

TASCAM

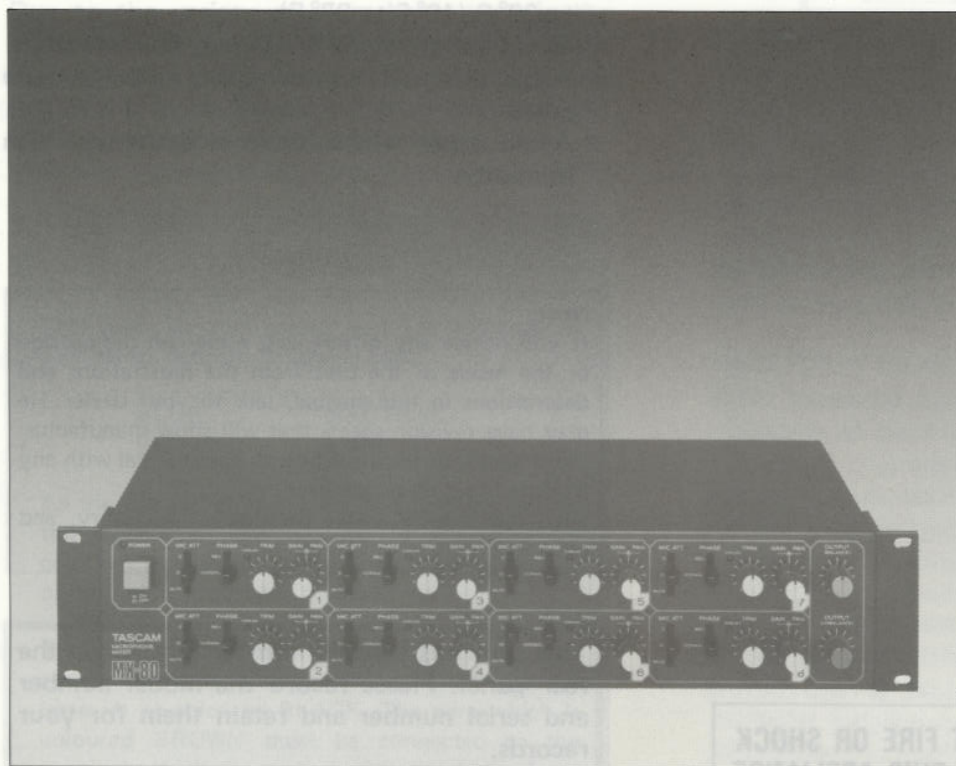
TEAC Production Products

MX-80

Microphone Mixer

Note for U.K. Customers

Environmental Considerations
These conditions apply to the MX-80 as well as to the other TASCAM equipment being used.
• Avoid temperatures beyond the range 5°C to 40°C



OWNER'S MANUAL

5700039201

Introduction

The MX-80 is more than just a simple 8-input/2-output microphone mixer. It's been designed to serve a number of applications other than suggested by its name. The operation versatility of the MX-80 allows it to be used as an auxiliary amplifier when interfaced together with your main mixer, or even as an extra mixer for mix-down operations through a multi-track recorder, etc.

We, here at TASCAM, invite you to read through this manual carefully to familiarize yourself with its operation flexibilities.

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Environmental Considerations

These conditions apply to the MX-80 as well as to the other TASCAM equipment being used.

- Avoid temperatures beyond the range of 5°C to 30°C (40°F to 87°F).
- Avoid extremely dirty or dusty environments.
- Avoid using AC power inputs that fluctuate greatly.
- Avoid areas where there is extremely high humidity.

Note:

If you notice any differences, either on the outside or the inside of the unit from the illustrations and descriptions in this manual, talk to your dealer. He may have revision sheets that will show manufacturing changes, or notifications of how to deal with any changes in set-up procedures.

Save this manual, refer to it when necessary, and good luck with your MX-80.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

This unit has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model Number _____

Serial Number _____

Voltage Conversion

This unit has been adjusted to operate on the electric voltage specified on the unit and packing carton.

Note: This voltage conversion is not possible on models sold in the U.S.A. and Canada, UK, Australia or Europe.

For general export units, if it is necessary to change the voltage requirements of the MX-80 to match your area, use the following procedures. Always disconnect Power Line Cord before making these changes.

1. Remove the top cover of the unit by removing the screws.
2. Locate the voltage selector plug near the transformer inside the unit.
3. Pull out the plug and reinsert it so that the desired voltage appears in the cut-out window of the plug.

Note for U.K. Customers

U.K. Customers Only:

Due to the variety of plugs being used in the U.K., this unit is sold without an AC plug. Please request your dealer to install the correct plug to match the mains power outlet where your unit will be used as per these instructions.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

BLUE:	NEUTRAL
BROWN:	LIVE

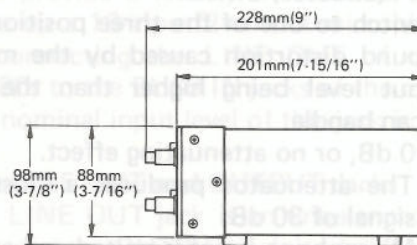
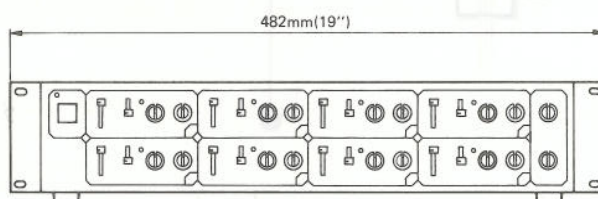
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals of your plug, proceed as follows.

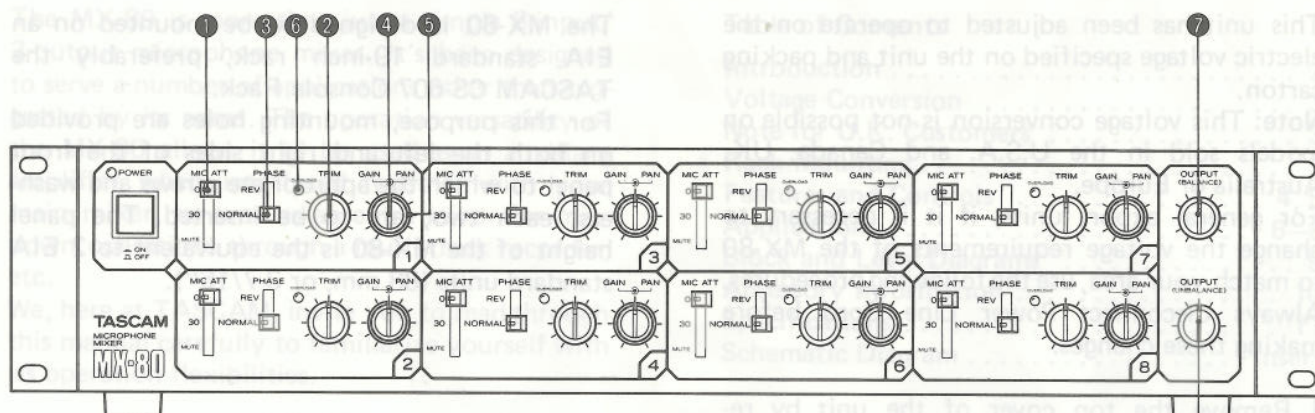
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Rack Mounting

The MX-80 is designed to be mounted on an EIA standard 19-inch rack, preferably the TASCAM CS-607 Console Rack.

For this purpose, mounting holes are provided on both the left and right sides of the front panel to which the appropriate screws and washers, each two, are to be inserted. The panel height of the MX-80 is the equivalent to 2 EIA standard units (88 mm, or 3-7/16").





① MIC ATT(enuator) Switch

Set this switch to one of the three positions to prevent sound distortion caused by the microphone input level being higher than the preamplifier can handle.

- (0): 0 dB, or no attenuating effect.
- (30): The attenuator produces a "loss" in signal of 30 dB.
- (MUTE): Microphone input is muted and amplifier circuit is "shut down".

② TRIM Control Knob

This knob controls the gain of the preamplifier to reduce the mic input signal level to obtain a proper working level. The adjustable range at this control is -30 dB ~ -70 dB, and it should be generally set at the three o'clock position (⊙).

③ PHASE Select Switch

- (NORMAL): Normal in-phase position. This select switch should be normally kept in this position.
- (REV): Set to this position to compensate for the inverted input signals.

④ GAIN Control Knob

After passing through the preamplifier, the mic input signal is led to the SEND terminal ● for "bridging" to the RCV terminal ● and routing to the GAIN control. The input signal, of which level is being controlled by this control, is then sent to the PAN pot knob ●, which finally assigns the signal to the left and right output terminals.

⑤ PAN Pot Knob

This knob allows the assigning of the signal to the left and right output terminals. A counterclockwise rotation shifts the sound image towards the left channel, while a clockwise rotation shifts it towards the right channel. Set this control knob center to obtain a "centered" stereo effect.

⑥ OVERLOAD Indicator

An LED lights when the input signal level is higher than the preamplifier can handle, causing it to overload. The LED will light at +15 dB, indicating a warning that adjustment of the MIC ATT switch ● is necessary to avoid sound distortion.

⑦ ⑧ OUTPUT Level Control Knobs (BALANCE/UNBALANCE)

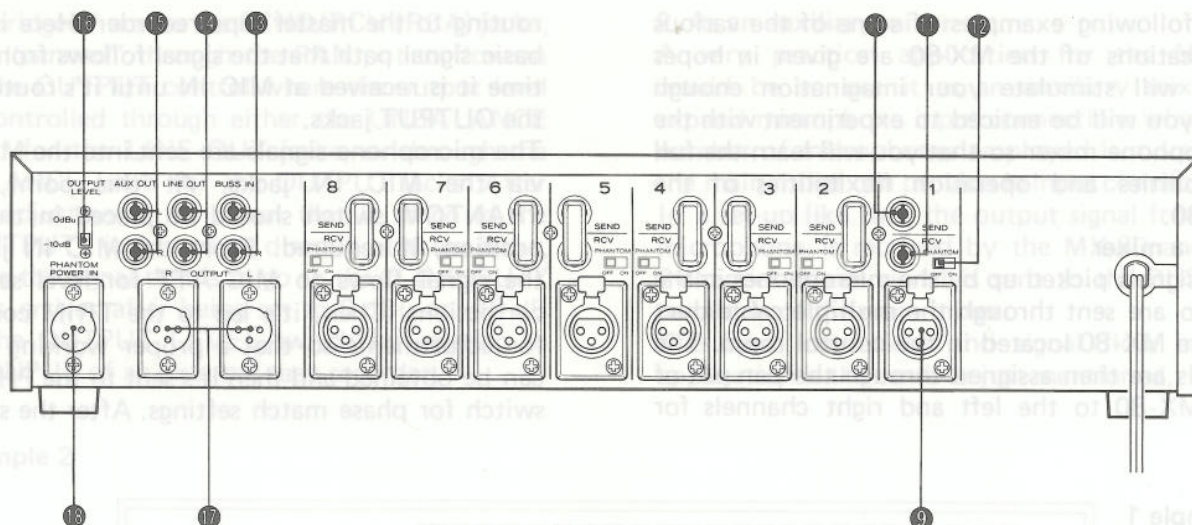
The OUTPUT (BALANCE) knob controls the output level of the signal present at the OUTPUT (Cannon) jacks on the rear panel. The output level at the LINE OUT (RCA) jacks is controlled through the OUTPUT (UNBALANCE) control knob.

⑨ Microphone Input Connector

Eight Cannon connectors, one for each channel, are provided to accept low impedance, balanced mic input connections.

⑩ ⑪ SEND/RCV Jacks for Auxiliary Equipment Connections

Each of the input lines (1 - 8) are equipped with a pair of these jacks for connection of



auxiliary signal processing equipment such as graphic equalizers, limiters, echo and reverb units, etc.

Connections are made by first removing the jumpers from the jacks and connecting the SEND jack of the MX-80 to the input jack of the external effects device, while connecting the output of the effects device to the RCV jack.

The nominal output/input level of these jacks is -10 dB.

The RCV jack is also able to accept the output signal from a multi-track recorder for mix-down operations, etc. When auxiliary equipment connections are not to be made, be sure that the provided jumpers are put back in place.

12 PHANTOM Power Switch

This controls the on-off phantom power operation of the unit.

When a phantom feeding type microphone is used, connect the phantom power source to the 2P Cannon PHANTOM POWER IN connector. (Pin 2 is positive (+) and pin 1 is negative (-).) Turn on the PHANTOM switch corresponding to the input module to be used. This switch should be set to OFF when this type of microphone is not used.

13 BUSS IN Jacks

This is an RCA pin jack which main function is to provide a patch point for connection of an additional line input signal which can be added to a buss signal previously mixed through the PAN pot.

Another function that this patch point performs

is to provide a facility that allows the user to make up a 16-input/2-output microphone mixer by connecting the LINE OUT of one of the MX-80s to the BUSS IN jacks of the other.

The nominal input level of this jack is -10 dB.

14 LINE OUT and OUTPUT Jacks

The LINE OUT jack is an unbalanced RCA pin jack, and the OUTPUT jack is a balanced Cannon connector.

The nominal output level at the LINE OUT jack is -10 dB/0 dBu (selectable), and -40 dBm at the OUTPUT jack.

15 AUX OUT(put) Jacks

As these jacks are connected in parallel to the LINE OUT jacks, they provide the same function as the LINE OUT jacks.

16 OUTPUT LEVEL Select Switch

This is used to select the output level at the LINE OUT and AUX OUT jacks. Selectivity is -10 dB (0.3 V) and 0 dBu (0.775 V).

17 PHANTOM POWER IN(put) Connector

This connector allows connection of a phantom power source (+48 V, etc.) when a phantom power feeding microphone is used. Pin 2 is positive (+) and pin 1 is negative (-).

POWER Switch

This switch controls the on-off operation of the unit. When pressed to ON (), an LED lights in red indicating that the power circuit has been activated.

The following examples of some of the various applications of the MX-80 are given in hopes they will stimulate your imagination enough that you will be enticed to experiment with the microphone mixer so that you will learn the full capabilities and operation flexibilities of the MX-80.

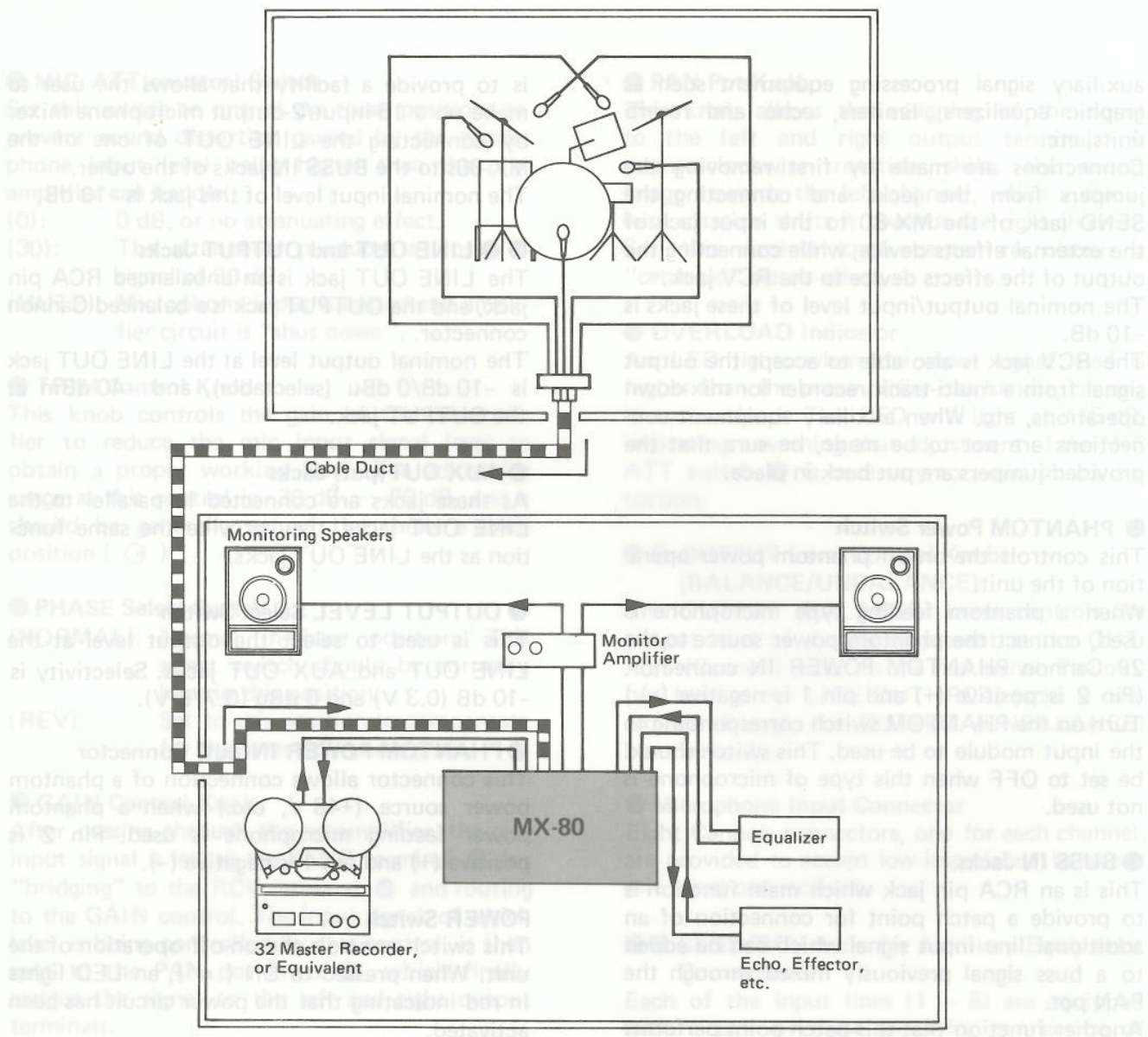
1. As a mixer

The signals picked up by the microphones in the studio are sent through the multiple cable duct to the MX-80 located in the control room. The signals are then assigned through the pan pot of the MX-80 to the left and right channels for

routing to the master tape recorder. Here is the basic signal path that the signal follows from the time it is received at MIC IN until it's routed to the OUTPUT jacks.

The microphone signals are sent into the MX-80 via the MIC IN jacks. At this point, the PHANTOM switch should be placed in the IN position, if required. From the MIC IN jacks, the signal flows to MIC ATT for level setting corrections. Then, it's led to the TRIM control for adjustments so that a proper working level can be obtained and then it's sent to the PHASE switch for phase match settings. After the signal

Example 1



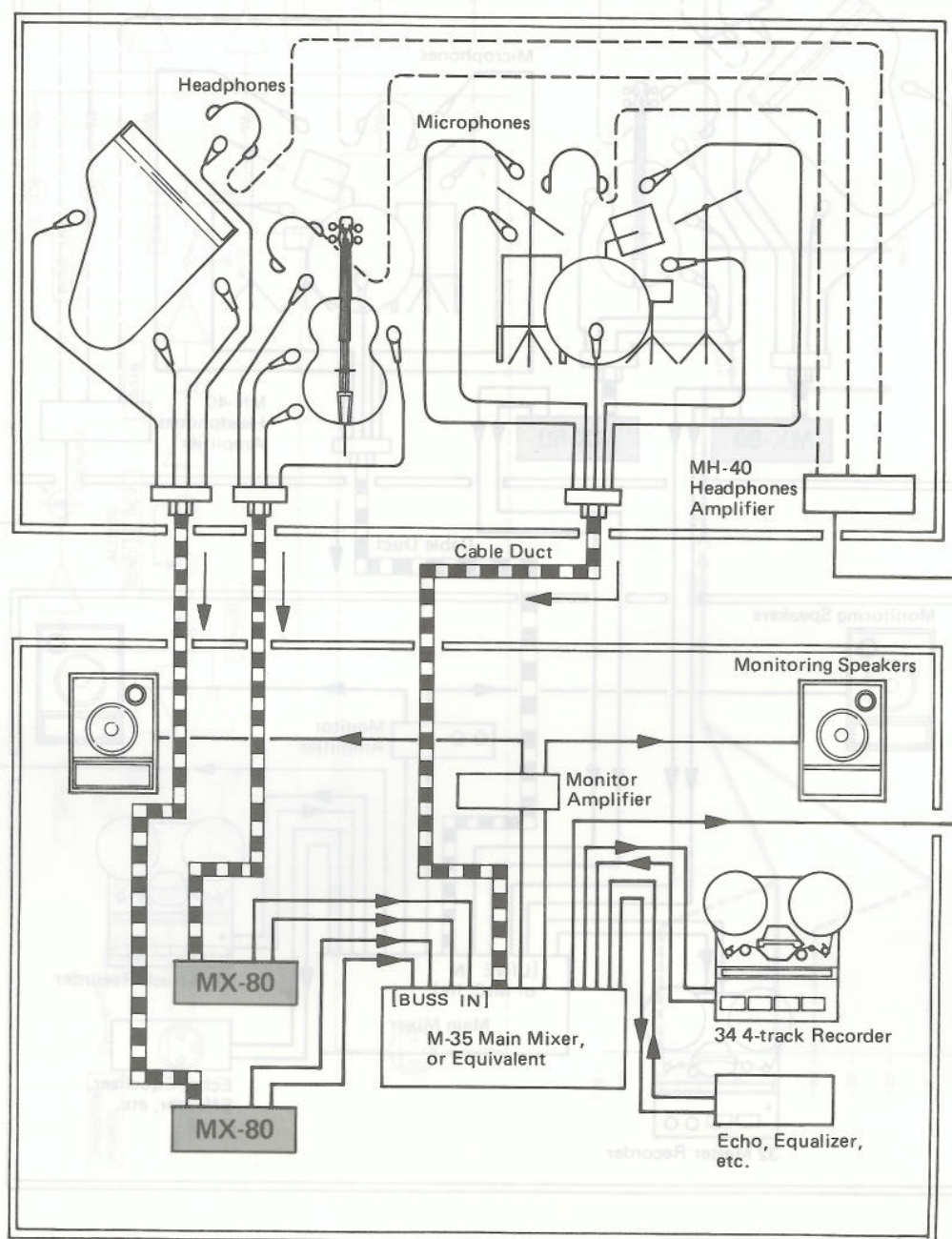
is "bridged" across the SEND/RCV (RCA) jacks, it is "panned" through the PAN pot to flow on to the OUTPUT control where the output level is controlled through either the UNBALANCE knob for the LINE OUT jacks, or through the BALANCE knob for the OUTPUT jacks. After this adjustment, the signal that is to go to the "OUTPUT" jacks arrives directly at these jacks, while the signal that is to go to the "LINE OUT" jacks arrives after being set to 0 dBu or -10 dB at the OUTPUT LEVEL switch for routing to the INPUT of an external tape recorder.

2. As an auxiliary mixer

A very practical application for the MX-80 would be to use it as an auxiliary mixer to expand microphone input connections when the number of microphones employed is more than the main mixer can provide in input connections. In a set-up like this, the output signal from the microphone is received by the MX-80 and the 2-channel mixed signal is sent to the BUSS IN terminals of the main mixer.

The basic operations and signal flow in this application is the same as just mentioned.

Example 2

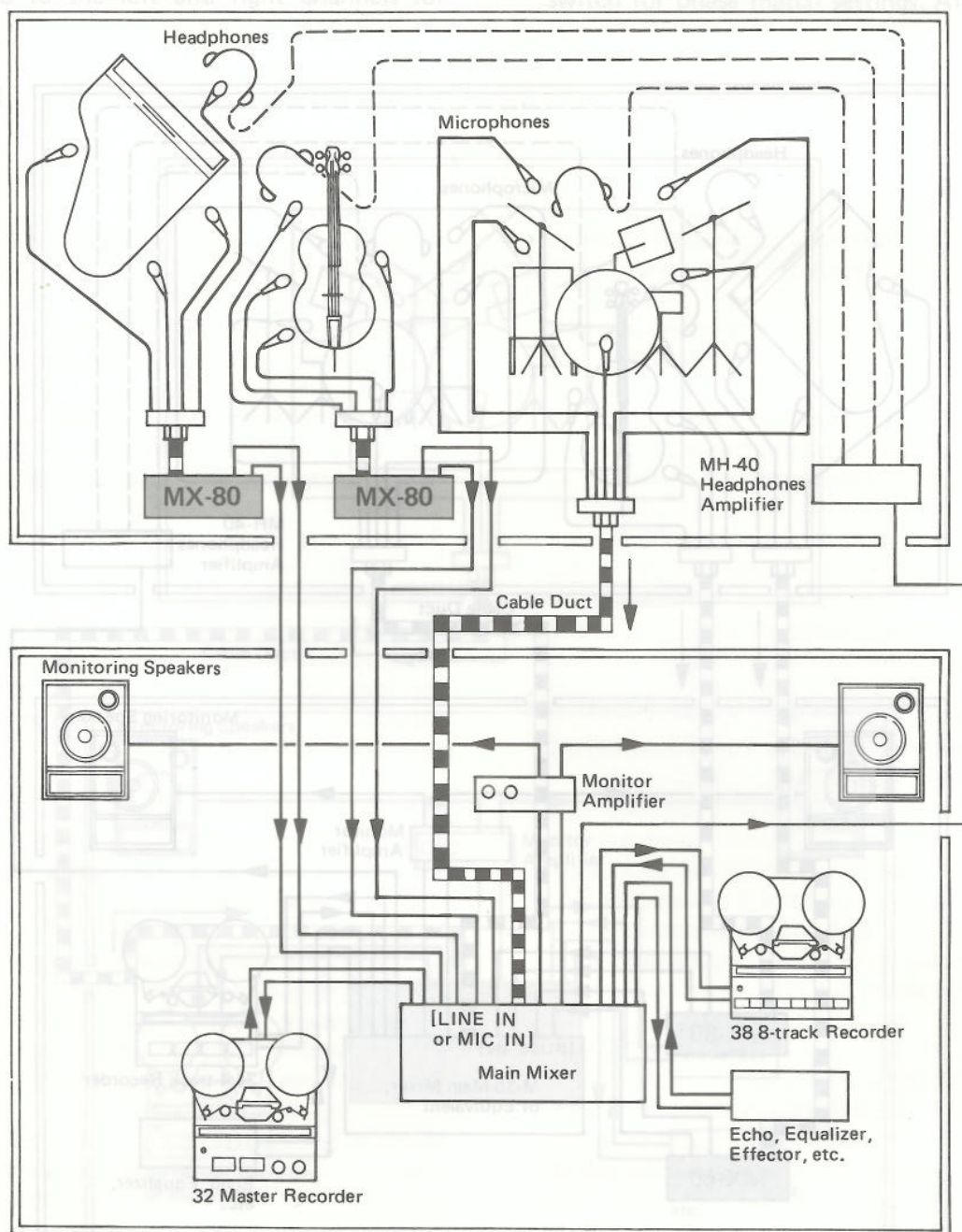


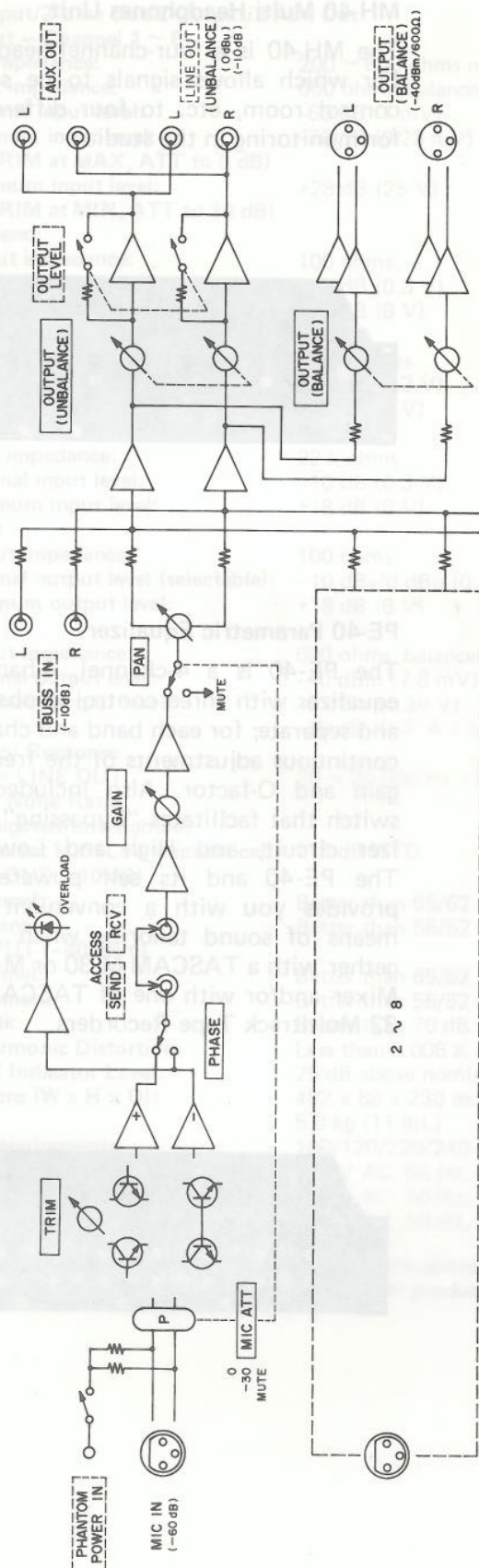
3. As a means to reduce the number of microphone cables

A tangle of cables caused by the use of a lot of microphones is an annoying vexation in any studio. Using multiple cable duct is one means of taking care of this kind of problem, but the MX-80 can also be used to straighten out that

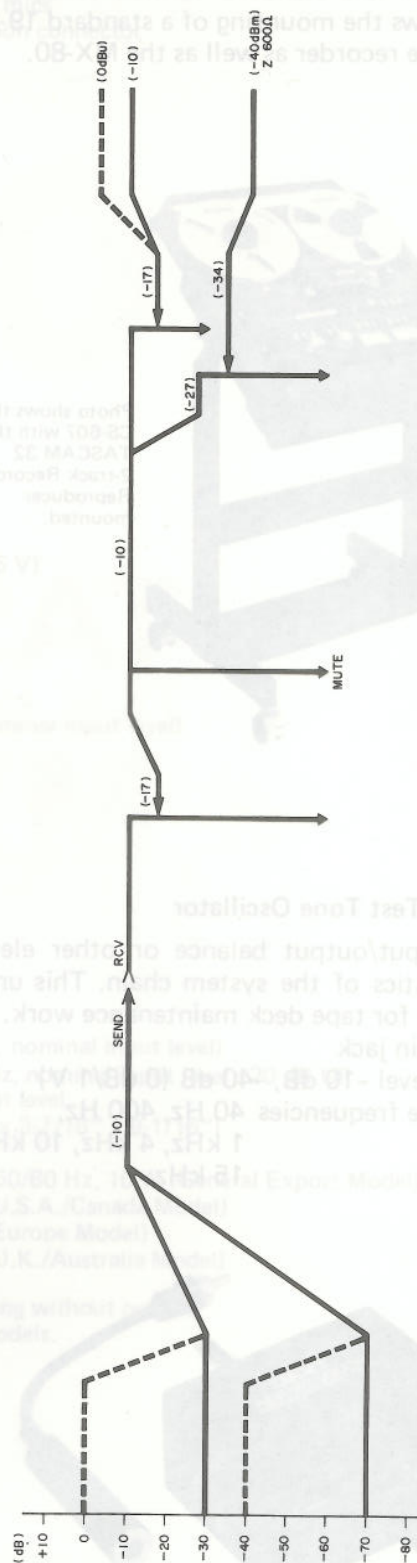
tangled web of cables by using it to mix the microphone signals down to a smaller number of signals for sending to the control room. Operation and signal flow in this application is the same as mentioned earlier.

Example 3





2 ~ 8



CS-607 Console Rack (EIA 19-inch)

The CS-607 is a standard 19-inch console rack which allows the mounting of a standard 19-inch master tape recorder as well as the MX-80.



Photo shows the CS-607 with the TASCAM 32 2-track Recorder/Reproducer mounted.

TO-122A Test Tone Oscillator

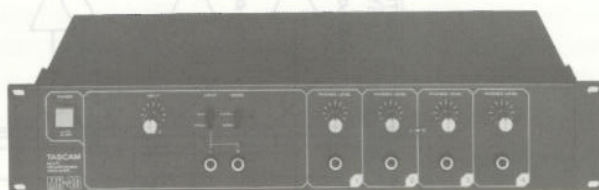
Checks input/output balance or other electric characteristics of the system chain. This unit is also useful for tape deck maintenance work.

- *Output pin jack
- *Output level -10 dB, -40 dB (0 dB/1 V)
- *Selectable frequencies 40 Hz, 400 Hz, 1 kHz, 4 kHz, 10 kHz, 15 kHz



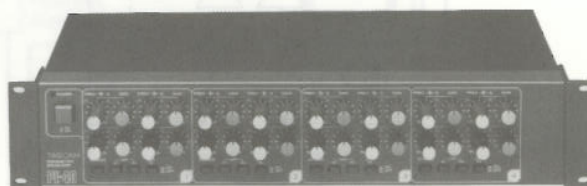
MH-40 Multi Headphones Unit

The MH-40 is a four-channel headphone amplifier which allows signals to be sent from the control room, etc. to four different musicians for monitoring in the studio.



PE-40 Parametric Equalizer

The PE-40 is a 4-channel, 4-band parametric equalizer with three control knobs — concentric and separate; for each band and channel to allow continuous adjustments of the frequency range, gain and Q-factor. Also included is a bypass switch that facilitates "bypassing" of the equalizer circuit, and High and Low pass filters. The PE-40 and its self powered electronics provides you with a convenient and flexible means of sound tailoring when "stacked" together with a TASCAM M-30 or M-35 Recording Mixer and/or with one of TASCAM's 38, 34 or 32 Multitrack Tape Recorders.



Specifications

8-Mic Input/2-Line Out/2-Output/2-Aux Out

Mic Input – Channel 1 ~ 8

Mic impedance:	200 ~ 600 ohms nominal mics
Input impedance:	600 ohms, balanced Cannon connector
Nominal input level:	-60 dB (1 mV)
Minimum input level:	-70 dB (0.28 mV)
(TRIM at MAX, ATT to 0 dB)	
Maximum input level:	+28 dB (25 V)
(TRIM at MIN, ATT to 30 dB)	

Access Send

Output impedance:	100 ohms
Nominal output level:	-10 dB (0.3 V)
Maximum output level:	+18 dB (8 V)

Access RCV

Input impedance:	100 k ohms
Nominal input level:	-10 dB (0.3 V)
Maximum input level:	+18 dB (8 V)

Buss In

Input impedance:	22 k ohms
Nominal input level:	-10 dB (0.3 V)
Maximum input level:	+18 dB (8 V)

Line Out

Output impedance:	100 ohms
Nominal output level (selectable):	-10 dBv/0 dBu (0.3/0.775 V)
Maximum output level:	+18 dB (8 V)

Mic Out

Output impedance:	600 ohms, balanced
Nominal output level:	-40 dBm (7.8 mV)
Maximum output level:	-6 dBm (0.39 V)
Mute	-70 dB (IHF A 1 kHz, nominal input level)

Frequency Response

MIC → LINE OUT:	20 ~ 20,000 Hz ±1.5 dB
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Signal to Noise Ratio

(A weighted/unweighted)

Equivalent Mic (Low impedance):	115 dB WTD
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LINE OUT (-10 dB)

1 channel:	Better than 65/62 dB
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8 channels:	Better than 55/52 dB
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OUTPUT (-40 dBm)

1 channel:	Better than 65/62 dB
------------	----------------------

8 channels:	Better than 55/52 dB
-------------	----------------------

Cross Talk:

Better than 70 dB (1 kHz, nominal input level)

Total Harmonic Distortion:

Less than 0.008 % at 1 kHz, nominal input level +20 dB UP

Overload Indicator Level:

25 dB above nominal input level

Dimensions (W x H x D):

482 x 88 x 230 mm (19" x 3-7/16" x 9-1/16")

Weight:

5.0 kg (11 lbs.)

Power Requirements:

100/120/220/240 V AC, 50/60 Hz, 10 W (General Export Model)

120 V AC, 60 Hz, 10 W (U.S.A./Canada Model)

220 V AC, 50 Hz, 10 W (Europe Model)

240 V AC, 50 Hz, 10 W (U.K./Australia Model)

- Improvements may result in features and specifications changing without notice.
- Photo and illustrations may differ slightly from production models.

CS-607 Console Rack (EIA 19-inch)

The CS-607 is a standard 19-inch console rack which allows the mounting of a standard 19-inch master tape recorder as well as the MX-80.



TASCAM

TEAC Production Products

MX-80

This product is manufactured to comply with the radio interference of EEC directive "82/499/EEC."

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

AUDIO-MISCHPULT TASCAM MX-80

(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

AMTSBLATT 163/1984, VFG 1045/1984

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

TEAC CORPORATION

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