

MATCHLESS

MUSICAL INSTRUMENT AMPLIFIER

For All Independence 35 models

INTRODUCTION

Thank you for choosing a MATCHLESS brand instrument amplifier. Your amplifier has been carefully hand-crafted using only quality materials. The chassis of your amplifier is completely hand wired employing construction techniques of military electronics manufacturers. We utilize point to point wiring instead of a printed circuit board. The wire used is silver coated stranded copper in a Teflon jacket for extra resistance to heat and decay. We use porcelain and mica filled phenolic tube sockets that are shock mounted to a rugged welded steel chassis. Our hand transformers are designed for 100% duty cycle. Vacuum tubes are selected for tone, low noise and performance. This kind of craftsmanship and attention to detail enables us to offer to the purchaser our six year guarantee.

MATCHLESS amplifiers are ruggedly built, and aside from the periodic tube or indicator lamp replacement, should require very little maintenance. We have designed every MATCHLESS product to be a trouble-free workhorse and hope you enjoy yours for many years to come!

FEATURES

Your MATCHLESS is a straight forward amplifier devoid of bells and whistles. It is an all tube design including the power supply rectifier. Cathode self bias operation is utilized for the output stage. The Independence 35 is the first Three Channel Point to Point amplifier in our production line. There are no circuit boards or Integrated circuit chips inside. It is hand made one at a time right in our own factory; exactly the same way you would expect all Matchless products to be. Each unit is made to order with your request in mind.

All Independence 35 amplifiers incorporate a *MASTER* volume control enabling the artist to take full advantage of the harmonic rich nature of an all vacuum tube design. MATCHLESS amplifiers are available in a variety of configurations thus facilitating the various operating requirements of the modern musician with a taste for that truly vintage sound. MATCHLESS amplifiers may be ordered as single, dual, or quad combos as well as separate head and cabinet configurations.

Speaker cabinets are available for use with rack mount amplifiers or as auxiliary cabinets for all combo amplifiers and amplifier heads. Cabinets can also be ordered with custom impedance ratings; this is especially useful when multiple speaker systems are used.

OPERATION: GENERAL

Your MATCHLESS is an all tube design. If your experience is limited with regard to vacuum tube instruments amplifiers, you should become familiar with the characteristics that differentiate vacuum tube designs from their solid-state counterparts... Aside from the tone or sonic performance.

1. Vacuum tube amplifiers require a "warm up" period of up to one minute before they become operational, and they usually sound better as they "cook". This is due to the fact that electrons only flow when the *cathode* of a tube is fully *heated*. This is also the reason vacuum tube amplifiers run so much hotter than solid-state design. Your Independence 35 is designed to run hot, and a cooling fan should never be placed on the amplifier. This will cause the Bias to fluctuate intermittently and subsequently cause fluctuations in your volume and tone.

2. Many vacuum tube amplifiers incorporate a STAND-BY switch, which aside from muting the amplifier, performs a more valuable function of removing current from the circuit while allowing the *heaters* to remain energized. The STAND-BY mode is used during short breaks and is usually preferred to turning the amplifier off. This allows the amplifier to cool and greatly enhances the useful life of the output tubes.

NOTE: MATCHLESS amplifiers are biased *hot* and should not be allowed to idle with no input signal or long periods of time.

3. Tube type amplifiers are inherently sensitive to speaker impedance matching. This is due to the relationship of the internal resistance's of the output transformer, the output tubes, and the load they are required to drive. A load imbalance can cause loss of power, self-oscillation, or excessive current to flow in the output stage. In severe cases this condition can cause the output transformer to run hot and may damage and destroy the output tubes. This kind of damage is not covered by the warranty. The impedance switch, located at the rear of the chassis, is used to match the amplifier to the speaker load. This rotary switch has three positions and can match the amplifier to four, eight, or sixteen ohm loads. This switch should be set before the amplifier is turned on. MATCHLESS single and four-ten cabinets are normally eight ohms. Dual speaker models are normally four ohms.

When it is desired to use additional speakers with an amplifier, or multiple speakers with an amp head, it is necessary to calculate the proper impedance setting.

The correct setting for two 8 ohm cabinets connected in *parallel* should be the 4 ohm setting at the amplifier. It is also possible to connect speaker systems of unequal impedance values using the same formula, simply set the impedance switch to the value closest to the result. Remember that volume output may be also be unequal, as the lower impedance speaker is

likely to be slightly louder because it demands most of the power from the amplifier. Also, be sure that the power handling capacity is adequate.

POWER SOAK DEVICES

The use of “power-soak” devices is not recommended on your amplifier and will void the warranty. These devices will severely shorten the life of the output transformer and tubes. Tubes *should be replaced as a matched pair*. Replacing vacuum tubes can be quite expensive. When the amplifier starts to sound *dull*, it’s time to replace the output tubes. *Always replace tubes with premium quality tubes only!* Cheap tubes will not sound good and will not last. MATCHLESS sell replacement tubes for all models. Please contact your dealer or call the factory. Ph (310) 444-1922 or email techsupport@matchlessamplifiers.com

SWITCHES AND INDICATORS

POWER: OFF/ON

This switch supplies power from the A.C. mains and is used to turn the amplifier on and off. The amplifier *on* status is indicated by the illumination of the “MATCHLESS” logo on the front of the amplifier.

STAND-BY:

This switch serves as a mute for the amplifier, and is used when changing or unplugging a guitar cords or taking breaks, especially if volume control setting are to be set and left. Additionally, the *stand-by* mode allows the output tubes to cool down slightly, extending the life of the output tubes. Substantial amounts of current flow through the output tubes whenever the amplifier is *operational*, even with *no signal from an instrument!* Your Control Panel will indicate your Stand by mode. When the Control Panel is not illuminated your amp is in *Stand-by*. When the Stand-by is switched your Control Panel will instantly light up in Red, White, and Blue. All MATCHLESS amplifiers come from the factory wired to indicate the *operating* mode.

PRECAUTION! Cathode biased class A amplifiers do not like to “idle” for prolonged periods. These amplifiers draw more current idling than they do while being played. Use the stand-by mode or turn the amplifier off if you are not going to play for a while. Save your tubes!

ABOUT THE FUSE!

Your MATCHLESS amplifier employs a line safety fuse for protection against damage. The line fuse offers protection against irregularities in an A.C. source, tube failure,

component failure, severe overload to the output amplifier, and other conditions that prove unsafe or damaging to the amplifier. If an amplifier blows a line fuse, an investigation into its cause is required. Correct any problems that may be found before putting the amplifier back in service.

Never replace a line fuse with one of a higher amperage rating! Not only is it unsafe, but it leaves your amplifier unprotected in the event of a tube or component failure and voids your warranty.

Use this chart to determine the correct fuse type for your amplifier:

Independence 35 Chassis	(USA 120V)	3AG size	3 Amp rating
Independence 35 Chassis	(Japan 100V)	3AG size	3 Amp rating (Slo-Blo)
Independence 35 Chassis	(Europe 240V)	3AG size	2 Amp rating

For amplifiers designed to operate at non-standard voltages, the required fuse size and rating will appear on the manufacturer's tag affixed to the inside of the amplifier cabinet, or at the fuse holder on the chassis. When in doubt, consult your dealer or contact the factory.

If you are traveling with your amplifier, and are uncertain about the voltage requirements and fuse type, please contact the factory. In some countries the line voltage may vary slightly from the voltage at which an amplifier may be set. This may require modification of the Power transformer, replacement of "Switching" Transformer and a change of the fuse rating.

About the PREAMPLIFIER SECTION

Your MATCHLESS amplifier employs three circuit designs for each preamplifier channel, giving each channel its own distinctive response and personality. This enhances the versatility of our "simplicity" of design philosophy.

INSTRUMENT INPUT: and CHANNEL SWITCHING

Your MATCHLESS Independence amplifier has ONE guitar input. And one input for the Switching. The Control Panel will indicate these as "GTR" for the guitar, and "FT. SW." for the Footswitch (supplied).

CHANNEL ONE: The BLUE

This channel has two controls, VOLUME and Tone. It is completely driven by one 12AX7/ECC83. This channel should be thought of as your Clean Channel. It is designed to stay clean and compressed at all times. You will quickly see that Channel One "The Blue" is a deceptively versatile channel. Perfect for Rhythm Strumming. It is perfect for any variety of clean sounds like Country, Blues, Jazz, Classic Rock, Funk, and anything that requires a

good foundation. The Tone control will take you from fat and compressed to sizzling hair. This is a great channel for "Chord Melody" and finger pickin'.

The Blue Channel sounds best when the Master Volume is Bypassed or turned mostly wide open.

(Note :) If you have Channels 2 and 3 turned up very loud and your Master Volume turned way down, you will not hear Channel 1 well. For this type of configuration Channel 1 will not be necessary and the volume knob on the guitar should be used for clean. No matter how much Gain is used your amp will "Clean Up"

With the guitars volume control!

CHANNEL TWO: The White

This channel utilizes one half of one 12AX7/ECC83 and shares the tone circuit with Channel 3 but, has its own "Gain" stage. This preamplifier tube is capable of more gain than channel one and is capable of being overdriven harder. The tone control for this channel is active. This may become the channel of choice for a "heavier" sound, especially when overdriven and used in conjunction with the *MASTER* volume control option. The amount of gain will affect the volume as well. As you turn the Gain up the Volume will increase as well. The Gain control for Channel 2 is especially useful in the sense that it will create a variety of sounds with the slightest adjustments. It is meant to go from a clean gained structure all the way to supersaturated. Channel 2 sounds best though when the Gain is turned down and the Master Volume is turned all the way up. This sound is especially useful in not only hard rock rhythm, but also country lightning pickin'. It is snappy and crisp. It can be utilized for that awesome "Crash and Burn" rock rhythm, and will really make each and every guitar in your collection sound distinct. This is also a perfect channel for that famous "Drop D" tuning, you won't lose any note definition in this one, and it will stay as tight as your hands.

(Note :) Although Channel 2 has the ability to play with an ultra amount of gain, it is not really intended as a high gain channel. If you are using Channel 3 for its high gain then dimming the gain on Channel 2 would just be redundant. Really explore how excellent Channel 2 sounds with the Gain control turned down. Really listen to those old Classic Rock songs and you'll notice some of our hero's were recorded pretty clean with their power sections pegged. The magic wasn't in their "Gain" but in their "Hands"!

CHANNEL THREE: The Red

This Channel utilizes the other half of one 12AX7/ECC83 and shares the tone circuit with Channel 2 but, has its own "Gain" stage. Channel 3 is meant to be the "Hot" channel. Like Channel 2 it will go from clean gain all the way to super saturated. This channel is meant to be the "Lead" channel. To go from crunchy chunky rhythms of 2 to the burning hot solos in 3. The gain setting for the Red channel is best turned up! But, no matter how much distortion you have your guitar will clean up by simply rolling down its volume control, and then turning the guitar all the way back up will remind you you've been in the "Hot Zone" the whole time. No matter what the gain setting is, you won't lose any note definition and you will hear for yourself that classic Matchless sound is still in there.

CHANNEL TWO and THREE Volume:

With Channels 2 and 3 you will find an Independent volume control that works for both channels. This is very useful when controlling the levels and balancing signal for your particular needs. This control along with the Master volume will help get those great distortion tones at super low levels, when needed. It will also help amplify those great distortion sounds at a high level when turned all the way up!

CHANNEL TWO and THREE Tone:

Channels 2 and 3 Share the tone controls Bass and Treble. These two controls are active and much time and attention should be given to the exploration of the tone controls. There is a variety of ways these two can be utilized. Dial with your ears and not your eyes! A little goes a long way.

(Note :) As the Treble is turned up the sound will thin out more and more, a perfect answer to this is to turn up the "Cut" control. This will compensate for "Treble Thinning". Also, you may find you will want to turn the Bass response up with the Treble. To get a great "Texas Sound" try turning the Bass and Treble controls up higher than normal, gain controls a little lower, Master By-passed, and an out of phase pick up selection on a single coil guitar.

*About the
POWER AMPLIFIER SECTION*

MATCHLESS amplifiers are cathode biased and operate in a "class A" mode. This means that current flows continuously through the output tubes whether a signal is present or not. Most amplifier designs employ the more popular "AB" or "AB1" biasing technique, which although capable of producing more power for a given tube configuration, Class "A" produces better crossover distortion, more harmonics, and amazing dynamics. This is why MATCHLESS amplifiers are described as having a smooth tone that won't fatigue ears even at a high volume.

The MATCHLESS design also does away with controlled or corrective *negative feedback*, allowing the amplifier to run "open loop" or wide band. This is why your amplifiers sound full and rich at low or high volume levels.

These are what we call "*features of design*" and very much a part of the distinctive MATCHLESS tone.

There are three controls that enable the user to adjust the parameters of the power amplifier section. The controls are the *IMPEDANCE* switch, the *CUT* control and the *MASTER VOLUME* control. The impedance switch is used to correctly match the speaker load to the amplifier, as mentioned earlier. This control (*located at the rear of the amplifier*) should be set and left in the proper position before the amplifier is turned on.

"MASTER VOLUME"

The MASTER volume control function is activated by push-pull switches attached to it. When the switch is activated (*pulled out*), the master volume control circuit is active. In the bypass mode, the master volume control is completely out of the signal path (*pushed in*). The MASTER volume control adjusts the overall *gain* of the output amplifier and functions with channel one and channel two. Normally this control would be set at its maximum (*fully clockwise*) position or bypassed (*switch pushed in*). This allows the power amplifier to run at full gain. This would be the normal configuration for a cleaner sound.

For a *dirtier* sound, the MASTER volume control enables the preamplifiers to be overdriven without having the amplifier at *full volume*. Pull out the switch attached to the MASTER volume control to activate the circuit, and then turn the control fully counter-clockwise. No sound will come from the amplifier at this point. Now turn the volume control of the channel you are using fully clockwise or nearly so. Turn the Master volume control clockwise until sound is produced from the speakers. Experiment with the settings of both the channel volume control and the MASTER volume control until the desired results are achieved. If the channel volume control is "cranked" up, and the MASTER volume is turned down, an over-driven sound is produced. Experiment with Channels 2 and 3 controls simultaneously to understand more fully how their interaction affects overdrive characteristics. Remember: If the Master Volume is turned down then Channel 1 will be inaudible.

CUT:

The CUT control varies the bandwidth, or high frequency response of the power amplifier. This is characterized by *fewer heights* or *less top end*. The CUT control is used to soften or take the edge off a harsh instrument or tone setting. The effect is subtle before the halfway point on the control and increases the amount of cut from midpoint to full. *The CUT control is most effective when the Master volume is bypassed or set for maximum gain.*

The Footswitch:

The Footswitch is a standard two pushbutton footswitch with a ¼" stereo plug and an approximately 15 foot cable. You will see it has two LED's corresponding to each channel. It is important for the well being of the amp that you do not plug in a standard ¼" mono plug. While most footswitches with a stereo plug may work with the Independence we recommend you only use the one provided with the amp.

While both indicator LED's are off the default channel is Channel 1. When you push the Channel 2 button in you will now activate Channel 2. When you have pushed the Channel 3 button you will activate Channel 3. In order to activate Channel 3 you must have Channel 2 on. You will know if Channel 2 is on if the LED above the designated button is lit.

Important The switching circuit is designed to be maintained at a specific voltage. It is not recommended for the Independence to be used at any other voltage than what it was intended for. You will not be able to simply convert the Power Transformer wiring for

resale to a foreign country or for foreign use. Any voltage higher than intended will cause a serious overload in the switching circuit, and any under powered voltage will cause the switching circuit to stop functioning. All components in the switching circuit are rated for specific voltages, the use of voltage higher than what was intended will void warranty and repairs will be made at owner expense.

(Note :) Do not stomp heavy on the push button, there is no need to push or stomp harder to get the channels to change this will only result in damaging the push button and not being able to activate or deactivate a Channel, until a repair has been made.

(Note :) When storing the footswitch for travel, be mindful it will not damage any tubes, Speakers, or get damaged itself. The metal casing for the footswitch is heavy and can easily cause damage.

MAINTENANCE

Aside from routine vacuum tube and indicator lamp replacement, your MATCHLESS should require very little in the way of maintenance. Periodically examine the four output tubes visible from the rear of the chassis. Any tendency of one or more of these tubes glow *reddish* in the plate area is an indication of an imbalance in the amplifier. This should be checked out by a technician or by substituting a fresh set of matched output tubes. If over a period of time or hard playing the amplifier sounds *weak* or *dull*, this may be an indication that the output or preamp tubes are "*tired*" and probably need renewal. If one or more of the preamp tubes become abnormally micro phonic or the amplifier whistles with the controls at maximum (with nothing plugged into the inputs) a replacement may be required. When replacing output tubes remember that they are a matched set and should be replaced with a *matched set*.

VACUUM TUBE REPLACEMENT

Never attempt to replace vacuum tubes while the amplifier is on or the amplifier is hot. To replace tubes remove the back panel of the amplifier. Preamplifier tubes usually have a twist-lock shield that must be removed before the tube can be removed from the chassis. Output tubes and rectifier tubes employ a base clamp. The base clamp is loosened by un-tightening the screw on the side of the clamp. When replacing output tubes, always check the amplifier out before replacing the back panel. Make sure that the amplifier functions normally and that none of the tubes appear to be overheating. This is usually indicated by an

abnormally bright tube or a reddish glow from the plate area. If all looks well, replace the shields, caps, or re-tighten the clamps. Replace the rear panel and test the amplifier again.

INDICATOR LAMP REPLACEMENT

Matchless employs incandescent bayonet style lamps to illuminate the logo, stand-by indicator, and the front panel or dashboard. All the lamps are of the same type for simplicity. A lamp type #47 is recommended for all lamps, although a type # 44 may be substituted if a brighter look is desired.

PANEL OR DASHBOARD LAMP REPLACEMENT

There are ten lamps used to illuminate the front panel of the amplifier. When one of these lamps requires replacement, the entire chassis must be removed from the cabinet. To do this, first remove the power cord from the amplifier. Then remove the back panel by loosening the hold-down screws. Remove the two wires that provide power to the logo. These are pull-off connectors. If the amplifier is a combo, disconnect the speaker plug located next to the fuse holder. Carefully remove the four screws on the top of the cabinet while supporting the weight of the chassis with one hand. Slide the chassis out to replace the bulbs. To re-install the chassis, simply reverse the process.

LOGO LAMP REPLACEMENT

There are four lamps used to illuminate the logo. If the logo appears unevenly lit one of these lamps is probably out. The lamps are located in a reflector assembly known as a light box. The light box is positioned just above the speaker(s) and is removed by removing the securing screws and disconnecting the two wires that supply power from the chassis. The wires are connected with quick disconnect spades. Use a long screwdriver for easy access to the screws. If the amplifier is configured as a head, the chassis must be removed first.

INPUT JACKS

Never attempt to tighten input jacks with the chassis still inside its cabinet. The input jack will spin as you turn clockwise, causing damage to parts or wiring. The proper method is to disconnect the A.C. power, remove the chassis and gently hold the input jack with one hand and tighten with a correct fitting nut driver. *(If you over tighten, you will run the risk of damaging the shoulder fiber washers or the jack itself.)* Input jacks should be lifted from ground. An open input jack you will cause a loud hum, and it must be replaced!

CAUTION!

Never place drinks on top of the amplifier for obvious reasons. Liquids can cause the glass envelopes of the hot vacuum tubes to crack possibly shorting out the amplifier. Liquids can also cause damage to switches and potentiometers and generally reduce the reliability of your amplifier as well as require an expensive repair. If an accidental spill does occur, remove the amplifier from the cabinet, remove the tubes, and thoroughly clean and dry the chassis before attempting to use the amplifier.

Be mindful not to restrict airflow to the back of the amplifier.

Never replace the protective fuse with one of a higher amperage rating. If an amplifier starts blowing fuses, it may be warning of an impending problem with the amp and should be looked over by a professional.

USE IN OTHER COUNTRIES

Your MATCHLESS amplifier is set to the specific AC Voltage for the country that the amplifier was specifically made for. A simple conversion to other voltages is NOT possible with the Independence 35. Any voltages other than what was specifically intended for by the factory will result in definite component failure and the Warranty will be void.

ACCESSORIES

ACCESSORIES:

Your MATCHLESS amplifier comes supplied with an operation instruction manual, an IEC power cable, a spare fuse, indicator lamp, and panel knob.