

# TransX

TWO CHANNEL TRANSFORMER ISOLATED DISCRETE TRANSISTOR PREAMP



## USER'S MANUAL





## IMPORTANT SAFETY INSTRUCTIONS – READ FIRST



This symbol, whenever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure. Voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read manual.

**Read instructions:** Retain these safety and operating instructions for future reference. Heed all warnings printed here and on the equipment. Follow operating instructions printed in this user guide.

**Do not open:** There are no user serviceable parts inside. Refer any service work to qualified technical personnel only.

**Power sources:** Only connect unit to mains power of type marked on rear panel. Power source must provide a good ground connection.

**Power cord:** Use the power cord with sealed mains plug appropriate for your local mains supply as provided with the equipment. If the provided plug does not fit into your outlet consult your service agent. Route the power cord so that it is not likely to be walked on, stretched or pinched by items placed upon or against.

**Grounding:** Do not defeat the grounding and polarization means of the power cord plug. Do not remove or tamper with the ground connection on the power cord.

**Ventilation:** Do not obstruct the ventilation slots or position the unit where the air required for ventilation is impeded. If the unit is to be operated in a rack, case or other furniture ensure that it is constructed to allow adequate ventilation.

**Moisture:** To reduce the risk of fire or electrical shock do not expose the unit to rain, moisture, or use in damp or wet conditions. Do not place a container of liquid on it, which may spill into any openings.

**Heat:** Do not locate the unit in a place close to excessive heat or direct sunlight, as this could be a fire hazard. Locate the unit away from any equipment, which produces heat such as: power supplies, power amplifiers and heaters.

**Environment:** Protect from excessive dirt, dust, heat, and vibration when operating and storing. Avoid tobacco ash, drink spillage and smoke, especially that associated with smoke machines.

**Handling:** To prevent damage to the controls and cosmetics avoid rough handling and excessive vibration. Protect the controls from damage during transit. Use adequate padding if you need to ship the unit. To avoid injury to yourself or damage to the equipment take care when lifting, moving or carrying the unit.

**Servicing:** Switch off equipment and unplug the power cord immediately if it is exposed to moisture, spilled liquid, objects fallen into opening, the power cord or plug becomes damaged during a lightning storm, or if smoke odor or noise is noted. Refer servicing to qualified technical personnel only.

**Installation:** Install the unit in accordance with the instruction printed in the user manual.

# TransX

## TWO CHANNEL TRANSFORMER ISOLATED DISCRETE TRANSISTOR PREAMP

<b>IMPORTANT SAFETY INSTRUCTIONS – READ FIRST .....</b>	<b>I</b>
<b>INTRODUCTION .....</b>	<b>1</b>
<b>INSTALLATION .....</b>	<b>2</b>
AC POWER HOOKUP .....	2
POWER JACK .....	2
<b>OPERATION.....</b>	<b>3</b>
<b>INPUTS AND OUTPUTS.....</b>	<b>3</b>
INPUT JACKS.....	3
OUTPUT JACKS.....	3
<b>CONTROLS .....</b>	<b>3</b>
MIC PAD SWITCH .....	4
IMPEDANCE CONTROL .....	4
LOW CUT CONTROL .....	4
GAIN CONTROL .....	4
TRIM CONTROL .....	4
+48V SWITCH .....	5
PHASE SWITCH .....	5
OUTPUT LEVEL METER .....	5
POWER SWITCH.....	5
AUTO MUTING FUNCTION.....	5
<b>APPLICATION .....</b>	<b>6</b>
OBTAINING THE BEST NOISE PERFORMANCE .....	6
ADJUSTING THE INPUT IMPEDANCE .....	7
USING THE TRANSX PREAMP AS A DI .....	7
<b>WARRANTY INFORMATION.....</b>	<b>8</b>
LIMITED WARRANTY (USA ONLY) .....	8
ONLINE REGISTRATION.....	8
EXCLUSIONS.....	8
<b>SERVICE.....</b>	<b>9</b>
<b>SPECIFICATIONS.....</b>	<b>10</b>

### TABLE OF FIGURES:

FIG. 1 - REAR PANEL CONNECTIONS .....	3
FIG. 2 - FRONT PANEL CONTROLS.....	3

# INTRODUCTION

The TransX two channel microphone preamplifier features a new low noise discrete transformer coupled high performance preamplification circuit. Building upon the quality and success of great sounding products like the Pro MPA II and the Pro VLA II, ART engineers set out to develop the next generation of professional microphone preamplifier to compliment our tube-based preamps. The TransX sets a new standard for quality and value. Professional features and spectacular tone are what make the TransX a world-class microphone preamplifier.

## Key Features Include:

- Input Transformer blocks R.F. and other noise.
- Custom Output Transformer reduces ground noise and maintains level for Balance/Unbalanced connections
- Low noise, low THD discrete audio path.
- High impedance direct coupled low noise Instrument input.
- Variable input impedance on the XLR input.
- Rotary switches allow for reliable, repeatable results.
- Gain trim function for precise adjustment of gain.
- 20dB pad allows high level XLR input signals.
- Wide range peak sensitive LED meter.
- Phase reverse switch.
- Auto muting on outputs.
- Ground lift function on each channel's outputs.
- Universal External supply reduces noise and lowers power consumption.
- Rugged, reliable steel chassis shields the preamp from external noise.

# INSTALLATION

The ART TransX may be used in a wide variety of applications and environments. In a rack-mountable, all-steel enclosure, the unit is designed for continuous professional use. Mounting location is not critical, however for greater performance reliability we recommend that you not place the unit on top of power amps, or other sources of heat and/or strong magnetic fields.

## AC Power Hookup

The ART TransX has an external power supply to remove noise from the main unit. The supply can accept a wide variety of voltages (90-230 VAC, 50/60 Hz). The unit ships with a power cord appropriate for the country of destination. The power source must provide a good ground connection, and the ground pin on the mains plug should never be defeated.

## POWER jack

The power jack on the TransX is a threaded DIN-4 connector. Make sure to fully thread the connector to guarantee a good connection as well as secure the cable from being accidentally disconnected.

**CAUTION:** Only use the ART TransX power supply provided. Other supplies may damage the unit or cause noise.

# OPERATION

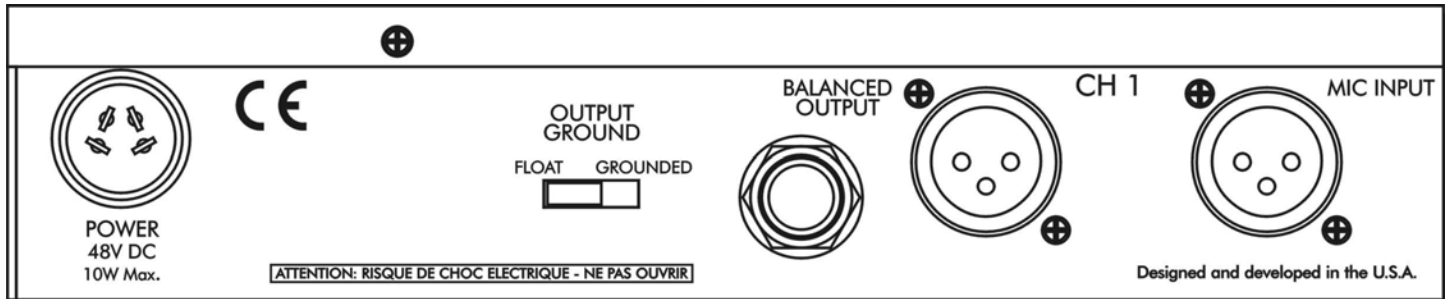


Fig. 1 - Rear panel connections

## Inputs and Outputs

### Input jacks

The transformer coupled XLR inputs can accept mic or line level signals. Phantom power is present if the +48 switch is depressed. You can adjust the input impedance of this input with the Front panel IMPEDANCE control.

The Instrument input is a direct-coupled high (1M Ohm) impedance input. The maximum input level is limited to +15dBu. When this jack is used, it automatically switches from mic to Instrument input.

### Output jacks

The TransX outputs are transformer coupled. The balanced 1/4-inch and XLR outputs are directly tied together. You can isolate the output ground using the associated OUTPUT GROUND switch. This is useful in eliminating ground loops.

## Controls

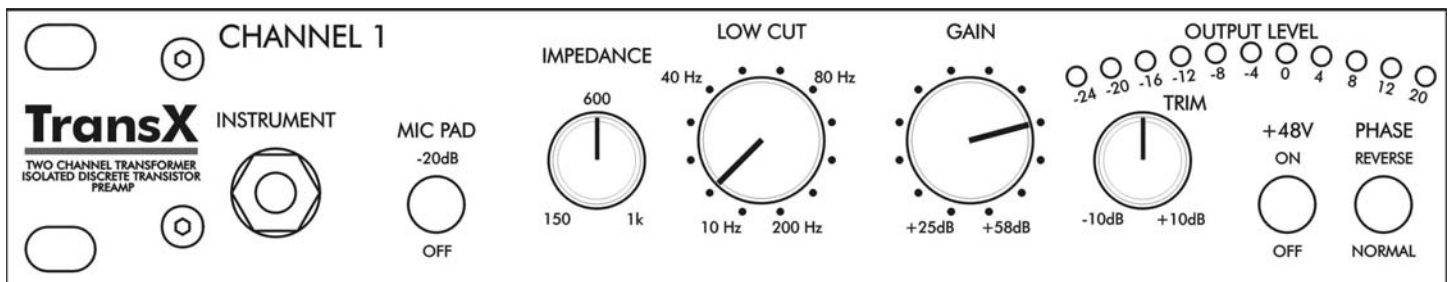


Fig. 2 - Front panel controls

## **MIC PAD switch**

This switch reduces the mic pre-amp gain by 20dB to prevent clipping when high level mic, or line level signals are applied to the balanced XLR input. This switch does NOT affect the 1/4-inch T/S front panel INSTRUMENT INPUT.

## **IMPEDANCE control**

This knob sets the load impedance at the XLR input of the TransX. Use the IMPEDANCE control to subtly tune the sound of your microphone. Various microphones will change their sound at differing load impedances. Lowering the impedance will generally flatten the response at the expense of level. The correct setting is subjective. Adjust this control to personal taste.

## **LOW CUT control**

This rotary switch is calibrated in 1/3-octave steps. It inserts a 6dB/Oct. Low-Cut filter into the signal path between the GAIN section and the TRIM control. Since it is single tuned, it preserves some low frequency content so its use is less obtrusive. It is especially useful in close mic'd applications. Being a switch instead of a pot guarantees an precise repeatable way to return to the ideal setting.

## **GAIN control**

The rotary GAIN switch adjusts the preamp gain over a wide range in a precise repeatable way. Each 3dB step optimizes the gain of the unit to provide the lowest noise and distortion. Finer adjustment of the overall gain can be obtained using the TRIM control.

## **TRIM control**

This control allows a fine-tuning of the gain after the GAIN and LOW CUT switches. You can use the OUTPUT LEVEL meter to see the effects of the TRIM setting.

The architecture of the TransX generally guarantees that clipping of the unit will occur in the output section before any other section. It is possible when using the LOW CUT filter that low frequency signals amplified by the GAIN circuit may clip before being filtered.

If you cannot reduce the TRIM control enough to avoid clipping, reduce the GAIN switch setting or use the MIC PAD switch.



## **+48V switch**

The switch safely applies +48Volt phantom power to the XLR input. Use phantom power only when the microphone that you are using requires it. Doing so will extend the life of the TransX as well as reducing the possibility of shock hazard.

### **NOTE:**

1. Dynamic microphones are NOT affected by Phantom power, although it should be turned off when using dynamic microphones or line level inputs.
2. Although the 48volt phantom power ramps up and down slowly it may still create a pop. Reduce the output of the TransX preamp when engaging or disengaging phantom power to prevent damage to equipment following TransX .

## **PHASE switch**

This switch selects the output phase of the TransX. There is a 180-degree phase shift through the TransX when depressed.

There are a number of reasons why adjusting the phase is needed. These include wiring errors and inversions in some audio equipment. Some microphones sound different depending on the phase chosen.

If two microphones are out of phase, they may cancel at various frequencies (depending on the distance between them). If this happens, try changing the phase of one of the microphones and see if there is an improvement.

## **OUTPUT LEVEL meter**

The OUTPUT LEVEL meter is a peak sensitive way to monitor the output level of the TransX. It is calibrated in dBu. There is about 4dB of headroom past the +20dB LED, but it is good practice to treat this LED as a clipping indicator.

## **POWER switch**

The POWER switch simply connects the external supply to the internal circuitry of the TransX. When the power switch is in the off position the external supply may still draw a small amount of power (<200mW).

## **Auto Muting function**

The TransX has internal power up/down muting. There is a 6 second delay to enable the outputs after power comes up to allow for the internal circuitry time to bias. If power is lost or the unit is turned off, the unit immediately mutes.

# APPLICATION

## Obtaining the best noise performance

The TransX preamp is designed to perform exquisitely at all gain settings. To get the best results for a given mic, follow the procedures below.

Start by setting the LOW CUT control to 10Hz, GAIN to +22dB and centering the TRIM knob. Use the meter to view the operating level.

Increase the GAIN control until the meter reads +20 on the highest peaks and back off one click. If the signal is already too high depress the PAD switch and increase the GAIN control as needed.

Adjust the TRIM control as needed to optimize the output for the equipment you are connected to.

Adjust the LOW CUT control to remove pops and noise depending on your application. If you are working on vocals for instance, start by setting the control to 100 Hz (one tick past 80 Hz). This will remove pops and other noise without affecting the vocal.

## Adjusting the Input Impedance

The same microphone can sound different on various pre-amps. One reason is that every pre-amp presents a different load on its input, some even change as gain is changed! Our transformer coupled discrete front end was designed to reveal every nuance of a microphone. The Input Impedance control is one key element in providing new versatility in voicing microphones.

*NOTE: the Input impedance control only affects the XLR connector inputs. The ¼-inch instrument input on the front panel is NOT affected by this control in any way. The instrument input impedance is ALWAYS  $\geq 1M$  Ohm.*

Ribbon and dynamic microphones are affected more than phantom powered units, as they do not have active circuitry on their output.

We provide a continuously variable impedance control to allow you to fine-tune the voicing, finding the perfect interaction between microphone and pre-amp.

Start by setting the Input Impedance knob to 1k. Lower the control from here to "tighten" the sound up.

Lower impedances tend to focus the sound more. They will also reject more noise picked up by cabling, and dampen microphone resonance. Higher impedance settings provide a more "open" sound.

Use the above guidelines, and ultimately, what sounds best to you, in your specific application.

## Using the TransX preamp as a DI

The TransX preamp is the ideal DI. The high impedance instrument input can be used to transparently amplify anything from a piezo pickup to a guitar, bass or keyboard. You can subtly filter out any unwanted low frequency rumble and noise with the LOW CUT filter. The transformer-isolated output can be floated to eliminate ground loops.

# WARRANTY INFORMATION

## Limited Warranty (USA only)

Applied Research and Technology will provide warranty and service for this unit in accordance with the following warrants:

Applied Research and Technology, (A R T) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of **three** years from the date of purchase. Applied Research and Technology will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt.

## Online Registration

Please go to [www.artproaudio.com](http://www.artproaudio.com). Select “*Support*”, then “*Product Registration*” input your information here.

## Exclusions

This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.

A R T reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

A R T shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may have other rights, which vary from state to state.

For units purchased outside the United States, an authorized distributor of Applied Research and Technology will provide service.

# SERVICE

The following information is provided in the unlikely event that your unit requires service.

1. Be sure that the unit is the cause of the problem. Check to make sure the unit has power, all cables are connected correctly, and the cables themselves are in working condition. You may want to consult with your dealer for assistance in troubleshooting or testing your particular configuration.
2. If you believe that the ART unit is at fault, go to [www.artproaudio.com](http://www.artproaudio.com). Select “*Support*”, then “*Return Authorization Request*” to request a return authorization number.
3. If you are returning the unit for service, pack the unit in its original carton or a reasonable substitute. The original packaging may not be suitable as a shipping carton, so consider putting the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box. Print your return shipping address on the outside of the box.
4. Include, with your unit, a note with the RA number and your contact information, including a return shipping address (we cannot ship to a P.O. box) and a daytime phone number, and a description of the problem, preferably attached to the top of the unit. Also include a copy of your purchase receipt.

**Please fill in the following information for your reference:**

Date of purchase: \_\_\_\_\_

Purchased from: \_\_\_\_\_

Serial Number: \_\_\_\_\_

# SPECIFICATIONS

## Max input level

XLR	+24dBu
Instrument	+15dBu

## Input Impedance

Mic	150 to 1k Ohm variable
Instrument	1M Ohm

## Outputs

Max Output level	+24dBu
Output Impedance	100 Ohms

## LOW CUT filter

Slope	6dB/Oct.
Range	10Hz to 200 Hz
Step size	1/3 Oct.

## Max Gain

Mic in to output (bal.)	+68dB
Inst. IN to Main output (bal.)	+59dB

Frequency response	10-50kHz $\pm$ 1dB
T.H.D.	$\leq$ 0.009% @ 1kHz, +4dBu out
C.M.R.R.	90dB @ 60Hz

## Equivalent Input Noise

Mic (@max gain)	-128dBu "C" wtd.
Inst. (@ max gain)	-125dBu "C" wtd.
Phantom Power	Switch selectable, +48V DC, filtered, current limited

## Power supply

Input requirements	USA – 85 to 250 VAC/ 50-60 Hz Export units configured for country of destination.
Output requirements	48 V dc, 10 Watts Max

## Mechanical

Chassis	Steel, Painted finish
Dimensions (H, W, D)	1.75-inch x 19.0-inch x 9.5-inch 44mm x 483mm x 241mm

Weight (w/ Supply)	13.2 lbs. (6.0 kg)
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Note: With the locking power supply plug connected, the depth increases to 11.6" (295mm) total

Note: 0 dBu = 0.775Vrms

ART maintains a policy of constant product improvement. ART reserves the right to make changes in design, or make additions to, or improvements upon, this product without any obligation to install same on products previously manufactured. Therefore, specifications are subject to change without notice.





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