.) Inputs

On the right side of the „MV 17“ amplifier are eight input jacks, as well as four level controls. The jacks are identified on a chart mounted above them, which pertains also to the level controls.

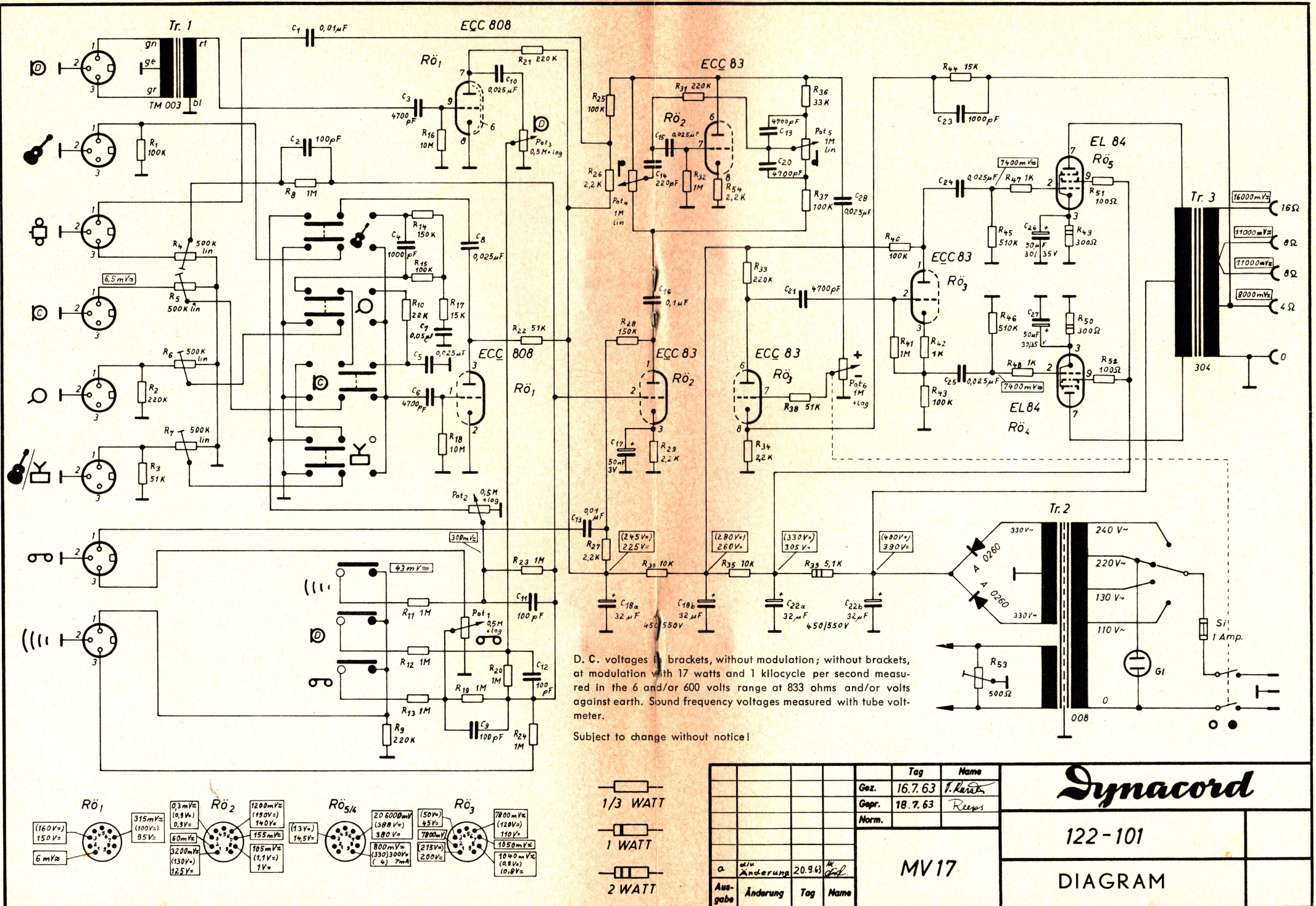
The functions of jacks and level controls may be summarized as follows:

a) Channel I:

- jack ①⑨ = Input for dynamical microphone (200 ohms)
Pin 1 = low frequency sound voltage
Pin 2 = screening and/or earth
Pin 3 = low frequency sound voltage

b) Channel II:

- jack ①⑧ = Input for guitar
Pin 1 = low frequency sound voltage
Pin 2 = screening and/or earth
Pin 3 = unoccupied
- jack ①⑥ = Connection for film sound-unit
Pin 1 = low frequency sound voltage (pick-up)
Pin 2 = screening and/or earth
Pin 3 = low frequency sound voltage (play-back)
- level control ①⑨ = Basic setting of volume for fine control of film sound-unit
- jack ①⑤ = Input for crystal microphone
Pin 1 = low frequency sound voltage
Pin 2 = screening and/or earth
Pin 3 = unoccupied
- level control ①⑩ = Basic setting for crystal microphone
By pushing down Key ⑥, fine regulation of volume by means of Control ②①
- jack ①④ = Sound pick-up connection
Pin 1 = low frequency sound voltage
Pin 2 = screening and/or earth
Pin 3 = unoccupied



level control ⑪ = Basic setting for sound pick-up
By pressing down Key ⑦, fine regulation of volume by means of Control ⑳

jack ⑬ = radio unit connection (or electrobass)
Pin 1 = low frequency sound voltage
Pin 2 = screening and/or earth
Pin 3 = unoccupied

level control ⑫ = Basic setting for radio unit (or electrobass)
By pressing down Key ⑤, fine regulation of volume by means of control ㉑

c) Channel III:

jack ⑳ = Connection for tape recorder unit
Pin 1 = low frequency sound voltage (tape-recorder pick-up)
Pin 2 = screening and/or earth
Pin 3 = low frequency sound voltage (tape-recorder playback)

d) Echo/Reverberation unit connection:

jack ⑰ = Pin 1 = low frequency sound voltage (echo/reverb. pick-up)
Pin 2 = screening and/or earth
Pin 3 = low frequency sound voltage (echo/reverb. playback)

3.) Operation

a) Putting into operation

The amplifier is switched on by turning the Total Volume Control ㉔ to the right out of its 0-position. Signal lamp ① indicates that the unit is on. After the usual warming up time for the tubes (about one minute) the unit is ready for operation.

b) Key selection

Inputs "Radio Unit", "Crystal Microphone", "Sound Pick-up", and "Guitar" are switched at choice to amplifier channel II by means of keys ⑤ ⑥ ⑦ ⑧. If several keys or all four are pressed down simultaneously, the inputs thus included are in parallel operation over channel II.

By means of keys ② ③ ④ the three amplifier channels are operated either individually or, by simultaneous pushing of several keys, in common, with echo and/or reverberation. The effect is achieved this way: key ② supplies channel III (input ㉒ = tape recorder unit) over connection jack ⑰ with echo and/or reverberation.

The same effect is achieved with key ③ for channel I (input ⑰ = dynamical microphone).

In order to furnish channel II (inputs ⑬ ⑭ ⑮ ⑯ = Radio unit, Sound Pick-up, Crystal Microphone and Guitar) with echo and/or reverberation, key ④ is pressed down. Prerequisite to this, as specified under section 3b, is that one or several keys are in operation for these inputs.

c) Knobs for Operation

As already mentioned under section 3a, the "MV 17" amplifier is switched on by turning the Total Volume Control ㉔ to the right. Besides this function of switching off and on, the control also regulates the volume for all channels together. When the ensemble is first put into operation, the Total Volume Control ㉔ should be brought into an approximately center position.

Then any given volume desired is set by means of channel controls ㉑ ㉒ ㉓. For control ㉑ in this instance, there is still necessary the leveling of "Radio", "Sound Pick-up", "Crystal Microphone" and "Film Sound-Tracking" by means of setting controls ⑨ ⑩ ⑪ and ⑫. If the total volume of the ensemble now has to be modified, this is done with the Total Volume Control ㉔ without having to change controls ㉑ ㉒ ㉓. For regulation of tone, use control ⑭ to raise or lower treble tones; control ⑮, the bass tones.

Varieties of Operation

a) Echo/Reverberation Operation

If various amplifier channels are to be supplemented with echo and/or reverberation, the Echo/Reverberation unit for this purpose, e. g. our DYNACORD "S 62 a", is connected to jack ⑰. To make this connection, a standard two-wire protected cable (the so-called dioden cable) with two-sided three-pole standard plugs is used. Regulation of echo/reverberation duration or intensity is achieved by the echo unit.

The selection of inputs, which should be supplied or synchronized with echo, occurs as already explained under section 3b, through selection of the appropriate keys (② ③ ④).

b) Operation with tape recorder

The "MV 17" amplifier is connected with the tape recorder unit over jack ㉒ by means of a two-wire protected cable (the so-called dioden cable). In this combination hook-up the amplifier can be used for both recording and playback without changing the plug connections. For recording purposes the volume is set on the tape recorder; for playback, on the "MV 17" amplifier by means of control ㉓ and Total Volume Control ㉔. Tone control for tape recording is achieved on the tape recorder unit, and playback on the "MV 17" amplifier with Treble and Bass Controls ⑭ and ⑮.

If the tape recording is to be made with echo and/or reverberation by the "MV 17" amplifier, push down key ②.

The Echo/Reverberation Unit is connected to jack ⑰. Both echo/reverberation duration and intensity are regulated on the Echo unit. (See section 4a).

c) Operation with film sound tracking unit

Like the tape recorder, this unit is connected to the "MV 17" amplifier with a two-wire protected cable. Here jack ⑰ is used. Since still other sound frequency sources, besides the Sound Tracking Unit, are to be connected in parallel operation to the amplifier channel II, such as crystal microphone (jack ⑮), sound pick-up (jack ⑭), radio unit or electrobass (jack ⑬), as well as guitar (jack ⑱), it is necessary to bring these into a basic volume setting with the corresponding level controls (see section 2b). Level Control ⑨ is used for Sound Track Film play back. The volume for parallel inputs ⑬ ⑭ ⑮ ⑯ ⑱ is regulated with Control ㉑. The total volume of the amplifier is set, according

to section 3c, through Total Volume Control (26). An Echo/Reverberation Unit can be used in film sound tracking as well. Operation as stated in section 4a. According to the sound frequency sources desired, keys (2) (3) or (4) are pressed down (sections 3b and 4a). The very selection of the sound frequency sources is achieved via controls (21) (22) (23); the operation of control (23) (channel II) implies the use of one or several keys, numbers (5) (6) (7) (8).

d) Operation with guitar

After connection of the guitar in jack (18), key (8) is pressed and the volume set by control (21). Use of the Total Volume Control (26), as well as that of the tone control as described in section 3c.

Should the guitar be operated with echo or reverberation, key (4) is pressed after connection of the echo unit on jack (17). Additional uses are as given in section 4a.

e) Operation with dynamical microphone

A dynamic microphone with a connection impedance of 200 ohms can be connected to jack (19). To regulate the volume, control (22) and Total Volume Control (26) are used, as stated in section 3c. Tone control is likewise described in section 3c. For operation with echo and/or reverberation, key (3) is also to be pressed. Connection and use of the Echo/Reverberation unit are as given in section 4a.

f) Operation with crystal microphone

A high-ohm crystal microphone is to be plugged into jack (15). After key (6) is pressed, the volume is regulated with control (21). Total Volume control, tone control, as well as level-setting are as described in section 3c. For echo/reverberation, key (4) is pressed; otherwise the operation is as explained under 4a.

g) Operation with sound pick-ups

Sound pick-ups are connected to jack (14), and key (7) is pressed. Volume can be changed with control (21). Total Volume and tone control, as well as level-setting, are as described in section 3c. Echo operation with key (4); otherwise as given in section 4a.

h) Operation with radio unit (or electro bass)

Connection of these sound frequency sources is made through jack (13); then key (5) is pressed. Here again the volume is regulated by control (21), total volume and tone control, as well as level-setting, as described in section 3c. Echo operation with key (4) and setting are as in section 4a.

5.) Loudspeaker connection

The "MV 17" amplifier is suitable for connection with all usual loudspeakers. Speaker connection jacks are located on the back of the casing. Jacks are provided for connection impedances as follows:

jack (27) for 4 ohms

jacks (28) and (29) for 8 ohms

jack (30) for 16 ohms.

Particularly fine performance can be obtained by the use of our DYNACORD Sound Radiators. A comprehensive line of equipment here enables the user to find loudspeakers suitable for every purpose.

Larger rooms can be effectively equipped by installing several sound radiators, chosen as they best suit local conditions. When connecting the loudspeaker to the amplifier, a matching resistance should be used. To ensure high-quality performance, under or over matching should not substantially exceed 25 per cent. DYNACORD sound radiators are so dimensioned as to their matching resistance that they lend themselves to manifold combinations.

It is customary to design amplifier outputs for 4, 8 and 16 ohms. Those for loudspeakers, on the other hand, are planned for 5, 7.5 and 15 ohms. This difference has no disadvantages in practice; for a 5-ohm loudspeaker can be plugged into a 4-ohm amplifier output without loss in output or performance; a loudspeaker with 7.5 ohms into an 8-ohm output; and finally a 15-ohm loudspeaker, without hesitation, into a 16-ohm jack.

If, for example, **two sound radiators** with a 15-ohm connection value each are connected in parallel operation to the amplifier, these produce a 7.5 ohm resistance. To avoid having to connect both these loudspeakers with **one** plug in the amplifier's 8-ohm output by means of a complicated soldering on the plug, the "MV 17" amplifier is equipped with two loudspeaker jacks of 8 ohms each. Then each of the two 15-ohm loudspeakers is inserted with its own plug into one each of the two 8-ohm jacks. Thus the two loudspeakers in parallel operation on the amplifier are correctly connected. Although just one or two loudspeakers should suffice for normal use, it should now be mentioned how several loudspeakers can be connected

Three loudspeakers with 15 ohms each used in parallel operation with the connection cable have a total resistance value of 5 ohms and are to be connected to the amplifier's 4-ohm output.

Four loudspeakers with a 15-ohm impedance each are likewise connected in parallel operation with the connection cable and result in a 3.75 ohm resistance; they are to be plugged into the amplifier's 4-ohm jack.

6.) Acoustical feedback

At full modulation it may happen that the so-called "acoustical feedback" causes howling and whistling when the microphone is connected and the volume control fully opened. This physico-technical phenomenon is due to reciprocal action between microphone and loudspeaker.

This feed-back coupling effect diminishes as the volume of the performance is reduced and by diminishing the distance to the microphone. Moreover, it will prove helpful to locate the microphones carefully in relation to the loudspeakers. Particular care should be taken to place the microphones in the so-called acoustical shadow of the speakers. Furthermore, it should be kept in mind that judicious positioning of both loudspeakers and microphones may be a real problem in rooms that are closed off, unusually large, and/or not fully occupied. Here, rotating a microphone or a speaker even a few degrees may ensure success. Another point not to be neglected is the often undesirable sound reflexion by large and bare wall surfaces.

The use of microphones with small feedback such as DYNACORD "DD 260", "DD 66", and that of microphone types as "DD 61", "DD 65" and "DD 65 R", ensures a transmission not only faithful but also with considerably reduced feed-back coupling.

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TECHNICAL DATA

Operating voltages: 110, 130, 220 and 240 volts A. C.
Input: 60 watts at no load; 65 watts at full modulation
Tubes: ECC 808, 2 x ECC 83, 2 x EL 84
Semi-conductor: 4 x A 0260
Technical disposition: 5 preamplifiers, 1 phase inverter and 1 pushpull stage. Mains stage on bridge rectifier.
Performance: Continuous output 15 watts, maximum output 17 watts at 1 KHz and 12 watts, 1 per cent
Distortion: separate treble and bass controls
Calibration adjustment: treble: + 10 dB/ - 20 dB at 15 KHz
bass: + 17.5 dB/ - 8 dB at 50 Hz

Inputs:	Impedance:	Sensitivity:
Sort:		
Dynamical microphone:	200 Ohms	0.5 mV
Crystal microphone:	500 KOhms	< 10 mV
Sound pick-up:	120 KOhms	< 20 mV
Guitar:	500 KOhms	< 20 mV
Radio/Electrobass:	500 KOhms	< 10 mV
Tape recorder playback:	500 KOhms	< 300 mV
Echo Reverb. playback:	500 KOhms	< 400 mV
Sound Tracking playback:	500 KOhms	< 300 mV

Outputs:		
Loudspeakers:	4, 2 x 8 and 16 Ohms	
Tape recorder Pick-up:	500 KOhms	30 mV
Echo/Reverb. Pick-up:	500 KOhms	30 mV
Sound Tracking Pick-up:	500 KOhms	25 mV

Fuses: 110 - 240 volts = 1 amp., $1\frac{3}{64} \times 2\frac{25}{82}$ ins., medium-lagging type
Signal lamp: 220 volts
Weight: $12\frac{1}{8}$ lbs.
Dimensions: Width = $10\frac{1}{4}$; Height = $4\frac{1}{8}$; Depth = $8\frac{7}{10}$ ins.
Details: Modern flat case, box-shaped; oven-baked finish; Eloxal front panel easily understood

Subject to changes in design!

Dynacord

ELEKTRONIK UND GERÄTEBAU

bandecho.de

bandecho.de | Tim Frodermann