

# STUDIO PRO™ 40



## Operating Guide

### INTRODUCTION AND GENERAL DESCRIPTION

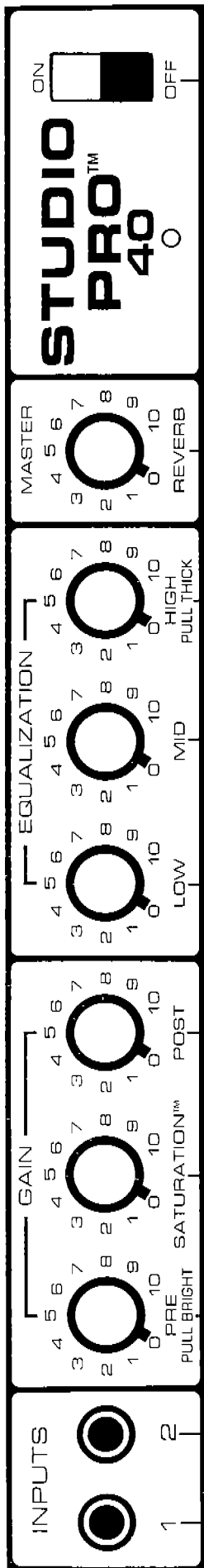
Congratulations on your purchase of a Studio Pro™ 40. Reading this owners manual will help give you a thorough understanding of the operating principles of the Studio Pro™ 40 and will also help you to achieve many varied and diverse tonal settings.

The Studio Pro™ 40 is a 40 watt musical instrument amp designed specifically for demanding studio and home recording applications. The Studio Pro™ 40 is also equally effective as a medium powered system for club work, especially when microphone and/or direct interface with the mixing console is employed.

This amp is a solid state unit containing some of the most unique and flexible circuitry for obtaining a multitude of distortion effects as well as undistorted sounds which is complimented by a full brace of equalization to create almost any imaginable tonal color. There are several operating principles concerning the gain controls (pre gain, Saturation™, post gain) and equalization controls (low, mid, high/Pull Thick) which should be fully understood to achieve the best tonal results. Please read this owners manual and keep it handy and refer to it whenever necessary for your particular applications.

### WARNING:

TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. BEFORE USING THIS APPLIANCE, READ BACK COVER FOR FURTHER WARNINGS.



### THE FRONT PANEL

#### ON/OFF SWITCH

The on/off switch is a rocker-type switch and should present no problems in operation. In the on position, a red LED will illuminate showing that power is being supplied to the unit.

#### MASTER REVERB

The amount of reverb is controlled by the master reverb knob. Turning the control clockwise increases the amount of delayed (reverb) signal. Counterclockwise will decrease the reverb effect. The reverb may also be remotely controlled with the optional footswitch.

#### EQUALIZATION SECTION

The equalization controls (low, mid, high/Pull Thick) are highly effective circuits and their tonal capabilities are designed to slightly interact with each other.

#### The high control with Pull Thick switch

The high control is used to tailor the amount of treble (highs) of the musical instrument and the preamp. It should be noted that when using distortion (overload) textures, too much high-end can cause a harshness that will detract somewhat from the warm, tube-like sound of the Saturation™ circuit. The high control also has a "pull" switch called Thick. When activated, Thick acts as a mid-range boost and is especially useful for enhancing the distortion characteristics (Saturation™) of the Studio Pro™ 40.

#### NOTE:

**WHEN THIS PULL SWITCH IS ACTIVATED, THE HIGH FREQUENCIES MAY BECOME LESS PRONOUNCED BECAUSE OF THE FULLNESS ADDED BY THE BOOSTED MIDDLE FREQUENCIES. IN ADDITION, THE ACTION OF THE TONE CONTROLS, ESPECIALLY THE MIDDLE CONTROL, IS LESS PRONOUNCED AND EFFECTIVE.**

#### The Mid Control

The Mid control is vital to the tone coloration of the instrument's signal — especially guitar. A good "rule of thumb" for the mid control is to **cut** (reduce) the amount of mids when clean, undistorted tonalities are desired. Warmer "fatter" tonalities for enhancement of distortion sounds can be obtained by rotating the control clockwise (boost). For maximum mid-range boost, use the Pull Thick switch located on the **high** control (see high/Pull Thick).

#### The Low Control

The Low control determines the low frequency response of the Studio Pro™ 40. Rotating this control clockwise increases the amount of bass while counterclockwise rotation reduces the low end. We recommend that care should be taken **not** to overboost the low control. Overboosting low frequencies tend to prematurely overload the power amp. Overboosting of the low control also reduces the system's projection capabilities, usually at the expense of the middle and upper frequencies.

#### THE GAIN SECTION

#### Post Gain

Basically, the post gain control acts as a master volume and sets the overall gain (volume) level for the Studio Pro™ 40's power amp. The post gain control also provides a dual purpose and this **must be understood** to achieve the best sounds from the Studio Pro™ 40's clean/distortion capabilities. To achieve the best overload (distortion) from the Studio Pro™ 40, we recommend that the post gain control be set no higher than its 12 o'clock or #5 position. Setting the post gain control higher than 5 may cause the power amp (in conjunction with the pre gain and Saturation™ controls) to generate its own harmonics and possibly create an unpleasant, harsh sounding distortion. To attain maximum power reserve for clean sounds, the post gain control may be rotated fully clockwise to 10. (For further setting recommendations see the tone setting charts.)

#### Saturation™ Control

The Saturation™ control determines the amount of overload and can be varied from soft distortion sounds (settings of 0 to 5) to hard rock tonalities (settings of 5 to 10). Please remember to avoid setting the post gain control higher than 5 when using the Saturation™ circuit to create distortion sounds (see post gain control above).

#### Pre Gain/Pull Bright Control

The pre gain control is the first volume control of the system and, like the post gain control, also serves a dual purpose. If the post gain control is set to its full 10 position for clean tonalities, the pre gain control should be positioned somewhere in the middle of its range or lower. Placing the pre gain control higher than 5 may cause unwanted "square waves" (distortion) and result in premature "clipping" in the power amp. If distortion is desired, however, both the pre gain and post gain controls should be placed near their 12 o'clock or #5 positions and the **amount of distortion** should then be adjusted with the **Saturation™** control.

The pre gain control also employs a Pull Bright switch which adds approximately 8 dB of boost to the high end. As with the high EQ control, use care with the Pull Bright switch when using a distortion sound as too much treble may cause a harsh sound at the power amp/speaker of the Studio Pro™ 40.

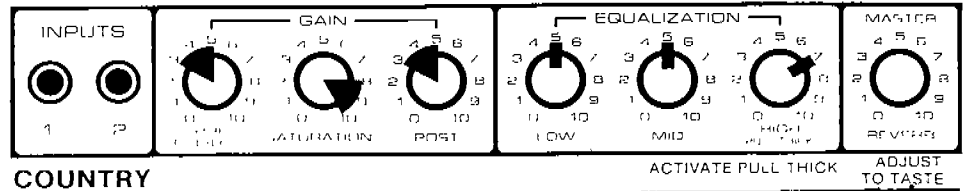
#### INPUTS

The Studio Pro™ 40 has two inputs labeled 1 and 2. Input 1 is the input which should normally be used and will deliver the highest signal level from the instrument to the amp. Sometimes, however, guitars that are equipped with very high output "hot" pickups will overload the high gain input. This will be apparent because you will hear some unwanted distortion at the loudspeaker. If this distorted sound does occur, plug your guitar into the #2 input, which has less gain (minus 6 dB) than input 1. When two instruments are plugged into both inputs, the #2 input is automatically switched to the same level as input #1. **NOTE: WHEN USING TWO INSTRUMENTS OR SIGNAL SOURCES WE STRONGLY RECOMMEND THAT THE VOLUME CONTROLS BE SET AT A REASONABLY LOW VOLUME LEVEL TO REDUCE THE POSSIBILITY OF UNDUE DISTORTION AND/OR SPEAKER DAMAGE.**

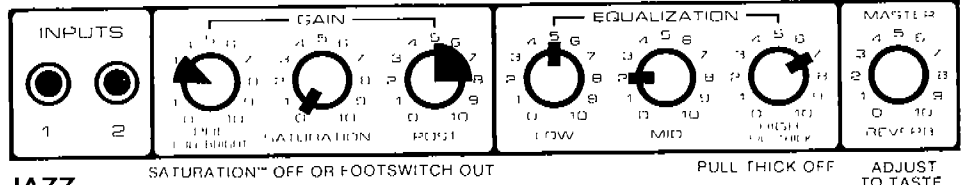
## STONE SETTINGS

**NOTE:** THESE TONE SETTING CHARTS ARE TO BE USED AS A GENERAL GUIDELINE THE ACTUAL TONALITY WHICH RESULTS WILL DEPEND UPON THE INSTRUMENT USED AND YOUR PARTICULAR PLAYING STYLE AND TECHNIQUE.

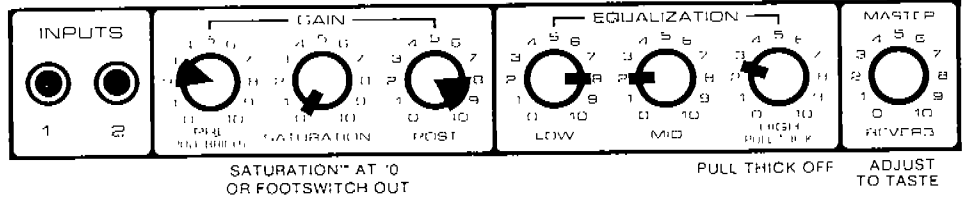
### ROCK



### COUNTRY



### JAZZ



### GAIN BLOCK INSTRUCTIONS

The following are two examples of typical clean and distortion sounds that are available from the Studio Pro™ 40. NOTE: They are meant only as a general guideline. For further tone/gain setting examples see the tone setting charts.

#### A. Clean (Country/Jazz styles)

- (1) Place the post gain control between 8 and 10.
- (2) Position the Saturation™ control to 0 or use the Automix™ footswitch to defeat the Saturation™ circuit.
- (3) Adjust the pre gain control to the desired volume level.
- (4) Adjust the low, mid and high/Pull Thick controls to taste. (Add Pull Bright if desired)
- (5) Readjust pre gain if necessary.

#### B. Distortion (Rock'n'Roll/Rythm & Blues)

- (1) Place the pre gain control between 5 and 7.
- (2) Place the Saturation™ control anywhere in its range from 0 to 10.
- (3) Increase the post gain control to the desired volume level. NOTE: DO NOT PLACE THE POST GAIN CONTROL HIGHER THAN IT'S 12 O'CLOCK OR #5 POSITION.
- (4) Adjust the equalization section to taste adding Pull Thick if desired.
- (5) Readjust the post gain, pre gain, and the Saturation™ controls if necessary.

### THE BACK PANEL

#### PREAMP OUTPUT/POWER AMP INPUT

The preamp output and power amp input jacks are used for patching effects devices and signal processing equipment "in-line" with the Studio Pro™ 40. Most devices such as flangers, chorus, tape/analog/ digital delays or gain devices such as distortion units can be used within this "effects loop". The preamp output level is approximately 1 volt RMS and is of relatively low impedance - 600 ohms. To utilize the effects loop, use a high quality shielded patch cord and plug one end into the preamp output and the other end into the external device input. To return the processed signal to the Studio Pro™ 40, use a second high quality shielded patch cord and plug one end into the external unit output and the other end of the patch cord into the power amp input.

Since this method of using an effect places the device **after** the preamp/ equalization and **before** the power amp you will have a greater degree of control over the sound quality of the device or signal processing unit.

The preamp output can also be used to send the signal of the instrument/ preamp to mixing and recording consoles. For this method use a high quality shielded patch cord and make the connection from the Studio Pro™ 40's preamp output to the desired channel of the mixer or to an auxiliary device where the signal is **not to be returned to the Studio Pro™ 40**. With this method of sending your instrument's signal to a mixer or auxiliary device, you **do not** have to utilize the power amp input as the signal will automatically feed the power amp section.

#### LINE OUTPUT

As mentioned above, the preamp output can be used to send the preamp signal to a recording/mixing console, but the mixer operator must then try to duplicate the sound of the loudspeaker at the mixer. Although this is a useful method for sound reinforcement and the recording of clean tonalities, the results are often less that satisfactory when using a distortion type of sound. For best results we recommend using the line output of the Studio Pro™ 40. This line output has been frequency compensated to closely duplicate the sound of the loudspeaker and you will be able to achieve excellent results from distortion and clean sounds. As with the preamp output/power amp input connections, use a high quality shielded cord to make the connection from the line output to the mixing/recording console.

#### FOOTSWITCH

The footswitch jack is provided for the connection of the optional Automix™ footswitch. The footswitch can be used to remotely activate or defeat Saturation™ and reverb functions of the Studio Pro™ 40.



**PEAVEY**  
STUDIO  
PRO™  
40

A PRODUCT OF  
PEAVEY ELECTRONIC CORP.  
MILWAUKEE, WIS. MADE IN U.S.A.

CIRCUITRY PATENT PENDING

AVIS

POWER  
AMP



IN

PRE  
AMP



IN

LINE OUT



LINE

FT SW



**STUDIO PRO™ 40 SPECIFICATIONS**

**Power Amplifier Section:**

**Rated Power & Load:**

40 W RMS into 8 ohms

**Power at Clipping:**

(Typically 5% THD, 1 KHZ, 120 Vac line)

25 W RMS into 16 ohms

45 W RMS into 8 ohms

40 W RMS into 4 ohms

2 ohms not recommended

**Frequency Response:**

+0, -2 dB, 60 Hz to 20 KHZ @ 40 W RMS into 8 ohms

**Total Harmonic Distortion:**

Less than 0.2%, 100 mW to 40 W RMS

60 Hz to 10 KHZ, 8 ohms,

typically below 0.1%

**Hum & Noise:**

Greater than 90 dB below rated power

**Power Consumption: (Domestic)**

150 watts, 50/60 Hz, 120 Vac

**Preamp Section:**

The following specs are measured @ 1 KHz with the controls preset as follows:

**Pull Bright Off (In)**

**Saturation™ @ 0**

**Post Gain @ 10**

**Low & High EQ @ 10**

**Mid EQ @ 0**

**Pull Thick Off (In)**

**Reverb @ 0**

**Nominal Levels are with Pre Gain @ 5**

**Minimum Levels are with Pre Gain @ 10**

**Preamp Jack "A" Input:**

Impedance: High Z, 220K ohms

Nominal Input Level: -28 dBV, 40 mV RMS

Minimum Input Level: -46 dBV, 5 mV RMS

Maximum Input Level: +4 dBV, 1.5 V RMS

**Preamp Jack "B" Input:**

Impedance: High Z, 44K ohms

Nominal Input Level: -22 dBV, 80 mV RMS

Minimum Input Level: -40 dBV, 10 mV RMS

Maximum Input Level: +10 dBV, 3 V RMS

**Preamp Output:**

Load Impedance: 1K ohms or greater

Nominal Output: 0 dBV, 1V RMS

**Line Output:**

Load Impedance: 1K ohms or greater

Nominal Output: -10 dBV, 300 mV RMS

**Power Amp Input:**

Impedance: High Z, 22K ohms

Designed Input Level: 0 dBV, 1V RMS

**System Hum & Noise @ Nominal Input Level:**

(20 Hz to 20 KHz unweighted)

70 dB below rated power

**Equalization:**

Special low, mid & high passive EQ circuitry

Pull Bright: +6 dB @ 2 KHz

Pull Thick: Special EQ

**Footswitch Features:**

Reverb function defeated

Saturation™ function defeated

Due to our efforts for constant improvement, features and specifications are subject to change without notice.

**DANGER**

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.

THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES

DURATION PER DAY IN HOURS	SOUND LEVEL dBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	110
½ or less	115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS. EAR PLUGS OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

**CAUTION**

THIS AMPLIFIER HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE POWER RESERVE FOR PLAYING MODERN MUSIC WHICH MAY REQUIRE OCCASIONAL PEAK POWER TO HANDLE OCCASIONAL PEAK POWER. ADEQUATE POWER "HEADROOM" HAS BEEN DESIGNED INTO THIS SYSTEM. EXTENDED OPERATION AT ABSOLUTE MAXIMUM POWER LEVELS IS NOT RECOMMENDED SINCE THIS COULD DAMAGE THE ASSOCIATED LOUDSPEAKER SYSTEM. PLEASE BE AWARE THAT MAXIMUM POWER CAN BE OBTAINED WITH VERY LOW SETTINGS OF THE GAIN CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water (ie. a bathtub, sink, swimming pool, wet basement, etc).
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, heater, radiator or another heat producing amplifier.
8. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding, write for our free booklet "Shock Hazard and Grounding".
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag or an ammonia based household cleaner if necessary.
13. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
14. This unit should be checked by a qualified service technician if:
  - A. The power supply cord or plug has been damaged.
  - B. Anything has fallen or been spilled into the unit.
  - C. The unit does not operate correctly.
  - D. The unit has been dropped or the enclosure damaged.
15. The user should not attempt to service this equipment. All service work should be done by a qualified service technician.



**WARNING:**

THIS UNIT IS EQUIPPED WITH A 3-WIRE MAINS CABLE WHICH SHOULD BE USED WITH SUITABLE, GROUNDED RECEPTACLES. DO NOT, UNDER ANY CIRCUMSTANCES, REMOVE THE GROUND PIN ON THE 3-WIRE MAINS (POWER) CABLE.

**PEAVEY ELECTRONICS CORPORATION**  
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