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.

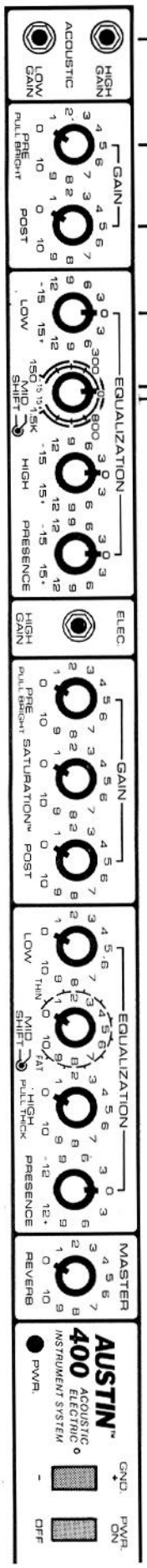
AUSTIN™ 400

OPERATING GUIDE

You have purchased an amplifier which was designed to fill a specific need in the marketplace. Before the Austin™ 400 were **no** amplifier products that we know of available to the musician who doubles on electric and acoustic guitar. There were two channel amps available but the electric acoustic tonalities always seemed to leave quite a bit to be desired. The Austin™ provides a fairly conventional lead channel and a channel specifically designed to amplify **acoustic guitars**. The speaker complement is arranged with (2) 12" Scorpions™ and our new CDP™ (high frequency) horn.

The power section features 210 watts RMS at 4 ohms and includes our patented **DDT™** Compression circuitry; enabling the Austin™ to be louder and cleaner than most other amplifiers in its power range.

Please read this manual carefully, experiment with the functions and hopefully you will experience a new dimension in the reproduction of **acoustic** and **electric** guitar.



ACOUSTIC CHANNEL

INPUTS

The acoustic channel of the Austin™ 400 has two inputs, one featuring high gain and the other **one-third** as much gain. The high gain input jack is actually 10 dB more sensitive than most inputs found on guitar amplifiers. This input is designed for an instrument with a typical piezo (ceramic) transducer type pickup. Piezo type add-on pickups require this extra 10 dB of gain so the signal-to-noise remains acceptable throughout the audio chain. The low gain input is standard as far as input sensitivity for guitar amplifiers go and should be used with those instruments having built-in preamps (batteries) as this signal is quite a bit stronger than the average piezo pickup. The gain of both the inputs are the same and is slightly lower than the low gain jack when instruments are plugged into both jacks. Note: Piezo transducer type instruments should be plugged into the high gain input and instruments containing preamplifiers built-in should be plugged into the low gain input. Two instruments containing preamps can be plugged into both inputs simultaneously.

PRE GAIN/PULL BRIGHT CONTROL

The pre gain control is similar to the conventional volume control in that it is the first level setting device in the system. Operation of this control is conventional and even though the associated circuitry is quite different from the older totally passive units there should be no problem with the operation. This control should be adjusted to the desired gain necessary for the instrument but it is also working in conjunction with the post gain control. Once the post gain control is adjusted properly, then the gain desired for each individual instrument patched into the Austin™ 400 should be set with the pre gain control.

The pre gain control also features an integral "pull switch" which adds a significant boost (6 dB) to the high frequencies when it is activated. This high frequency boost gives a nice "edge" to clean playing styles and has been tailored specifically for **acoustic guitar**. The boost is activated by pulling out on the pre gain control and defeated by simply pushing the knob inward.

POST GAIN CONTROL

The post gain control sets the overall level from the preamp which feeds the 210 watt power section of the Austin™ 400. The action of this control is very similar to that of a master volume control and can be used to control the dynamics of the preamp section by decreasing the sensitivity of the power amp. Normal settings of this control will be from 12 o'clock to full clockwise. Rotating the control clockwise increases the sensitivity of the power amp and the overall volume level of the system. Some studio applications, because of low noise requirements, may need a fairly low setting of the post gain control but please be careful to keep the post gain control adjusted to at least the **same number setting** of the pre gain control to avoid preamp over load which may cause distortion. An average setting for the post gain control under normal conditions during concert situations will be from the number 5 to 7 positions and could be slightly lower for studio applications. Once this control is adjusted properly for the amount of sensitivity you desire for the overall system, the gain of the individual instrument may be accomplished with the pre gain control.

EQUALIZATION

LOW EQ CONTROL

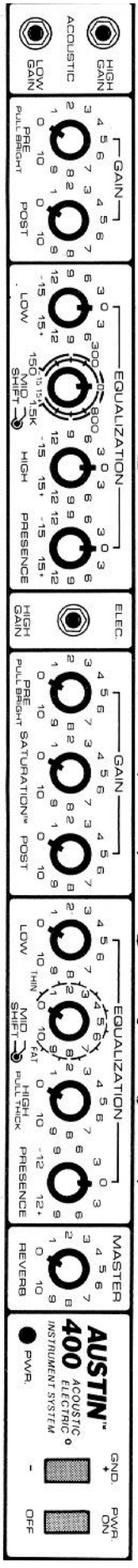
The low EQ control is of the active "shelving type" and provides low frequency boost in the clockwise positions and low frequency cut in the counterclockwise positions. Flat response is obtained in the vertical (12 o'clock) position as indicated by the zero in the center of the rotation. The action of this control is more or less conventional and no operational problems should be encountered. You should, however, avoid excessive low end boost since this greatly affects your amp's power reserve (headroom). Extreme low frequency boost also adds greatly to feedback problems encountered with acoustic instruments. The low EQ control is capable of more than 15 dB of boost or cut and you should be aware that each 3 dB doubles the amount of power necessary to produce the desired amount of low end. Even the 210 watt RMS capability of the Austin™ 400 may be overloaded by excessive low end boost at high volume levels and the tonality may become "confused" and more "muddy" than desired.

MID EQ CONTROL

This control enables a boost or cut of 15 dB in the vital mid-range frequencies and exhibits a peak/notch type response. Added versatility is possibly because of the ability to vary the operating centerpoint throughout the mid-range from 150 Hz to 1,500 Hz by use of the frequency shift control. The mid EQ control works in a similar manner to the low and high EQ controls and should present no operational difficulties. Clockwise settings increase "fat" mid-range frequencies and counterclockwise settings will result in a "thinner" sound with less mids apparent. Notice the zero position at 12 o'clock will indicate **no** change is taking place to the mid-range frequencies. A setting of zero will render the shift control ineffective because the mid-range is at that point totally "flat". Most acoustic guitar applications will require settings of the mid-range control from **minus 3** to **minus 6** usually and these settings, of course, will vary from player to player because of technique and outboard equipment used. Patch cords, volume pedals, effects devices, guitar pickups, etc. all tend to have some effect on the overall tonality and for that reason we are not able to give a **"cookbook"** set of equalization settings for any particular instrument. Experience has proven that **mid-range cut** is generally more pleasing to the player for most string instrument applications and a slight amount of mid-range cut is usually necessary for acoustic/electric applications due to acoustic feedback problems especially at high levels.

SHIFT CONTROL

The shift control has the ability to move the center frequency where the mid-range has its effect. The sweep capability of the shift control can position the middle control at any point along the frequency spectrum between 150 Hz and 1,500 Hz. This is a very wide range of frequencies considering the fundamental frequencies of acoustic guitar. The shift control, with this broad capability, becomes one of the most functional systems with the Austin™ 400. Please be aware that the shift control works in conjunction with the mid-range control and any conditioning performed by the mid-range control is altered by the shift control. For instance, a setting on the minus (cut) position with the mid control will create a dip or a notch in the mid-range response and the shift can **relocate** this "notch" anywhere between 150 Hz and 1,500 Hz. When this notch is preselected with the mid-range control you will notice that counterclockwise settings near 150 Hz with the shift will yield "thinner" sounding mids while clockwise setting will yield "fatter" sounding mids. Note also that just the opposite effect is possible when you select a boost with middle control and rotate the shift from 150 Hz to 1,500 Hz. Most acoustic guitar players will adjust the shift control in the area between 300 Hz and 800 Hz depending on the player, once again, and the equipment used.



HIGH EQ CONTROL

This control is of the active "peak/notch" type and provides true boost or cut in middle high frequency ranges (2 KHz). As the low and middle controls, the high EQ produces boost in the clockwise positions and cut in the counterclockwise settings while flat response is obtained in the vertical (12 o'clock) position. The action of this control is conventional but pronounced. Care should be taken not to overboost the highs since this can contribute an unpleasantly "harsh" response as described above. Boosting of this control may also cause undesirable feedback with acoustic instruments when operated near the amplifier. Notice also that there will be a slight interaction between the shift control and the high EQ control when the shift is operated up near 1,500 Hz because this places the middle control and the high control very close to each other in the frequency spectrum.

PRESENCE CONTROL

The presence control has been incorporated from several of our other models which have employed this feature over the years and is a very useful control element for acoustic guitar. The control is a conventional rotary type device but acts very similar to a "bright boost" system. Once again, this control is active with 15 dB of cut or boost and takes affect at approximately 5 KHz. Extra brightness which emphasizes silky highs may be added with this presence control in the boost position. If your preference in tonality is for no additional "sizzle" on the top end, then you may require the presence control to be operated on the "minus" or counterclockwise position. Most acoustic guitar applications require a slight amount of presence boost but it is usually in the neighborhood of only 3 to 6 dB. Once again, these settings will vary according to the equipment used and playing technique. Please be aware that additional high frequency boost may be obtained with the pull bright control also. (see explanation for pre gain/pull bright)

LEAD CHANNEL

INPUT

The lead channel of the Austin™ features one input jack with a typical sensitivity equivalent to the "high gain" input provided on most guitar systems. (See specs) In-line effects patching should be accomplished at the rear panel (effects send & return) rather than between the guitar and this input. Extreme overboosting with outboard devices before this input could overload the input preamp.

GAIN BLOCK

The Austin™ 400 has our new Gain Block™ signal processing front end. The provision of three interacting controls allows total control of the amp's gain structure (dynamics), harmonic content, overload texture, and output level. Each of the three control functions must be understood and adequate experimentation time must be spent in order to fully utilize the potential of this unique and innovative Gain Block™ circuitry.

PRE GAIN CONTROL

The pre gain control for the **lead Gain Block™** determines the input level and functions similar to any typical channel gain control. This control should be operated with sufficient gain to drive the **Saturation™** control for the smooth, compressed, tube-type overload. Please be aware that this control exhibits an audio taper and develops approximately 1/4 gain at the 12 o'clock position with the balance being obtained as the control is rotated clockwise. After adjusting the post gain to its approximate mid point position, the pre gain control should be set once again to personal taste for your particular style of music. This control features a pull switch for extra brightness when the knob is pulled outward slightly. Saturation™ generally performs better without the bright feature activated.

SATURATION™ CONTROL

The **Saturation™** control is a function of the preamp circuitry and very closely simulates warm, tube-type, harmonic overload. This control creates preamp overload and works in conjunction with the pre and post gain controls in the **lead Gain Block™**. The popular tube-type compression effect is accomplished with the pre gain and Saturation™ controls.

POST GAIN CONTROL

The post gain control regulates the overall gain (sensitivity) of the **lead Gain Block™** and is conventional in operation. The post control may be used exactly like any other master gain control. An approximate setting of 12 o'clock should be maintained for maximum headroom. When overload is desired with the pre gain and Saturation™, the post gain may be adjusted to personal taste.

LOW FREQUENCY CONTROL

The low frequency control adjusts the tonality for the amount of smoothness and offers extended bandwidth on the low end of the tonal range. Care should be taken to not overboost with this control to avoid muddiness and premature overdriving of the power amp. Extreme overboosting of bass frequencies tends to distract from the projection capability of the amplifier and confuses material which should be heard for lead guitar lines.

MID-SHIFT CONTROL

The vital mid frequencies are controlled by this unique concentric (stacked) system of potentiometers. **Please be aware that mid frequencies contribute, to a large degree, to the overall tone color of the guitar in all forms of music.** Although this is a new type of system for controlling the mids, it should present no problem in operation. The inner (top) control determines the **amount** of mid frequencies. Rotating this control clockwise increases the mids for a greater degree of "fat" tonalities while counterclockwise rotation will cause the overall tone color to become "thin." The outer (bottom) control allows the player to "passively" shift the band at which the mid frequencies will operate. After experimenting with these controls, the player will be able to determine "where" and "how much" of the mid-range tonalities best suit his/her playing style and technique.

HIGH/PULL THICK

The high EQ control is similar in operation to a typical passive treble control and varies response of the high end at frequencies below the effect of the presence control. The pull switch on the high control activates the "thick" mid range boosted tonality which is very popular with rock players. Notice that the bass and mid controls have little effect when pull thick is activated.

PRESENCE CONTROL

The presence is an active high frequency EQ with cut and boost capability. This control may be used similarly to a bright boost for the upper range of frequencies when additional bite is desired. Notice, flat response is indicated with a "0" at 12:00.

MASTER REVERB CONTROL

The reverb control determines the amount of delayed (reverb) signal mixed back into the output and its operation is conventional. In addition, the reverb may be switched on and off through the use of the remote footswitch. This footswitch patches into the rear panel footswitch jack and is conventional in operation (see explanation for footswitch operation). We have included a new reverb circuit featuring a "current source drive" together with a new Accutronics (Hammond) three-spring reverb unit. The calibration of this control is **zero** to **ten** and should provide more than enough reverberation for most situations.

PILOT LED

The pilot LED indicates when the unit is receiving electrical supply from the mains and is operational.

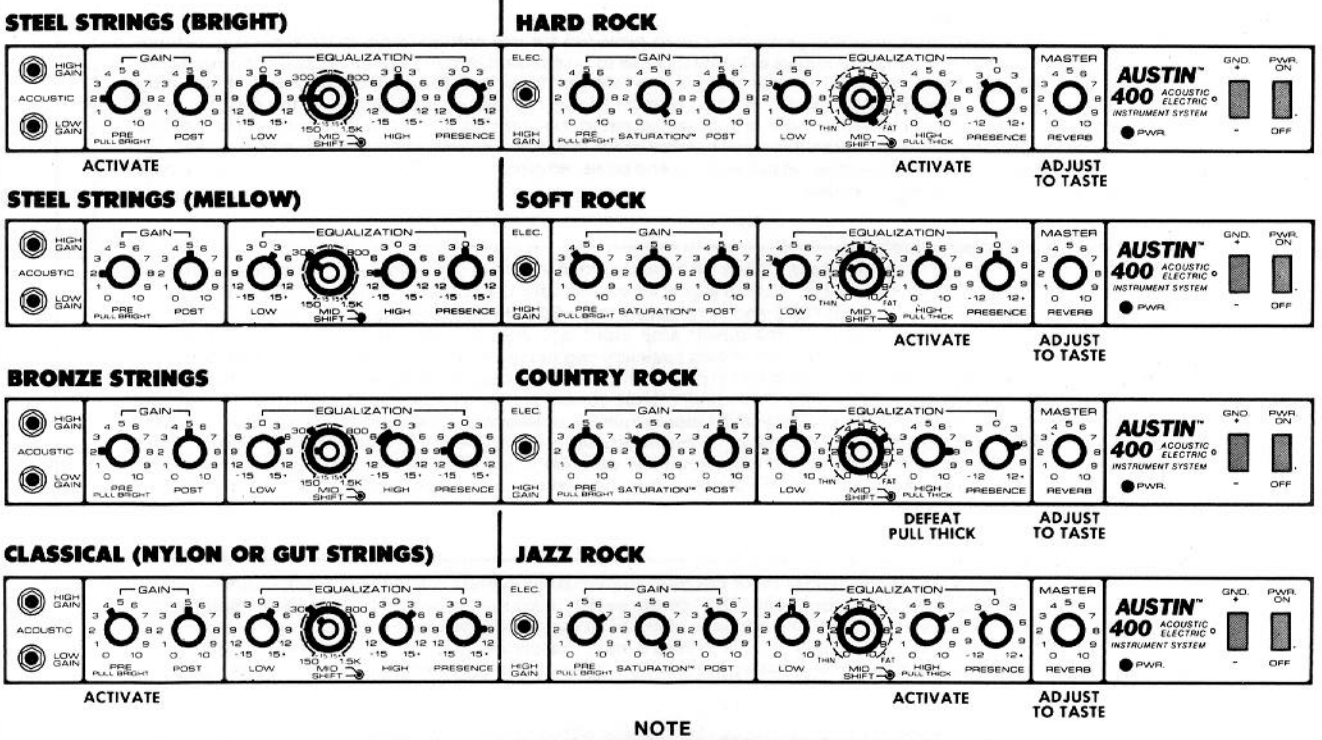
GROUND LIFT SWITCH

This switch is the three-position type with the center position completely removing the internal grounding capacitor from the circuit. This position is normally recommended for situations where the AC power receptacle is known to contain a properly grounded third wire. If properly grounded AC mains supply is not available, suitable ground lift adaptor should be used. The (+ and -) positions are used to ground the amplifier properly when only two-wire services are available. One of these positions will yield the lowest amount of residual hum of "popping" when the instrument is touched. This switch is not functional on 220 volt or 240 volt export units.

POWER SWITCH

The AC power switch is the conventional rocker type which indicates off at the bottom and on at the top.

ACOUSTIC TONE SETTINGS — ELECTRIC TONE SETTINGS



NOTE

THE ABOVE TONE CHARTS ARE MEANT ONLY AS A GENERAL GUIDE AND ARE PROVIDED TO FAMILIARIZE THE PLAYER WITH THE FUNCTIONS AND CONTROLS OF THE AUSTIN™ 400. ADJUSTMENTS TO THESE CONTROLS WILL BE NECESSARY DUE TO VARYING TYPES OF INSTRUMENTS, PICKUPS AND ACCESSORIES UTILIZED ALONG WITH YOUR STYLE OF MUSIC AND PLAYING TECHNIQUE. BE SURE TO READ ALL OF THIS OPERATING GUIDE TO UNDERSTAND FULLY ALL OF THE CONTROLS AND THEIR FUNCTIONS.

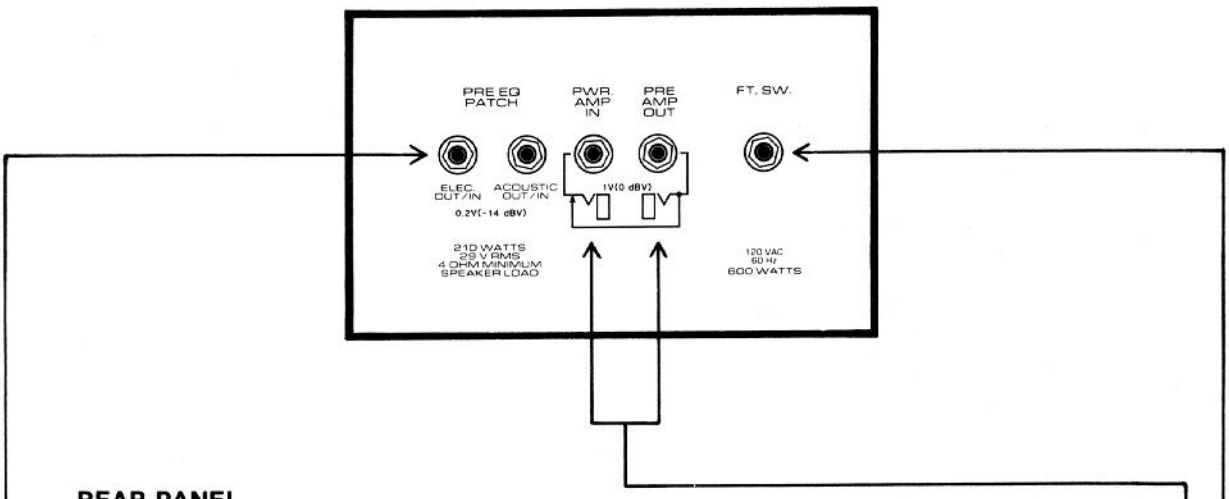
SET UP AND OPERATING INSTRUCTIONS FOR LEAD CHANNEL

The procedure for arriving at optimum control settings with any particular guitar and equalization characteristics are as follows:

1. Plug into the lead channel.
2. Set the post gain control somewhere in the middle of its range.
3. Set the pre gain control somewhere in the middle of its range.
4. Adjust the Saturation™ control for the desired amount of gain/compressed clipping.
5. Readjust the pre gain control to assure adequate drive.
6. Readjust the post gain control for overall level desired.

NOTE

The CDP™ Horn is functional only with the acoustic channel. A special high frequency roll-off circuit eliminates the effect of the horn response when playing an instrument thru the **lead** channel. The additional high frequency response is a necessary feature for the many applications of electric/acoustic guitars, banjos, mandolins, etc., but is usually detrimental to most lead guitar tonalities when overload harmonics are desired. If clean response is desired with extra high end for lead guitar, then the option of using the acoustic channel may be tried.



REAR PANEL

PRE EQ PATCH - Each channel

The unique pre equalization patching jacks have been provided for use with external devices such as volume pedals, effects devices, etc. This feature allows external devices to be patched into the system **after** the **input preamp** but **before** (pre) **the EQ** (tone controls). These jacks are a "stereo" type, and to use this feature, a stereo plug (ring/tip/sleeve) to a "Y" cord must be used. The "tip" portion of the 1/4" stereo jack serves as the channel send (output) while the "ring" portion will return the processed signal to the channel. The "sleeve" portion serves as the ground. The sensitivity of the pre EQ patch has been optimized for low level (instrument signal) type devices. NOTE: Line level (1 volt) devices should be patched at preamp out and power amp input loop. Shielded cables should be used for all external patching of effects devices.

PREAMP OUT AND POWER AMP IN

To allow in-line patching of various accessories we have included a system of preamp out/power amp in jacks on the rear panel. The preamp out is a straight preamp signal which includes the entire equalization circuit plus reverb. The output level is approximately **1 volt RMS** and is relatively low - 600 ohm impedance. The preamp out signal is connected through a switching contact to the power amp input jack and normally the preamp out is internally connected to the power amp's input. This circuit allows basically two modes of operation. When signal is taken from the preamp output, it is **also delivered** to the internal power amplifier. If access to the power amplifier is needed or if some accessory device such as a noise gate, delay line, effects device, etc. is to be patched in-line, then the preamp output signal must be connected to the **auxiliary unit's input** while the **auxiliary unit's output** must be connected to the **power amp's input** with shielded cables. This patch places the auxiliary unit "in-series" (in-line) with the normal signal path. Additional slave amp/speaker combinations should be patched using the preamp output. With this unique patching facility many interesting effects can be accomplished. Line level devices should be used with the preamp out and power amp input on the rear panel.

REMOTE FOOTSWITCH

The Austin™ switching system is slightly more complex than most amplifiers but the results are definitely worth the time required to understand those functions. The remote switch includes (3) push switches; **Mute, Saturation™** and **Reverb**. The **mute** switch simply "kills" the acoustic channel so that excessive feedback may be eliminated while EQ adjustments are made near the amplifier. The **reverb** switch merely defeats the internal reverb system. The **Saturation™** switch defeats any overdriven tonality previously adjusted with the **Saturation™ control**. (See operation of Saturation™ control.)

NOTE: The action of the remote Saturation™ switch also defeats the "pull thick" function when it has been activated (see Pull Thick) and automatically readjusts the post gain control on the lead channel to maximum. This switching function is extremely useful when attempting both clean and saturated tonalities with the lead channel. Please be aware that certain applications could require a fairly low setting of the post gain when gain/compression clipping is desirable with the lead channel. Then "clean" operation of the lead channel is not affected by the "low" setting of the post gain when the Saturation™ switch is depressed as the maximum dynamic range of the preamp is accomplished by having the post gain revert back to maximum (full clockwise) for the clean tonality.

LINE CORD

For your safety we have incorporated a three-wire line (mains) cable with proper grounding facilities. **It is not advisable to remove the ground pin under any circumstances!** If it is necessary to use the amp without proper grounding receptacles a suitable grounding adaptor should be used. Much less noise and the probability of shock hazard is greatly reduced when the unit is operated with the proper grounded receptacles.

DDT™ COMPRESSION

The Austin™ 400 is a compact and powerful amplifier that features 210 watts RMS at 4 ohms with two separate channels, a full complement of equalization, and a new type of dynamic compression. We have determined, through much research, that the compression circuitry should prevent the power amp/speaker/horn combination from running out of headroom (clipping) and should be as simple to operate as possible to avoid undue complications for the user. The system was designed to maximize the dynamics available from the amp within its power output capabilities. We have **not** included other compression controls since we did design an exclusive distortion detection system which is patented and senses conditions which might cause overload and activates compression only when "clipping" is imminent. This technique effectively utilizes every precious watt available from the Austin™ 400.

AUSTIN™ 400 SPECIFICATIONS:

POWER AMPLIFIER SECTION:

RATED POWER & LOAD:
210 W RMS into 4 ohms with DDT™ compression

POWER @ CLIPPING:
(Typically @ 5% THD, 1 KHz, 120 VAC line)
130 W RMS into 8 ohms
220 W RMS into 4 ohms
2 ohms not recommended

FREQUENCY RESPONSE:
+0, -1 dB, 20 Hz to 20 KHz @ 200 W RMS into 4 ohms

TOTAL HARMONIC DISTORTION:
Less than 0.2%, 100 mW to 200 W RMS, 20 Hz to 10 KHz, 4 ohms, Typically below 0.1%

DDT™ DYNAMIC RANGE:
Greater than 20 dB

DDT™ MAXIMUM THD:
Less than 0.5% THD for 6 dB overload
Less than 1% THD for 20 dB overload

HUM & NOISE:
Greater than 95 dB below rated power

POWER CONSUMPTION: (Domestic)
600 watts, 50/60 Hz, 120 VAC

PREAMP SECTION:

THE FOLLOWING SPECS ARE MEASURED AT 1 KHz WITH THE CONTROLS PRESET AS FOLLOWS:

ACOUSTIC CHANNEL:
- **PRE GAIN PULL BRIGHT OFF (IN)**
- **POST GAIN @ 10**
- **LOW EQ @ +6 dB**
- **MID EQ @ -9 dB**
- **SHIFT @ 300 Hz**
- **HIGH EQ @ +3 dB**
- **PRESENCE EQ @ +6 dB**

ELECTRIC CHANNEL:
- **PRE GAIN PULL BRIGHT OFF (IN)**
- **SATURATION™ @ 0**
- **POST GAIN @ 10**
- **LOW & HIGH EQ @ 10**
- **MID EQ @ 0**
- **SHIFT @ 5**
- **PULL THICK OFF (IN)**
- **PRESENCE @ 0 dB**

ADDITIONALLY:
- **MASTER REVERB @ 0**

NOMINAL LEVELS ARE WITH PRE GAIN @ 5
MINIMUM LEVELS ARE WITH PRE GAIN @ 10

ACOUSTIC HIGH GAIN INPUT:
(For transducer type pickups)
Impedance: Very High Z, 2.2 MEG ohms
Nominal Input Level: -34 dBV, 20 mV RMS
Minimum Input Level: -51 dBV, 3 mV RMS
Maximum Input Level: 0 dBV, 1 V RMS

ACOUSTIC LOW GAIN INPUT:
(For guitars with preamps)
Impedance: Very High Z, 2.2 MEG ohms
Nominal Input Level: -24 dBV, 60 mV RMS
Minimum Input Level: -41 dBV, 9 mV RMS
Maximum Input Level: +10 dBV, 3 V RMS

BOTH HIGH & LOW GAIN INPUTS:
(For two guitars with preamps)
Impedance: High A, 44K ohms
Nominal Input Level: -18 dBV, 120 mV RMS
Minimum Input Level: -35 dBV, 18 mV RMS
Maximum Input Level: +16 dBV, 6 V RMS

ELECTRIC 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

PRE EQ PATCH OUTPUT: (Stereo jack tip)
Function: Low level effects send
Load Impedance: 10K ohms or greater
Nominal Output: -14 dBV, 0.2 V RMS

PRE EQ PATCH INPUT: (Stereo jack ring)
Function: Low level effects return
Impedance: High Z, 220K ohms
Designed Input Level: -14 dBV, 0.2 V RMS
(Switching jack providing patch output to patch input connection when not used)

PREAMP OUTPUT:
Function: High level post EQ signal send
Load Impedance: 1K ohms or greater
Nominal Output: 0 dBV, 1 V RMS
Maximum Output: +18 dBV, 8 V RMS

POWER AMP INPUT:
Function: High level post EQ signal return
Impedance: High Z, 22K ohms
Designed Input Level: 0 dBV, 1 V RMS
(Switching jack providing preamp output to power amp input connection when not used)

SYSTEM HUM & NOISE:
(@ Nominal input settings, 20 Hz to 20 KHz unweighted)
75 dB below rated power

ACOUSTIC EQUALIZATION:
- **LOW: +-15 dB @ 100 Hz, shelving**
- **MID: +-15 dB (@ shift frequency), peak/notch**
- **SHIFT: 150 Hz to 1500 Hz**
- **HIGH: +-15 dB @ 2 KHz (special EQ)**
- **PRESENCE: +-15 dB @ 5 KHz, shelving**
- **PULL BRIGHT: +6 dB @ 2 KHz**

ELECTRIC EQUALIZATION:
Special low, mid & high passive type EQ with mid shift (thin/fat) circuitry & pull thick
- **PRESENCE: +-12 dB @ 5 KHz, shelving (active)**
- **PULL BRIGHT: +6 dB @ 2 KHz**

REMOTE FOOTSWITCH FUNCTION:
- Acoustic channel defeat
- Master reverb defeat
- Saturation™ defeat
- (Simultaneous pull thick and post control defeat)

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
½	110
¼ 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, i.e. 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.

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

PEAVEY ELECTRONICS CORPORATION / 711 A Street / Meridian, MS 39301 / U.S.A.