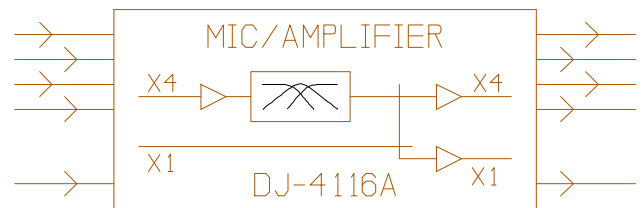


DESCRIPTION

The DJ-4116A is a 4 channel mic/line preamp and mixer, with an Aux line input. Each of 4 channels include 3-band Transversal Equalizer (TEQ[®]) tone controls and a balanced line level output. Remote input level control and channel ON/OFF switching is provided. In addition, an Aux input is provided to allow for input expansion, etc. A Mix output includes the Aux input, plus a pin jumper programmed mix of the mic/line inputs. The DJ-4116A is useful when compensating for varying tonal characteristics of different microphone types and/or talkers.

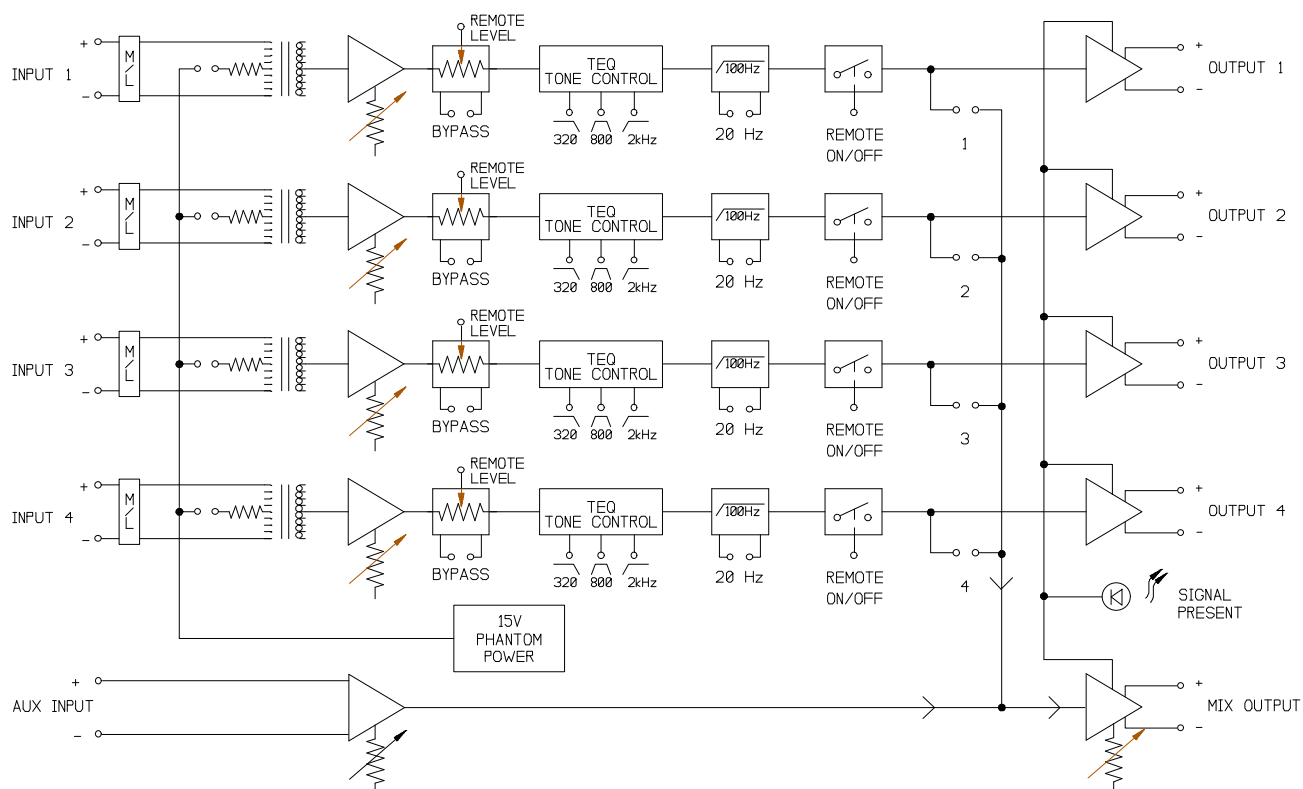
DESIGN SYMBOL



FEATURES

- Four microphone/line level inputs, each including:
 - Studio grade bifilar center-tapped input transformers
 - 3-band Transversal Equalizer (TEQ[®]) (± 10 dB range)
 - Balanced attenuators to accept line-level sources
 - Jumper programmable 15V phantom power
 - Remote level control (with pin-jumper bypass)
 - Remote ON/OFF clickless switching
 - 100 Hz high-pass filter (with pin-jumper bypass)
 - Balanced, line level outputs
 - Pin-jumper programmable preamplifier gain pad for high output mics.
- Line-level Auxiliary input
- Mix output which includes pin jumper programmed mic/line inputs
- Removable, screw-clamp connectors for all audio terminations

FUNCTIONAL DIAGRAM



OPERATION

Gain of each input channel and the mixed output level are adjusted by potentiometers on the front edge of the module. LOW, MID, and HIGH Transversal Equalizer (TEQ[®]) tone control levels for each input are adjusted by potentiometers recessed slightly from the front edge of the module. TEQ technology provides extremely effective tone control, without introducing coloration caused by band-to-band crossover interactions. The center (N) settings for the filters are the nominal (0dB) positions for the filter controls. Each band allows for up to 10dB of boost or cut.

The DJ-4116A includes remote level control and remote switching of the mic/line inputs as a standard feature. Remote level control is implemented using LED/LDR attenuators. The amount of current supplied to the LED/LDR determines the amount of attenuation. Remote 100kΩ ccw log taper pots (IRP P/N 105-0521) may be used to achieve 60dB of control range. Remote switching is accomplished through the use of low-distortion FETs. Internal channel switches are normally closed. A remote dry contact closure (or open-collector logic) to ground mutes the corresponding channel. Switch activation results in a 100dB quieting of the signal to the channel output and to the mix output.

Pin jumper programming is provided for ease of setup and servicing. Pin jumpers are used for remote level control bypass, 100 Hz high-pass filter bypass, mic/line input sensitivity selection, phantom powering, output mix selection, and preamplifier gain padding. In addition, all audio terminations are via removable, screw-clamp terminal blocks.

SPECIFICATIONS

MICROPHONE/LINE INPUT	Transformer balanced and isolated
Recommended Source Impedance	600Ω or lower in MIC / 10kΩ or lower in LINE
Crosstalk Attenuation between MIC/LINE Channels	Greater than 100dB @ 1kHz
Standard Mic Setting	
Input Impedance	1100Ω
Maximum Input Level	-21dBV
Gain	54dB nominal; 74dB maximum
Frequency Response	+0dB,-5dB
THD + Noise	less than .1% at 0dBV output
Equivalent input noise	less than -127dBV
High Output Mic Setting (Preamp gain @ +20dB)	
Input Impedance	1100Ω
Maximum Input Level	-10dBV
Gain	33dB nominal; 53dB maximum
Frequency Response	±0.5dB
THD + Noise	less than 0.05% at 0dBV output
Line Level Setting (Mic/Line jumpers in Line and Preamp gain @ +20dB)	
Input Impedance	20.5kΩ
Maximum Input Level	+20dBV
Gain	3dB nominal, 23dB maximum
THD + Noise	less than 0.05% at 0dBV output, 50-20kHz
Frequency Response	±0.5dB
TEQ® FILTER CHARACTERISTICS	
Type	Minimum Phase Transversal
Low Pass	320 Hz turnover, ±10dB shelving
Mid Frequency	800 Hz, ±10dB boost or cut
High-Pass	2000 Hz turnover, ±10dB shelving
Response Ripple	±0.1dB maximum at any control setting
LINE INPUT	Standard SYSTEM 41 active balanced
Impedance	82kΩ balanced, 41kΩ unbalanced
Maximum Input	+19dBV
Gain	0dB nominal, 20dB maximum
Frequency Response	0dB, -0.5dB
THD	Less than 0.02% @ 0dBV output
Equivalent input noise	less than -96dBV
ALL OUTPUTS	Standard SYSTEM 41 active balanced
Impedance	200Ω for 600Ω or greater load
Maximum Output	+19dBV unloaded
REMOTE INPUT LEVEL CONTROL	100kΩ ccw log potentiometer (IRP P/N 105-0521) enables 60dB control range
REMOTE INPUT SOLID STATE SWITCH	Dry contact or open collector logic to ground enables attenuation of 100dB @ 1 kHz
PHANTOM POWER	+15VDC @ 10 mA maximum per channel
CURRENT CONSUMPTION	70 mA; 110 mA with remote level controls enabled
MODULE SPACE	1 units, 1.2 inches

Unless otherwise specified, all specifications are measured over a 20-20kHz bandwidth, with 150Ω source impedance and all controls at nominal settings. All specifications are subject to change.

ARCHITECT'S SPECIFICATIONS

The microphone preamplifier/mixer shall have four transformer-balanced microphone inputs and one auxiliary (combining) input. Microphone inputs shall provide 15 volts phantom power. Each microphone input shall have 100 Hz high-pass filters (bypassable by jumpers) and shall provide LOW, MID, and HIGH band Transversal Equalizer tone controls. The microphone inputs shall provide pin-jumper selection to convert between microphone level and line level input signals. Independent, balanced line level outputs shall be provided for each microphone input. A MIX output shall be provided. Pin jumpers shall select any mix of the four microphone inputs with the auxiliary line input to the MIX output. The output signals shall be monitored by a signal present LED.

Individual remote control capability of mic/line levels shall be provided. A remote 100k Ω ccw log potentiometer shall provide DC control of an LED/LDR attenuator over a 60dB range. Each mic/line input channel shall provide individual ON/OFF control. A remote dry contact or open collector transistor logic to ground shall activate 100dB attenuation @ 1 kHz for each channel.

The microphone preamplifier/mixer modules shall mount in and be powered by the IRP Model DJ-4100, DJ-4101, or DJ-4150 mainframe. The microphone preamplifier/mixer modules shall be the IRP Model DJ-4116A Quad Mic Preamp/Mixer.

ORDERING INFORMATION

Specify: DJ-4116A Quad Mic Preamp/Mixer