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## Cayin A-70T

### Integrated Tube Amplifier

Harmonizing your world for under \$2,000

Review By Ron Nagle

I said it all before there are some really good affordable audio components coming from the Pacific Rim most of them from Mainland China. Fact is that some U.S. based companies have their products either partially or entirely made offshore and they never mention that fact. The case of the now mostly defunct Red Rose Audio and their marketing philosophy stands out in my memory. In an ironic backhanded way this is a testimonial for the quality of Chinese manufacturing. Case in point is the affordable Cayin line of audio components. It is yet another example of Audiophile grade equipment that offers great value for the money. Read on; lets take a look at the big picture.



### Origins

As I just found out the Zhuhai Spark Electronic Equipment Co. LTD in China manufactures the subject Cayin A-70T amplifier and also the PrimaLuna line of audio components. The range of products made under just these two brand names is impressive. I first learned of the Cayin components last January at the 2006 CES. Ever since that time I have been very eager to try one of the Cayin amplifiers in my reference system. I was fortunate; after I made a phone call a representative from VAS Industries delivered the A-70T Integrated Amplifier to my home. The amplifier was placed on the floor between my Quad ESL 63 speakers and Gradient ESL woofers. I had been listening with a PrimaLuna 2 amplifier I replaced that with the Cayin A-70T. It took only one CD to know I had found a match for my Quad speakers. The way this Cayin amplifier is connected to my system I can drive the Quads full range with the A-70T or bi-amp the system using my modified Hafler 500 as the second amplifier powering only the Gradient woofers. Using the A-70T amplifier in a bi-amp setup gives me an advantage I can remove the lowest bass frequencies and listen to the sound produced from the lower midrange on up to dog whistle.

### The Genealogy

This amplifier has a very interesting raison d'être. As you probably know during the transistor heyday there was a thriving export business for classic American tube amplifiers from Marantz, Fisher, Scott, and others. A few enterprising people made a nice living buying old unwanted tube audio in America and selling these same units on the opposite side of the Pacific where they were getting three or four times what they paid. Of course it was inevitable that one day the supply would run out, still the demand remained alive and well. Now jump ahead and look at the last few years and the burgeoning Chinese economy. With increasing prosperity the demand for vintage American audio grew stronger than ever. Back in 1993 a Chinese company called China National Aero Technology began to manufacture audio components. They claimed that their products could duplicate the sound of classic Marantz, Citation and McIntosh amplifiers. Later on there was a spin off from the original company and the Zhuhai Spark Electronic Equipment Co. LTD was born. Incidentally the name Zhuhai refers to a region in China where the factory is located.

## Deus Ex Machina

This is the section where we explore the nuts and bolts of the Cayin A-70T integrated amplifier. They are hand assembled with neat point-to-point wire routing. Sporting a thick aluminum faceplate they are coated with a beautiful metallic lacquer spray-painted over the steel chassis and tube cage. This integrated amplifier uses four Kt 88 Pentodes for power and is a Push Pull class A2 design. The A-70T owner manual describes the voltage setting procedure used to adjust tube bias but does not mention the tube type. However the procedure refers to the supplied KT88 pentodes. You can use other types of pentode output tubes but nothing is mentioned about the bias setting for these other tubes. The PrimaLuna PL 2 is made by the same company but differs because it has one less high level "Pre-input" and it does not have a "Pre-out" connection and is not remote controlled.

You might call the Cayin A-70T with KT88's the upscale feature added big brother of the KT88 PrimaLuna PL 2. The A-70T is rated at 55 watts per channel and so it provides an additional 15-watts per side. The A-70T uses proprietary EI audio transformers and a toroidal power transformer said to have a much wider frequency response. The hand wired A-70T is a remote controlled integrated amplifier. This amplifier uses a 5AR4 rectifier tube. The driver tubes are two each 12AX7EH (hi-mu) and two 12AU7EH (medium-mu) tubes, both types are dual triodes. Incidentally the Greek letter Mu pronounced *mew*, is used to denote a tubes amplification factor.

For me the fun part of this amplifier is definitely the remote control feature. There is one remote control function that I always wanted to try. It is the ability to switch the amplifier between Triode and Ultralinear operation on the fly. Other than the small pushbutton power switch on the front panel all of the functions can be accessed via the aluminum remote control. There are eight buttons on the remote, two control up down volume, four select CD, Aux, Tape, Pre-in and Mute the last button switches between Triode and Ultra linear. After you switch on the amplifier a yellow colored Light Emitting Diode (LED) on the volume control knob blinks a yellow caution. After about 30 seconds that same diode turns red and the soft start cycle is completed the amplifier is than ready to go.

As I indicated the remote control allows you to select from one of the four input sources CD, Aux, Tape, and Pre-in. There is one additional pair of RCA connections on the rear panel labeled, Pre-out. The Pre-in and Pre-out connections offer an increased level of system flexibility. The first most obvious use for the Pre-in connections will enable you to separate from the preamp and use only the power amplifier portion of the A-70T. You might choose to use the pre-out to drive a powered subwoofer or run a set of cables to an outboard processor or recording device. On the top panel cover in two locations just in front of the left and right pairs of KT88 tubes are tube bias test points, three per side. Just above these test points are four bias potentiometers located below the top cover plate and accessible using a small slotted screwdriver. Using a voltmeter the bias adjustment is straightforward and easy to do. Each of the chassis tube openings has a nice decorative aluminum ring just above the sockets. The owners manual states that many different pentode tube types may be substituted for the stock KT88's. So if you are into "tube rolling" (tube substitution) like I am there are a lot of interesting tube tinkering possibilities waiting for you. Now look just behind the two output transformers at the back of the chassis. There are six sets of plastic covered WBT style speaker posts for connecting 16, 8 and 4-Ohm speakers. There is an IEC style AC socket that allows you to use a variety of upgrade power cords.

## Caveat Emptor

As I advanced farther in this report my research uncovered some confusing product duplication. There are actually two nearly identical models of this same Cayin amplifier. Acoustic Sounds markets a different version and states they are "the exclusive *on line dealer* for Cayin Audio products" they sell a similar SA-70T Integrated Amplifier. But Acoustic Sounds lists different specifications for their amplifier. They specify the SA-70T amplifier power as having 30 watts per channel in Ultralinear and 18 watts in triode operation. A bit farther along on the Acoustic Sounds web site the manufacturer literature states that that the SA-70T amplifier uses auto bias. And provides a list of possible substitute pentode type tubes KT88, 6550, KT66, KT77, 5881, 6L6, EL34, 6CA7 and 7189A.

The integrated I am evaluating for this report is from VAS Industries the "*Exclusive Cayin Importer and distributor*" of the A-70T Integrated amplifier The A-70T owners manual specifies that it is rated at 55 watts Ultralinear and 26 watts triode. The A-70T will allow tube substitution using the same types of pentodes as the SA-70T but requires that you adjust tube bias manually. The power specifications of both amplifiers are rated into an 8-Ohm load using KT88 tubes and in every other way the amplifiers appear identical. Understand that substituting other types of pentodes for the stock KT88's will change the power rating for both versions of this amplifier. Additionally there is a slight price difference, the Acoustic Sounds SA-70T lists for \$1,975 and the VAS A-70T lists for \$1,995. I phoned VAS the importer and I was informed that the two versions of this amplifier are still available. However VAS Audio states that they import and sell only the "newer higher power" A-70T version. This audio amplifier has upgraded power transformers and costs twenty Dollars more and for me the choice between the two is the Cayin A-70T. The increased power will allow a broader range of applications and that means more system matches.

## The Sound

The Chinese Zhuhai Spark Company still markets amplifiers that model themselves after classic American amplifiers of old. With KT88's the Cayin A-70T is said to sound like a McIntosh Mc275 amplifier. If you go directly to the manufacturers site you can find a statement that the A-70T equipped with EL34 tubes sounds like a Classic Marantz 8 B amplifier. Yes I know, I would just like you take these claims with a large grain of salt. Unfortunately I don't have either of these two grand old Dames of classic audio to do a comparison so just lets not go there. I will tell you instead what this device sounds like in my system. When the VAS guy dropped off this amplifier I was listening to a Diana Krall Album *The Look Of Love* Verve [314-549-846]. I replaced the PrimaLuna PL 2 I was listening to with the Cayin A-70T.

To describe the differences between a good solid-state amplifier and a good tube powered amplifier is hard. To describe the differences between tube amplifiers is an art form that could trip up Shakespeare and Shelley. However I am bound to try, placing the A-70T in my system I could hear more warmth suffuse Diana's voice. The more powerful ultralinear amplifier lent the supporting bass lines a stronger apparent foundation that projected the sound out into the room. The sound of the A-70T in triode mode might be what the manufacturer refers to as the sound of an older classic American amplifier, but I can't be sure. Yes the triode configuration is warmer but the sound is still believable and is very natural. It was not so much like you were hearing the performance but rather more like you were experiencing a pleasant half forgotten memory. Suspending disbelief you are immersed all the more by the emotional content. It's as if a time machine trespassed space carrying you believing to the event. The most prevalent criticism of tube amplification is that tubes lack speed and this is most apparent on large bass transients.

The majority of the time I preferred to run the amplifier in ultralinear mode this greatly extends the upper and lower range of the amplifier. And to my ears in this operational mode nothing is left, out the full spectrum of the performance is there to enjoy. Since I listen and evaluate mostly by listening to the sound of a human voice using the amplifier in either mode is usually not a problem for me. I do have a recording I use to test and evaluate bass, it is something I've used and referred to before. Adagio d' Albinoni is performed by Gary Karr and Harmon Lewis and is available via the Cisco Music catalog [GCD8003]. It is a large pipe organ accompanying an Amati bass fiddle recorded in a cavernous stone cathedral. This musical selection is invaluable to me because it contains sustained bass frequencies that slowly decay to inaudibility. This test helps me to analyze not just the bass transient speed but far more important the tonal structure of the sound itself. And in that resonant stone Cathedral the wooden Amati seems to summon you with a mournful cry of sorrow. Using the Cayin to drive my ESL 63 speakers full range the timber accuracy is wonderful it allows you to hear the harmonic shading and wooden voiced resonance of the Amati Bass. The Cayin amplifier gets it right, the sadness the longing the essence of the music is free to tug at your emotions. If this performance does not affect you than I suggest you seek medical attention.

## Coda

What is the nature of the beast, what is it all about, in our quest for reality we strive to make the performance come to life. And where in the scheme of things does the Cayin A-70T fit in. Well it's not at the top of the heap for me the most realistic sounding amplifier that I've heard is the \$13,000 ART Audio Vivo 300B tube amplifier I reviewed for *Enjoy The Music.com*®. But the A-70T for \$1,995 is not that much farther down the list that is if we judge audio components on a scale that rates the real life quality of their performance. Bottom line the Cayin is a very good sounding well-built amplifier that is easily worth much more than the asking price. Let me digress for a moment, its my impression that the majority of the sound I hear in demo rooms at Hi-Fi shows emphasize speed and razor edge detailing which is the digital forte. I suppose that's ok if you only stop for a while in these rooms. I do believe you are bound to leave impressed. It is indeed a quick shot in the ear and the prevalent way to market audio gear but live music does not sound like that

Let me ask you a question, are you exclusively solid state and only playing CD's? Are you using your expensive system more now just to provide back round music? Well Bunky I think I can help you. It may be that this phenomenon is a direct result of digital encoding and its subliminal side effects. If all you listen to are compact discs then I have a radical suggestion to make. Get tubes, put them someplace in your system be it pre or power or maybe even a tube hybrid CD player. Cast off your start stop sound and put a little harmonic continuity back into your life. Audiopals the Cayin A-70T is a very good place to start.

The human brain is an analogue decoder not a digital decoder and deserves to be treated with respect.

## Associated Equipment

Quad ESL 63 speakers, Gradient ESL woofers, Aurum Cantus Leisure 2 SE speakers. PrimaLuna 2 integrated, Hafler 500 power amplifier, Audio Research SP-9 Mark 3 preamplifier, Source, Marantz DV8400 Universal CD player, Cambridge Audio Discmagic 1 CD transport, Cambridge S700 Isomagic D/A converter, ART Audio DIO Upsampling D/A and A/D converter, Magnum Dynalab FT101a tuner, Cables DH Labs Reference 1, Audioquest 8TC and Esoteric Ultrapath speaker cables. Interconnects: DH Labs Silver Revelation 1.5 meter, Wire World Eclipse 2, 3meters. Line conditioners: Richard Gray RGPC Sub Station, Alpha Core balanced isolation transformer, Audio Power, Enhancer 1. Michael Green Room Tunes. Argent Acoustic Lenses, and home made sound absorbent foam wall and floor Panels.

Tonality	☒ ☒ ☒ ☒ ☒
Sub-bass (10Hz - 60Hz)	☒ ☒ ☒
Mid-bass (80Hz - 200Hz)	☒ ☒ ☒ ☒
Midrange (200Hz - 3,000Hz)	☒ ☒ ☒ ☒ ☒
High-frequencies (3,000Hz on up)	☒ ☒ ☒ ☒
Attack	☒ ☒ ☒
Decay	☒ ☒ ☒ ☒ ☒
Inner Resolution	☒ ☒ ☒ ☒
Soundscape width front	☒ ☒ ☒ ☒
Soundscape width rear	☒ ☒ ☒ ☒
Soundscape depth behind speakers	☒ ☒ ☒
Soundscape extension into the room	☒ ☒ ☒ ☒
Imaging	☒ ☒ ☒ ☒
Fit and Finish	☒ ☒ ☒ ☒
Self Noise	☒ ☒ ☒ ☒
Value for the Money	☒ ☒ ☒ ☒