



Summit Audio Inc.®

*Established 1979*

# Summit Audio **ECS-410 Everest**

Operation Manual





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# ECS-410 EVEREST

## *Flagship Channel Strip*

Operation Manual

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Version 1.2



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# Introduction

Congratulations on your purchase of the Summit Audio ECS-410 Everest Channel Strip, a distinctly different, four section analog processor and microphone preamp, ideal for tracking and processing your most important signals.

Each section is completely independent with its own fully balanced I/O and the ability to route each section together internally using TouchPatch™ a unique and amazingly intuitive routing system. You have four complete processors combined into one superlative master channel strip.

- Mz2 - Microphone and Instrument Preamplifier
- Dc1 - Dual Mode Dynamics Control
- Fe1 - Passive Three Band Equalizer
- Db2 - Drive Bus Master Output and Drive Section

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## Features

- *Tube or Discrete Transistor Mic Preamp w/Jensen Transformer*
- *Passive LC Equalizer for unparalleled warmth and flavor*
- *Dual Mode Dynamics using Summit Classic Design*
- *DriveBus Transistor or Dual Tube Overdrivable Output*
- *TouchPatch™ Single Touch Routing*
- *Independent Balanced I/O on All Sections*
- *Hand Crafted in the U.S.A.*

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## *Unpacking*

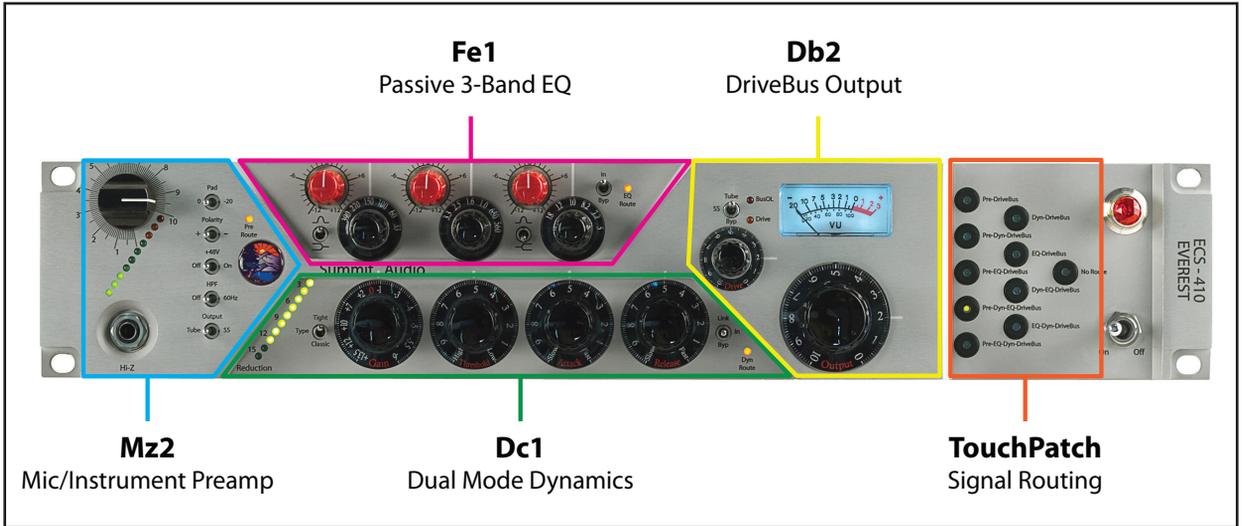
Carefully unpack the ECS-410 Everest and its power cord. Save the carton and packing material for possible future use. Before powering up the unit, read this manual and make sure the power selector switch is set to the correct voltage for your part of the world.

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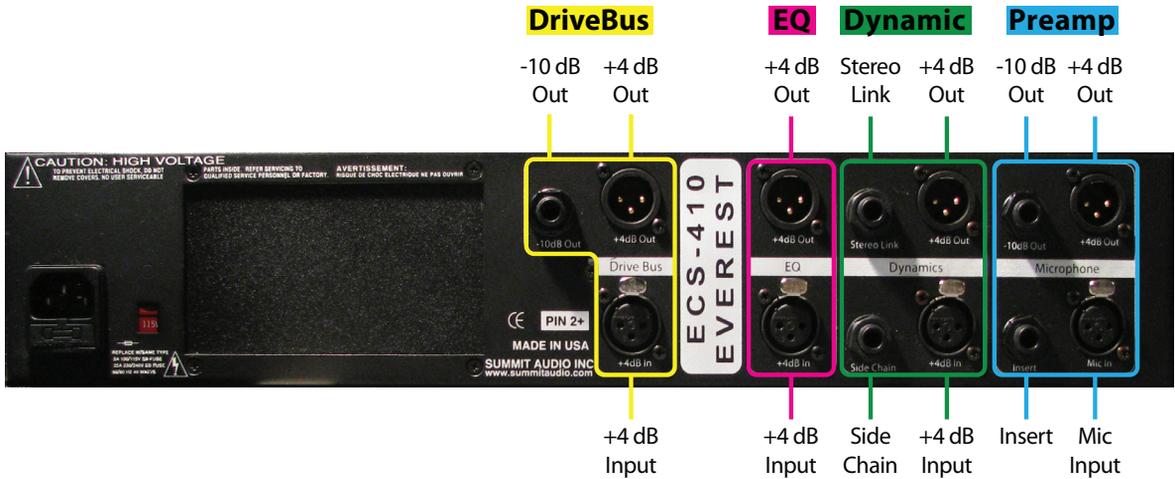
## *Important Warranty Information*

For your 3 year warranty, register your ECS-410 Everest online today at [www.summitaudio.com](http://www.summitaudio.com).

# Front Panel Overview



# Rear Panel Overview



## Connections

### Suggested Connection Scheme

The ECS-410 will normally be connected with every input and output point wired into your balanced analog Patchbay. This hookup allows convenient access to the plentitude of inputs and outputs and provides the greatest flexibility.

Because you have the power of TouchPatch, you may be tempted to connect just a single channel of input and output. Although this simple setup is fine while you get acquainted with this fine instrument, you'll be missing out on a lot of potential connections.

**Note:** You can use all inputs and outputs at the same time for versatility.

**Important:** For proper operation of the ECS-410 (or any vacuum tube device for that matter), allow the unit to warm up with power on for 15 minutes before use.

**Important:** Do not block the cooling holes and allow adequate ventilation.

### +4 Balanced Outputs (4)

Each section of the ECS-410 has its own +4dBu XLR output. All four outputs are balanced and low impedance, compatible with professional recording and audio equipment.

Balanced outputs provide superior noise immunity in the studio and when using long cable runs.

The output connector is wired as follows:

Pin 1 = Ground, Pin 2 = (+) Signal, Pin 3 = (-) Signal.

### -10dB Balanced Outputs (2)

The Microphone Preamp and the DriveBus Output sections both have an additional -10dBV, 1/4" balanced (TRS) output designed to interface with your recording device, compressor or EQ. (0 VU on the output VU meter corresponds to +4dBu)

## XLR Microphone Input

This is a balanced, low level input designed for microphones. The gain can be adjusted from -20dB to +60dB using the front panel Gain control and the -20 dB Pad switch.

48-volt phantom power can be applied to this jack using the front panel switch.

## Front Panel Hi-Z Input

This is a 10K Ohm impedance, unbalanced instrument level input controlled by the front panel Gain control. This tube amplified input is designed for electric instruments such as guitar or bass, although higher level signals, such as a synthesizer, can also be connected here. The Hi-Z input overrides the Microphone input whenever a plug is inserted into this jack.

## Insert Point (*mic preamp*)

The TRS insert jack allows you to insert another processing device into the microphone preamp circuitry after the transformer and gain control, but before the preamp (solid-state or tube) output stage. An insert cable of the type required is shown at right.

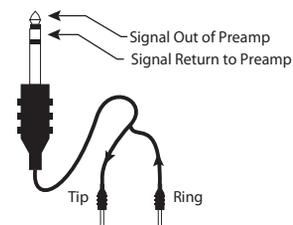
This jack can also be used as another input or output.  
(Tip is output; Ring is input.)

## Side Chain Insert (*dynamics*)

The side chain insert jack allows an external signal (such as an equalizer) to be inserted in order to control the Dynamics section Gain Cell from a separate signal.

For example, by inserting an equalizer here (the Fe1 is handy), you can perform frequency selective compression such as de-essing or de-booming. A separate signal can also be connected to the tip of the jack in order to “duck” the signal running through the Dc1.

**Note:** The Hi-Z input overrides the Microphone input whenever a plug is inserted into the Hi-Z jack.



### INSERT CABLE

Signal is sent out on tip of plug and returned to mixer via ring of plug.

The TRS jack wiring on the Dynamics insert is as follows: the Tip is the output of the Gain Cell, and the Ring connects to the input of the Sidechain Processor.

## Stereo Link

Link mode allows the Dynamics section of two ECS-410 Everest units to be linked to process stereo signals. When two units are linked in this way, the leveling action will be the same on both units. When stereo linked, the channel providing the most compression will always control the other unit.

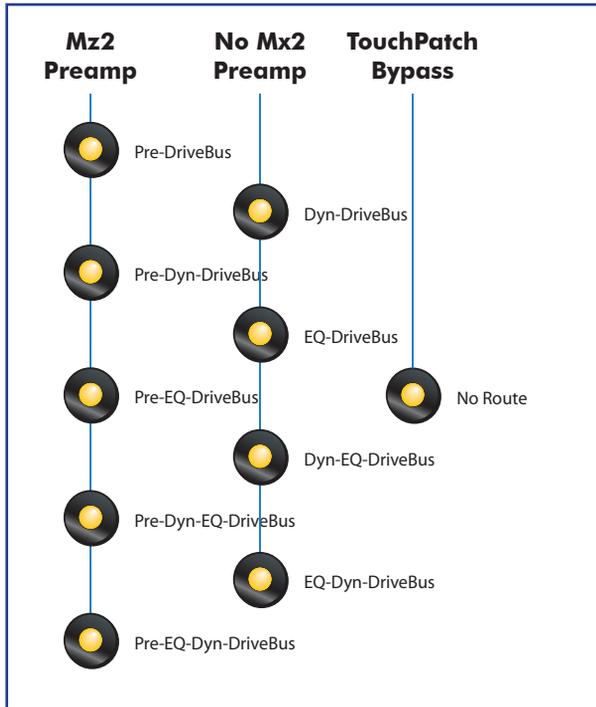
To “Stereo Link” two units:

1. Connect a standard 1/4” mono audio cable between the “Stereo Link” jack of two ECS-410 units.
2. Set the controls on both units the same.
3. Set the BYPASS switch on the front panel to LINK.

## A.C. Receptacle

The ECS-410 Everest is factory wired for either 100, 115 or 230 Volts AC. Before connecting AC power make sure the unit is wired for the correct voltage used in your country.

# TouchPatch™ Routing System



Unique to the ECS-410, the TouchPatch™ routing allows you to route any section to and from any other section with a touch of a single button. TouchPatch controls what is feeding DriveBus and anything not routed is available to be used individually from the back panel.

The first row of five buttons include the Mz2 Preamplifier as the first processor in the chain. (*The Db2 DriveBus is always last.*)

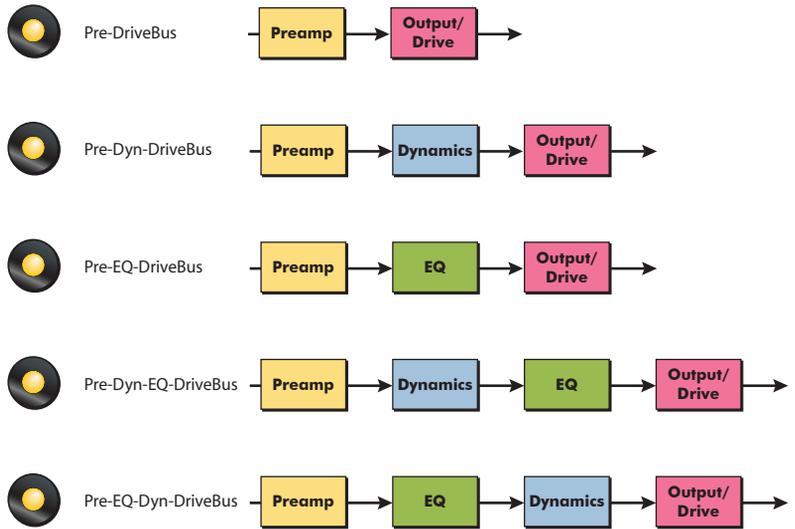
The second row of four buttons have all the remaining effects combinations but *without* the Mz2 Preamplifier.

The No Route button turns off all routing to the DriveBus, allowing you to use each processor separately.

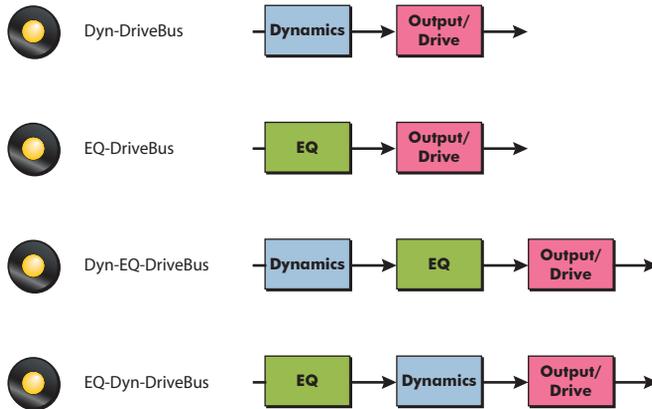
■ *TouchPatch makes setup and experimentation a breeze since all the patching is automatic.*

*In addition, the audio signals remain on the circuit board without being routed through noisy connectors and switches.*

### Preamp Input



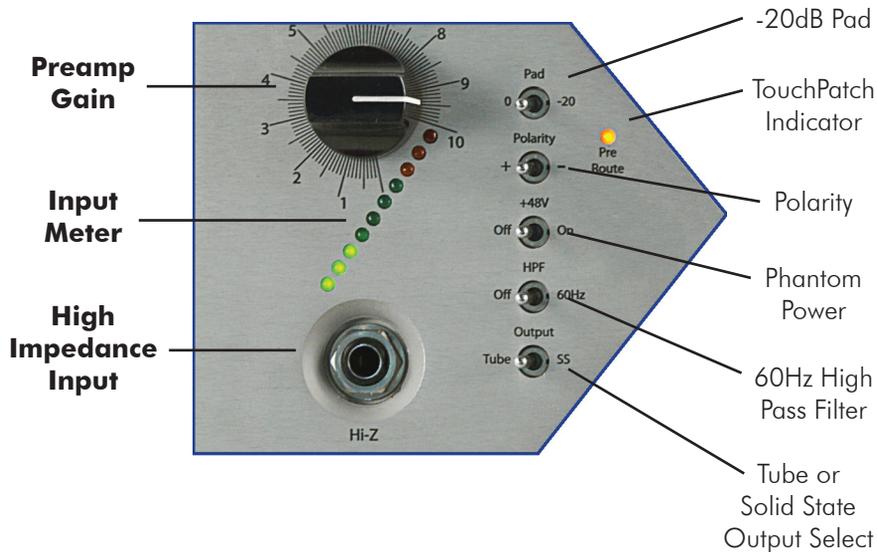
### No Preamp



### Independent Processors



# Mz2 - Microphone & Instrument Preamp



The Mz2 is an exotic blend of discrete, solid-state and tube circuitry designed to offer the full range of features in a microphone and instrument preamplifier. An interstage Jensen line transformer adds warmth and character. Each stage of the Mz2 has been carefully crafted for the ultimate in performance and sound. With the Mz2, you get the best of both worlds, solid-state clarity and vacuum tube tone.

## Microphone Preamp Gain Control

This control adjusts the gain of the microphone preamplifier from 0dB to +60dB. Set the input gain to get a strong level on the input meter without turning on the top red clip indicator.

## Pad Switch

This switch engages or disengages a  $-20\text{dB}$  pad to set the input sensitivity of the microphone input.

## Input Meter

The 10-segment input meter indicates the signal level at the input of the preamp. The top red LED indicates hard clipping.

## Hi-Z Input

This input can be used to mix in a musical instrument or other high impedance signal. The Hi-Z input is always routed to the tube section.

## TouchPatch Indicator

This LED lights to indicate that the Preamp section is routed to the internal DriveBus.

Outputs of any section are always active, even if routed via TouchPatch. If not routed via TouchPatch inputs as well as outputs are active.

## Polarity Switch

This switch inverts the polarity of the microphone input in order to compensate for out of phase equipment or wiring.

## +48V Phantom Power Switch

This switch enables +48 volt phantom power to the microphone input. Turn the unit off to bleed off the voltage.

**Warning:** Some microphones (notably ribbon mics) cannot tolerate phantom power and may be damaged. Check the microphone's specifications and requirements before using phantom power.

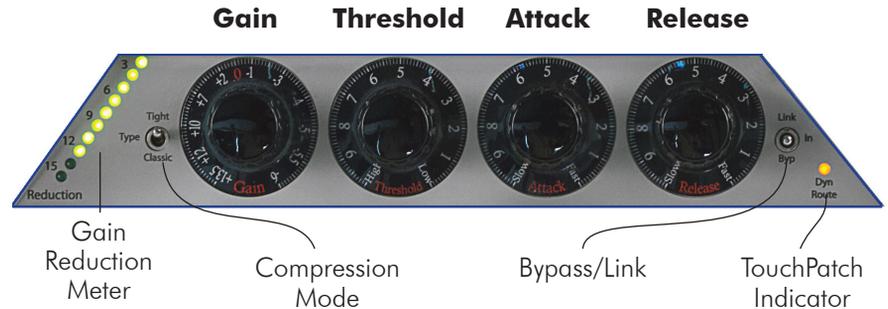
## High Pass Filter

To reduce rumble or sub-audio frequencies, you have the option to enable this virtually transparent high pass filter. The frequency is fixed at 60Hz with a gentle 6dB/octave rolloff.

## Tube/Solid-State Output Switch

This switch selects between a solid-state or vacuum tube preamplifier. Choose SS for ultra-clean-pristine or Tube for more warmth and color.

## Dc1- Dual Mode Dynamics Control



The Dc1 utilizes Summit's proprietary compression technology, with ultra-low noise coupled with smooth, musical operation. There are 2 modes of operation. Classic mode is a smooth, signal-dependent compression, perfect for sweetening vocal and instrument tracks. Tight mode allows a much higher compression ratio and is perfect for controlling peaks and transients, which could spoil your recording.

### Gain Control

The Gain control allows you to boost the output gain of the compressor in order to make up for the gain reduction and is adjustable from -6dB to +13.5dB.

### Threshold Control

This important control sets the level at which gain reduction begins. Everything above the threshold level will be brought down in volume. If the signal falls below the Threshold, no processing will take place.

Use the *Gain Reduction Meter* to identify the correct threshold setting. If you're trying to trim off just the loudest peaks, set the

threshold so the gain reduction meter only shows compression during these peaks.

## Attack Control

Attack controls how quickly the gain is turned down after the signal exceeds the threshold. The attack time is variable from 4mS to 100mS.

An attack setting of about 3 on the scale will delay the onset of compression long enough to preserve the attack transients in guitar, bass or drums while allowing the sustain portion of the sound to be compressed. Use the "Fast" setting to reduce fast transients.

## Release Control

Release controls how fast the gain is returned to its normal setting after the signal has fallen below the threshold again.

Slower release times are generally used to reduce the so called "pumping" effect as the compressor turns on and off. Don't make the release time too long, however, or the compressor won't have time to recover for the next pluck or hit.

In general, the attack and release controls are used to smooth out the action of the compressor, but they can also be used to create special effects.

## Compression Type Switch

The compressor has two modes:

- Classic Mode - soft knee compression with a maximum compression ratio of 3:1
- Tight Mode - fast acting compression with a maximum compression ratio of 10:1

## Bypass/Link Switch

In Bypass mode the Dc1 is switched completely out of the signal path whether patched via TouchPatch or the direct I/O.

Link mode allows the Dynamics section of two ECS-410 Everest units to be linked to process stereo signals. When two units are linked in this way, the leveling action will be the same on both units. When linked, the channel providing the most compression will always control the other unit.

To “Stereo Link” two units:

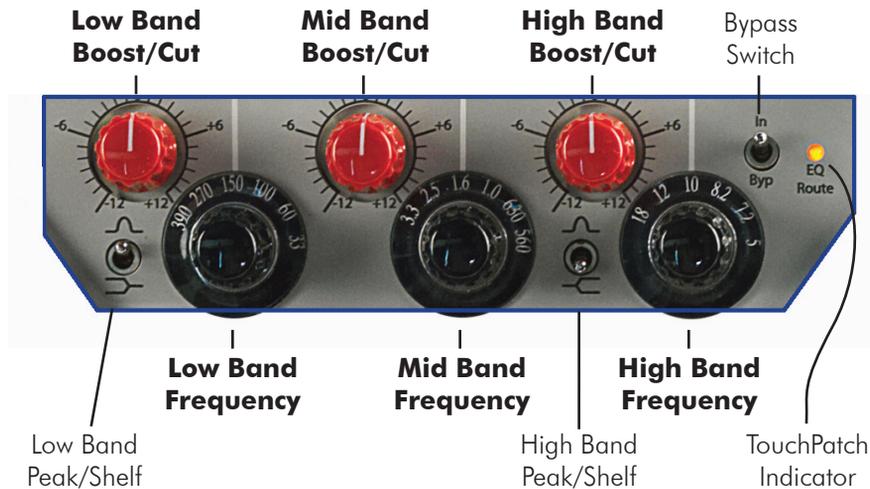
4. Connect a standard 1/4” mono audio cable between the “Stereo Link” jack of two ECS-410 units.
5. Set the controls on both units the same.
6. Set the BYPASS switch on the front panel to LINK.

## TouchPatch Indicator

This LED lights to indicate that the Dynamics section is routed to the internal DriveBus.

Outputs of any section are always active, even if routed via TouchPatch. If not routed via TouchPatch inputs as well as outputs are active.

# Fe1 - Passive Three Band Equalizer



The Fe1 is the perfect tool to sculpt and shape your sound without sounding over processed. The inductor-based design of the Fe1 gives you phase-coherent control with up to 12dB of boost or cut.

## Low Band

The Low EQ band can be set for either a peak or shelving response and can boost or cut by up to  $\pm 12$ dB. The center point of the filter band can be set to any of six frequencies: 33Hz, 60Hz, 100Hz, 150Hz, 270Hz, and 390 Hz.

## Mid Band

The Boost/Cut controls can boost or attenuate the chosen frequencies by up to  $\pm 12$ dB. The Bandwidth (Q) is slightly more than 2 octaves. The center point of the filter band can be set to any of six frequencies: 560 Hz, 630 Hz, 1 kHz, 1.6 kHz, 2.5 kHz and 3.3 kHz.

### Tip: **Easy EQ Setup**

1. Turn the gain up.
2. Dial in the frequency.
3. Set the gain to the desired boost or cut.

## High Band

The High EQ band can be set for either a peak or shelving response and can boost or cut by up to  $\pm 12$ dB. The center point of the filter band can be set to any of six frequencies: 5 kHz, 7.2 kHz, 8.2 kHz, 10 kHz, 12 kHz, and 18 kHz.

## Peak or Shelving Response

The Low and High EQ bands can be set for either peak or shelving response. In shelf mode, for example, the High band continues to boost or cut frequencies above the center frequency. In peak mode the High band creates a bell-shaped response curve.

## Bypass Switch

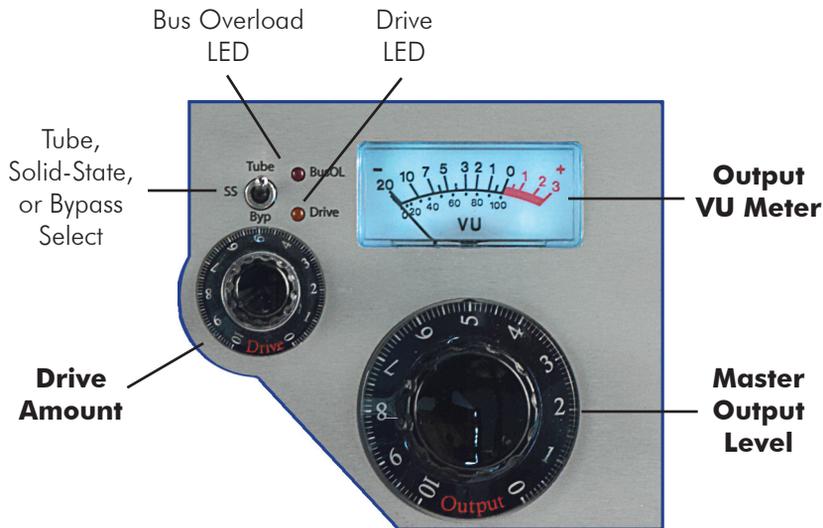
In Bypass mode the Fe1 is switched completely out of the signal path whether patched via TouchPatch or the direct I/O.

## TouchPatch Indicator

This LED lights to indicate that the Equalizer section is routed to the internal DriveBus.

Outputs of any section are always active, even if routed via TouchPatch. If not routed via TouchPatch inputs as well as outputs are active.

# Db2 - Drive Bus Master Output and Drive Section



The Db2 output section contains multiple gain stages for over-driving the vacuum tube or discrete transistor amplifiers. The Drive and Output controls make it easy to dial-in the desired sound at any output level.

- **Saturation:** Turn up the Master Output about halfway, then adjust the Drive for the desired tone. Adjust the Master Output level as needed.
- **Clean:** Turn up the Master Output Level to 10, then turn up the Drive amount to set the output level

## Drive Control

This small knob controls the signal amount into the tube or solid-state amplifier. Turn up the Drive control past 5 to increase saturation and add tone. The Drive LED illuminates to show the over-drive amount.

## Master Output Level

This large knob controls the Everest ECS-410 output level as displayed on the VU meter. The Master Output Level is strictly a volume control and has no effect on saturation and tone.

## Output VU Meter

The Output VU meter makes it easy to set an accurate output level. 0 VU on the meter corresponds to +4dBu.

## Tube/Solid-State/Bypass Switch

This three-position switch selects between Tube output, Solid-state output, or Bypasses the entire section.

## Bus Overload LED

This red LED indicates signal clipping anywhere on the internal TouchPatch bus. This is not the kind of distortion you're looking for.

## Drive LED

The Drive LED indicates "how much" you are overdriving the high-voltage output section. When you are just barely overdriving the stage, this LED will occasionally flicker. When the output stage is saturating in overdrive, the Drive LED will remain solidly on.

---

# Applications

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## Vocals

Turn master output level and drive level all the way down to get initial levels.

**TouchPatch** Pre-Dyn-DriveBus

### Preamp

*GAIN:* Around 12:00, so orange LEDs just start lighting at loudest voice

*PAD:* 0

*POLARITY:* +

*48V:* On for condenser; Off for dynamic or ribbon mics

*HPF:* On

*OUTPUT:* Tube

**Note:** If the Bus Overload LED is lit, reduce the gain in each section until the LED turns off.

### Dynamics

*MODE:* Classic

*GAIN:* +2

*THRESHOLD:* 4, so 1-3 lights on meter light

*ATTACK:* 4

*RELEASE:* 4

### **DriveBus:**

MODE: Tube

OUTPUT: 5, turn up drive to get record level

### **Variations**

For rap, hip-hop, hard rock and metal, set the compressor to Tight mode, turn DriveBus output down and Drive up until you get the amount of drive you like, all the way to distortion.

---

### *Voice Over*

Turn the Master Output level and Drive level all the way down to get initial levels.

**TouchPatch** Pre-Dyn-EQ-DriveBus

### **Preamp**

GAIN: Around 12:00, so orange LEDs just start lighting at loudest voice

PAD: 0

POLARITY: +

48V: On for condenser; Off for dynamic or ribbon mics

HPF: Off

OUTPUT: SS

### **Dynamics**

MODE: Classic

GAIN: +2

THRESHOLD: 4, so 1-3 lights on meter light

ATTACK: 4

RELEASE: 4

## **EQ**

LOW: +3dB @ 100Hz, peaking

MID: -2dB @ 1.6KHz

HIGH: +3dB @ 12KHz shelving

## **DriveBus**

MODE: SS

OUTPUT: 10, turn up drive to get record level

## **Variations**

Put Dynamics in Tight mode for limiting such as in radio work.  
Bypass DriveBus for ultimate clean and quiet, use extra gain from Dynamics section if needed

---

## *Acoustic Guitar*

Turn the Master Output level and Drive level all the way down to get initial levels.

**TouchPatch** Pre-DriveBus

## **Preamp**

GAIN: Set around 12:00, so that the orange LEDs just start lighting at loudest notes

PAD: 0

POLARITY: +

*48V:* On for condenser; Off for dynamic or ribbon mics  
*HPF:* Off  
*OUTPUT:* Solid State

### **DriveBus**

*MODE:* Tube  
*OUTPUT:* 10  
*DRIVE:* Set drive level to get recording level

### **Variations**

Insert the compressor [TouchPatch = Pre-Dyn-DriveBus] into the patch.

*MODE:* Tight  
*GAIN:* +5  
*THRESHOLD:* 4, so 1-3 lights on meter light  
*ATTACK:* 2  
*RELEASE:* 4.4

---

### **Bass**

Turn Master Output level and Drive level all the way down to get initial levels.

**TouchPatch** Pre-Dyn-EQ-DriveBus

### **Preamp**

*GAIN:* Around 12:00, so orange LEDs just start lighting at loudest notes  
*PAD:* 0

*POLARITY:* +  
*48V:* Off  
*HPF:* Off  
*OUTPUT:* Tube

### **Dynamics**

*MODE:* Tight  
*GAIN:* +5  
*THRESHOLD:* 4, so 1-3 lights on meter light  
*ATTACK:* 2  
*RELEASE:* 4.4

### **EQ**

Try these settings:

*LOW:* 0  
*MID:* +4dB @ 630Hz, peaking  
*HIGH:* -6dB @ 18KHz

### **DriveBus**

*MODE:* Tube  
*DRIVE:* 8  
*OUTPUT:* Set to recording or playing level

### **Variations**

Send -10dB output from preamp to live bass amp for monitoring. Set Dynamics to Classic mode for less compression, and lower the threshold a bit. Adjust the Drive and Output Level on the DriveBus to get different levels of drive in tube or solid state modes.

---

## *Electric Guitar Direct*

Turn Master Output level and Drive level all the way down to get initial levels.

**TouchPatch** Pre-Dyn-EQ-DriveBus

### **Preamp**

*GAIN:* Around 12:00, so orange LEDs just start lighting at loudest notes

*PAD:* 0

*POLARITY:* +

*48V:* Off

*HPF:* Off

*OUTPUT:* Tube

*SEND:* Send another output from the preamp to record another track dry, without distortion.

### **Dynamics**

*MODE:* Tight

*GAIN:* +13.5

*THRESHOLD:* 5, so 1-3 lights on meter light

*ATTACK:* 1

*RELEASE:* 1 (watch LEDs so that the just peaks are caught)

### **EQ**

Try these settings:

*LOW:* -2dB @ 100 Hz, shelving

*MID:* +5dB @ 1.6KHz

*HIGH:* +3dB @ 5KHz shelving

**DriveBus:**

*MODE:* Tube  
*DRIVE:* 10  
*OUTPUT:* Set to recording or playing level

**Variations**

Send the -10dB output from preamp to live guitar amp for monitoring. Set Dynamics to Classic Mode for less compression, and slightly lower the Threshold control. Adjust the Drive and Output level on the DriveBus to get different levels of drive. Try both Tube and Solid-state modes to hear the different distortion types.

---

**Kick Drum**

Turn Master Output level and Drive level all the way down to get initial levels.

**TouchPatch** Pre-Dyn-EQ-DriveBus

**Preamp**

*GAIN:* Around 12:00, so orange LEDs just start lighting at loudest notes  
*PAD:* 0  
*POLARITY:* +  
*48V:* On for condenser; Off for dynamic or ribbon mics  
*HPF:* Off  
*OUTPUT:* Solid State

**Dynamics**

*MODE:* Classic  
*GAIN:* +4

*THRESHOLD*: 5, so 2-4 lights on meter light  
*ATTACK*: 8  
*RELEASE*: 2

### **EQ**

*LOW*: +3dB @ 60 Hz, peaking  
*MID*: -2dB @ 560 Hz  
*HIGH*: +3dB @ 7.2 KHz peaking

### **DriveBus**

*MODE*: Tube  
*OUTPUT*: 6  
*DRIVE*: Turn drive up to get recording level

### **Variations**

- Try SS mode on DriveBus
- Adjust Drive and Output levels
- Try higher Threshold and faster Attack on Dynamics to compress the peaks more.

---

## *Mic'ed Guitar Amp*

Turn master output level and drive level all the way down to get initial levels.

**TouchPatch** Pre-Dyn-DriveBus

### **Preamp**

*GAIN*: around 12:00, so orange LEDs just start lighting at loudest notes

*PAD:* 0  
*POLARITY:* +  
*48V:* On for condenser; Off for dynamic or ribbon mics  
*HPF:* On  
*OUTPUT:* SS if tube amp; or Tube if solid state amp

### **Dynamics:**

*MODE:* Tight  
*GAIN:* +2  
*THRESHOLD:* 5, so 1-2 LEDs on meter at the loudest notes  
*ATTACK:* 1  
*RELEASE:* 1 (watch LEDs so just peaks are caught)

### **DriveBus**

*MODE:* Tube if solid state amp; SS mode if tube amp  
*OUTPUT:* 6  
*DRIVE:* Turn drive up to get recording level

### **Variations**

- Adjust Drive and Output until you get the perfect sound
- Try higher Threshold and faster Attack on Dynamics to compress the peaks more.

---

## Keyboard

Turn Master Output and Drive all the way down to get initial levels.

### **TouchPatch** Pre-Dyn-DriveBus

*INPUT:* Run keyboard into Hi-Z input or Mic Pre input  
*PAD:* -20  
*GAIN:* Around 12:00, so orange LEDs just start lighting at loudest notes  
*PAD:* 0  
*POLARITY:* +  
*48V:* Off  
*HPF:* On  
*OUTPUT:* Tube

### **Dynamics**

*MODE:* Classic  
*GAIN:* +2  
*THRESHOLD:* 5, so 1-2 LEDs on meter at the loudest notes  
*ATTACK:* 1  
*RELEASE:* 1 (watch LEDs so just the peaks are caught)

### **DriveBus:**

*MODE:* Tube  
*OUTPUT:* 6  
*DRIVE:* Turn Drive up to get a good recording level

### **Variations**

Adjust Drive and Output until you get the perfect sound. Try switching between SS and Tube on the DriveBus.

---

## Tips and Tricks

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### *Using the Preamp to Duck the Compressor*

For example, use a vocal to make the lead guitar decrease in volume when the singer is singing.

**TouchPatch** Pre-DriveBus

#### **Dynamics**

Insert the Dynamics section on the lead guitar track.

THRESHOLD: 5  
ATTACK: 2  
RELEASE: 7  
MODE: Classic

#### **Patch Connections**

1. Connect the vocal mic into the Preamp.
2. Run from the DriveBus out into your system.
3. Connect the XLR output from the Preamp section into the Side Chain input on the Dynamics section. (*Use an XLR to 1/4" cable. Pin 2 of the XLR plug connects to the Tip of the 1/4" TRS plug.*)

Now, when someone sings into the vocal microphone, the compressor will 'duck'. Adjust the Threshold to make it duck just the right amount.

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## *Record 6 Tracks from one Mic at the same time*

Record safety tracks and tracks at different stages of processing so processing choices can be changed later.

### **TouchPatch** Pre-Comp-EQ-DriveBus

#### **Connections**

1. Plug a microphone into the preamp and set up accordingly
2. Set up EQ, compression, and the DriveBus for the sound you want from the master output.
3. Use both the +4 and -10dB outputs from the preamp section into the recording device. This gives you a totally unprocessed preamp signal. The -10dB is a 'safety track' in case the mic overloads.
4. Run the XLR output from the Dynamics section to the recorder, giving you the preamplified, compressed signal with no EQ or DriveBus sound.
5. Run the XLR output from the EQ section to the recorder, giving you the preamplified, compressed, EQed signal with no DriveBus sound.
6. Run both the +4dB and -10dB output from the DriveBus to the recorder for the 'master' output, as well as a lower level 'safety track'.

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## Add Tube or Discrete Transistor Distortion to a Track during Tracking or Mixing

**TouchPatch** No Route (no internal routing to the DriveBus)

### Connections

1. Run the signal into the DriveBus input.
2. DriveBus output back into the recording or live sound system.

### DriveBus

*MODE:* Tube or Solid State

*DRIVE:* 10

*OUTPUT:* Set to proper level.

Adjust Drive and Output controls for the right amount of distortion.

### Need More Distortion?

Use the Dynamics section to add more gain.

**TouchPatch** Dyn-DriveBus

### Connections

Run a signal into the Dynamics input; signal out of the DriveBus

### Dynamics

*THRESHOLD:* High, so NO compression on meter

*GAIN:* Add gain to the DriveBus, all the way to complete distortion.

---

## *Add Compression and EQ to a Recorded or Live Track*

**TouchPatch** Dyn-EQ-DriveBus

### **Connections**

Insert the Dynamics and EQ into the track:

1. Plug the output of the track into the Dynamics input.
2. Plug the main output from the DriveBus back into the track.

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## *Use the ECS-410 Everest as 4 totally Independent Processors*

**TouchPatch** No Route

### **Connections**

1. Plug a microphone into the preamp in.
2. Connect the Preamp output to your recorder.
3. Plug a line into the EQ input.
4. Run the EQ output back into your recorder.
5. Plug a line into the Dynamics input.
6. Run the Dynamics output back into your recorder.
7. Plug a line into the DriveBus input.
8. Run the DriveBus output back into your recorder.

EACH section is totally independent and can be used for 4 different processes simultaneously.

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## *Use the ECS-410 Everest as the Front End to your Bass or Guitar Rig*

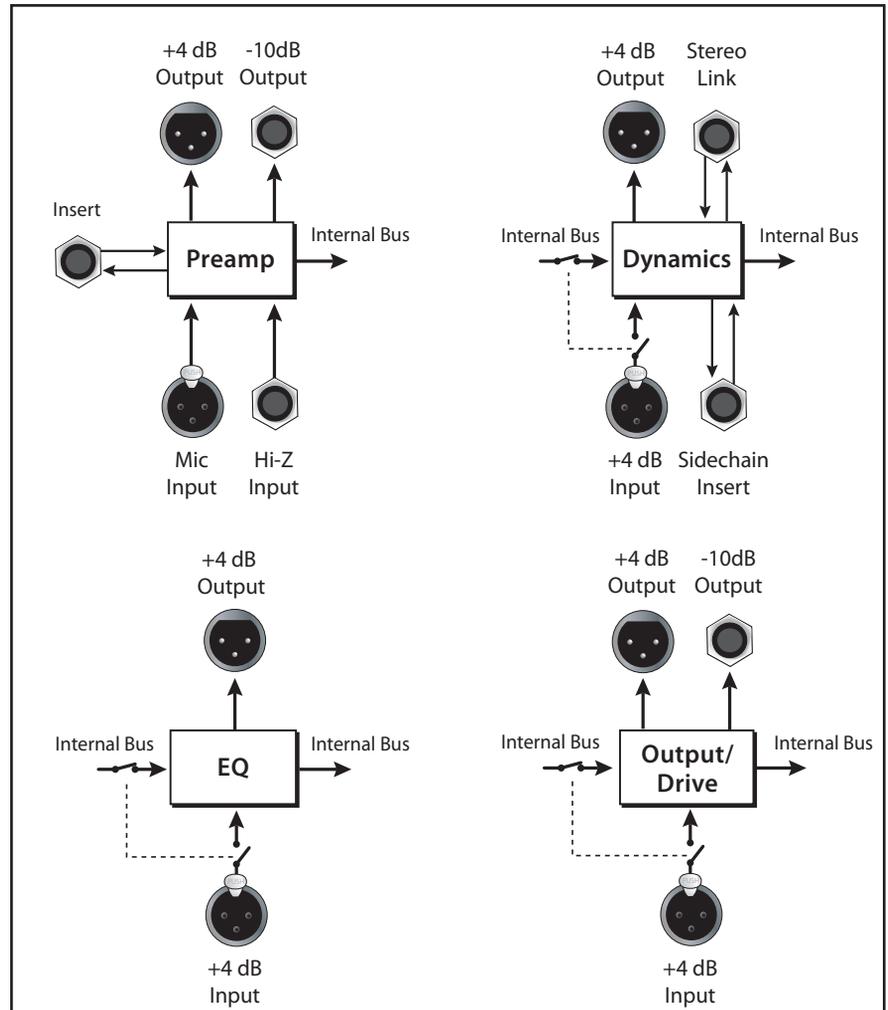
**TouchPatch** Experiment!

### **Connections**

1. Plug your bass or guitar into the Hi-Z input on the preamp section.
2. Use the -10dB output from the DriveBus section into your amplifier.

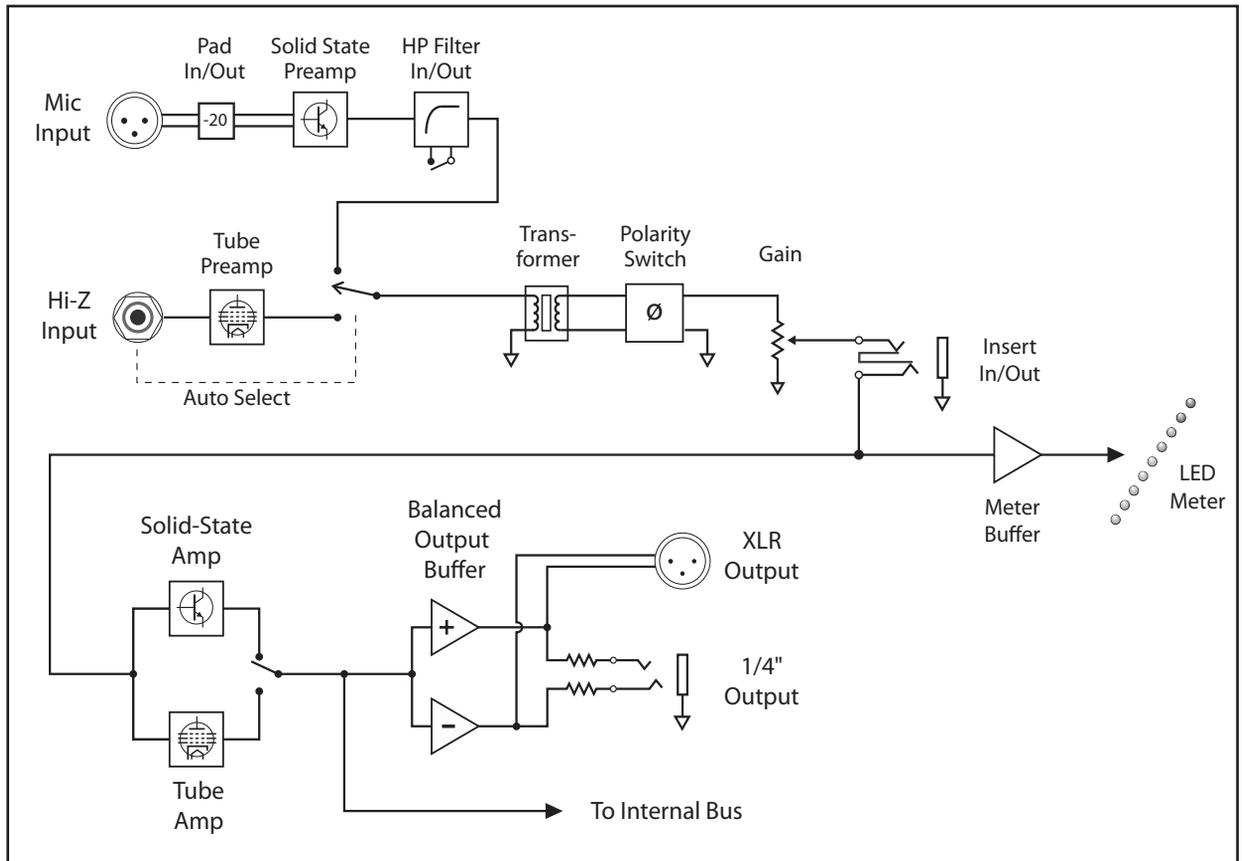
# Block Diagrams

## Input/Output & TouchPatch Switching



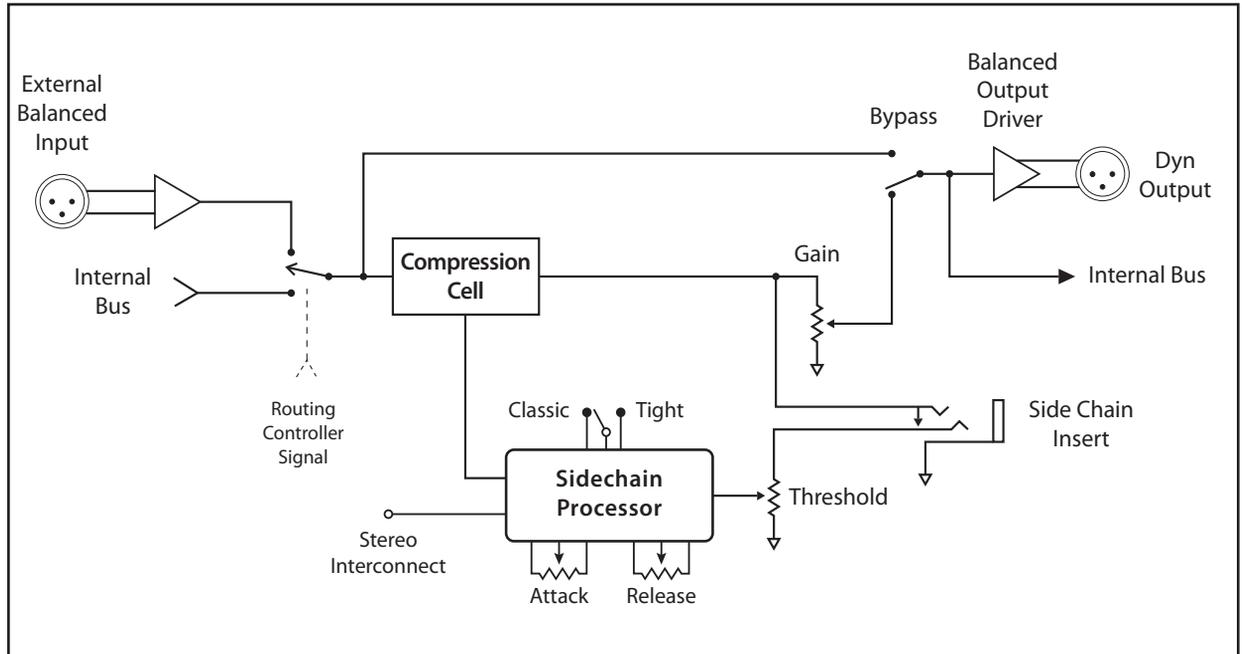
These diagrams show the input and output connections, as well as the input switching when using TouchPatch.

## Mz2 - Microphone and Instrument Preamplifier



The Mz2 preamplifier is the first stage of Everest. Microphone signals are first preamplified with a discrete transistor stage. Hi-Z instrument signals enter the Mz2 through a high-voltage vacuum tube. Next in line, a Jensen line level transformer isolates the signal before the gain control and insert point. The secondary tube or solid-state preamp allows even more flavor combinations.

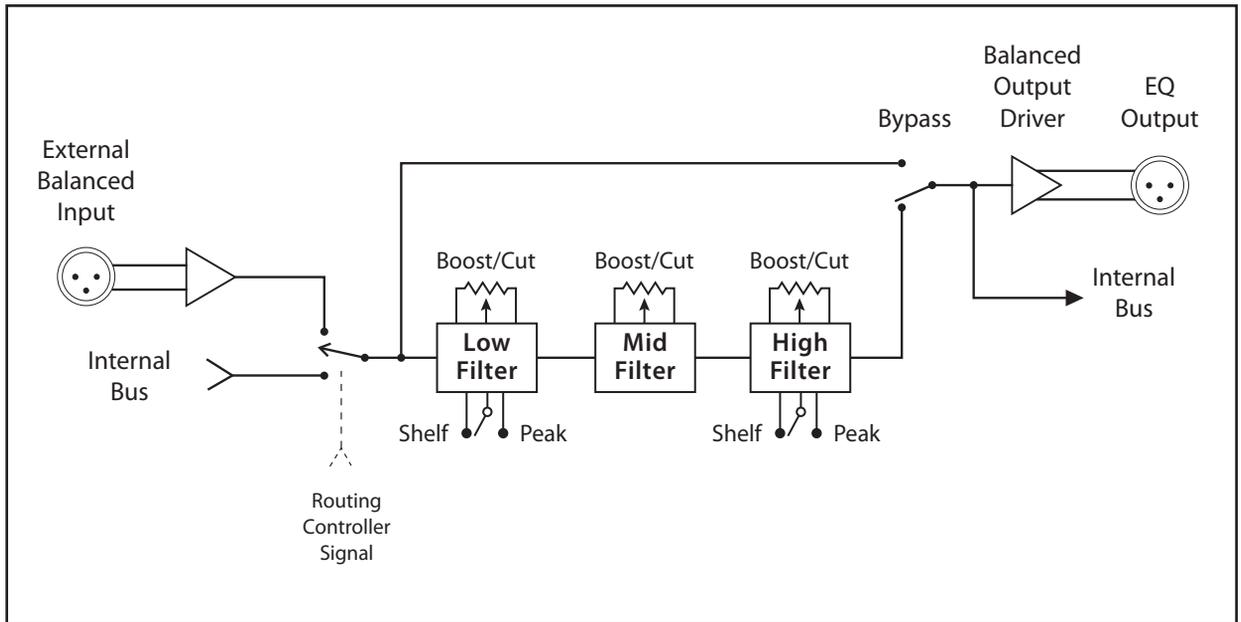
## Dc1 - Dual Mode Dynamics Control



The input to the Dc1 is electronically balanced and directly feeds our unique compression cell. The Side Chain allows for stereo coupling, the insertion of an equalizer, or controlling the gain cell with an external source.

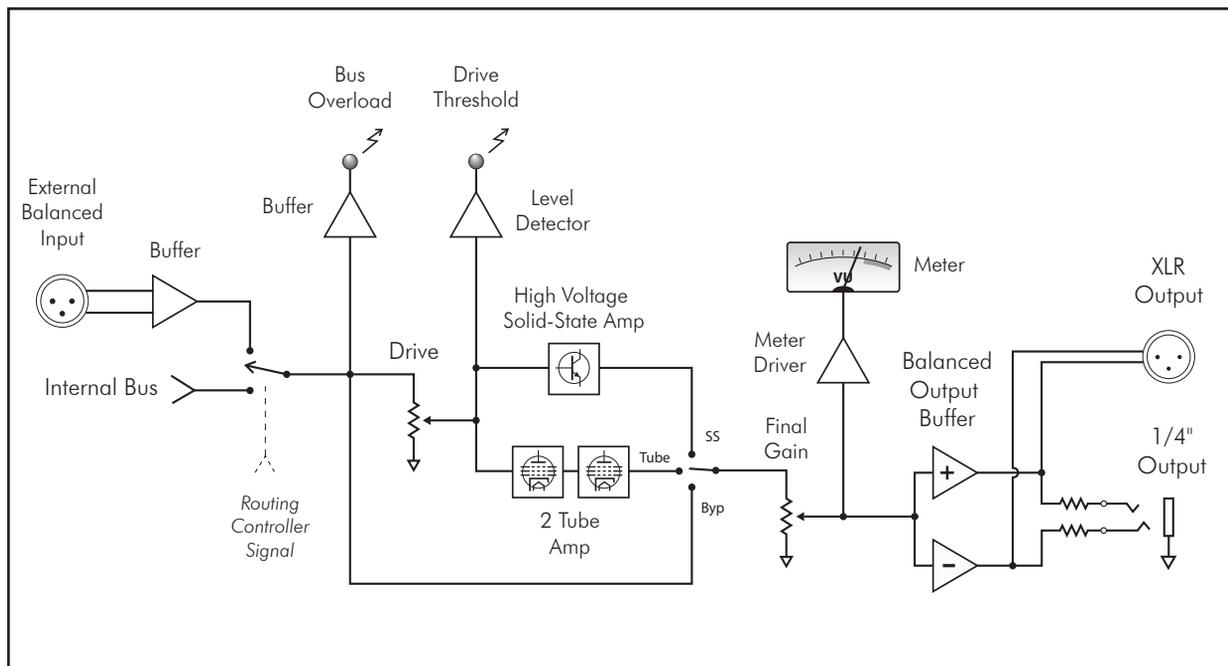
Long term drift of the compression circuit is minimal and tracking between two stereo linked ECS-410 Everest is within 0.3 dB. The balanced output drivers provide a low output impedance for driving cables and 600 loads.

## Fe1 - Passive Three Band Equalizer



The electronically balanced input stage input goes directly into the passive EQ sections. The low and high bands can switch between peaking and shelving filters. The mid band is a peaking filter.

## Db2 - Drive Bus Master Output &amp; Drive Section



Signals enter the Db2 either through the electrically balanced input jack or via the internal TouchPatch bus. The bus overload LED monitors the TouchPatch bus for clipping.

The drive attenuator controls the signal level presented to the high-voltage solid-state amplifier and dual vacuum tube output driver sections. The drive threshold LED indicates the level of drive. The three-position output switch selects between solid-state, tube or bypass.

The final gain control determines the final output level, which is available on the XLR jack at +4dBu, and on 1/4" TRS at -10dBV. The final output level is monitored by the VU meter.

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# Electrical Connections

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## *Input and Output*

### Balanced 3-pin XLR

Pin 1	Ground
Pin 2	Signal (+)
Pin 3	Signal (-)

### Balanced 1/4" (TRS) jack

Sleeve	Ground
Tip	Signal (+)
Ring	Signal (-)

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## *Preamp Insert*

### 1/4" (TRS) jack

Sleeve	Ground
Tip	Preamp Return
Ring	Preamp Output

# Specifications

## **Mz2 Microphone Preamplifier**

Max. Gain:	+60dB (plus 20dB when routed through the Db2 DriveBus Output)
THD+N:	(@+30dB) 0.008% (A-weighted), 0.01% (unweighted)
Max. Output:	+25dB
Freq. Response:	Solid-state: 10Hz-300kHz +/- 2dB; 15Hz-200kHz +/- 0.5dB  Tube: 10Hz-150kHz +/- 2dB; 15Hz-70kHz +/- 0.5dB
Mic Impedance:	2K ohms
Hi-Z Impedance:	10M ohms
Type:	Switchable between tube (12AX7A) or discrete transistor
High Pass Filter:	60Hz at 6dB/octave
Metering:	10 segment LED
Phantom Power:	+48 VDC
Pad:	-20dB
Polarity:	0 or 180 degrees
Inputs:	Balanced XLR mic input; Front panel 1/4" Hi-Z input (unbalanced)
Outputs:	Balanced XLR +4dBu; -10dBV 1/4" TRS (nominal)

### **Fe-1 Passive 3 Band Equalizer**

THD+N:	(@+4dB) (no cut or boost) 0.009% (A-weighted), 0.025% (unweighted)
Freq. Response:	5Hz-100kHz +/- 0.5dB; 5Hz-200kHz +/- 2dB
Frequencies:	Low: 33, 60, 100, 150, 270, 390 Hz (peak or shelf) Mid: 560, 630, 1K, 1.6K, 2.5K, 3.3K Hz High: 5K, 7.2K, 8.2K, 10K, 12.5K, 16K Hz (peak or shelf)
Cut/Boost:	+/- 12dB per band
Low Shelf:	6dB/8va, peaking bandwidth 2 octaves
Mid Peaking BW:	2 octaves
High Shelf:	6dB/8va, peaking bandwidth 2 octaves
I/O:	Balanced XLR, +4dBu, in and out

### **Dc1 - Dual Mode Compressor**

THD+N:	(@+4dB) (no compression, but through gain cell) 0.025% (A-weighted), 0.041% (unweighted)  (with 6dB compression) 0.013% (A-weighted), 0.022% (unweighted)
Freq. Response:	5Hz-200kHz +/- 2dB; 5Hz-136kHz +/- 0.5dB
Gain:	-4dB to 10dB
Attack:	Variable from 4mS to 100mS
Release:	Variable from 50mS to 1S
Ratio:	Classic: 3:1, Tight: 10:1 (approximate, program dependent)
Metering:	10 segment LED for gain reduction
I/O:	Balanced XLR, +4dBu in and out, 1/4" side chain jack, 1/4" stereo link jack

### ***Db2 - Drive Bus Master Output and Overdrive***

THD+N:	(@+4dB) Bypass: 0.002% (A-weighted), 0.008% (unweighted)
	Tube: 0.3% to overdrive (unweighted)
	Solid-state: 0.013% to overdrive (unweighted)
Freq. Response:	Tube: 5Hz-50kHz +/- 2dB; 5Hz-25kHz +/- 0.5dB
	Solid-state: 5Hz-200kHz +/- 2dB; 5Hz-130kHz +/- 0.5dB
Gain:	+20dB
Type:	Tube (12AX7A) or discrete transistor
Metering:	Analog VU output level
I/O:	Balanced XLR, +4dBu in and out; -10dBV 1/4" TRS out

### ***Physical***

Size:	2RU, 19" x 3.5" x 17"
Weight:	26 lbs
Power Requirement:	100VAC-240VAC
	<i>(Note: Different fuse and switch positions for 100V, 115V and 240V)</i>





Summit Audio Inc.®

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*Established 1979*

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