

This author's first tube amp project is a new version of the Nardeux Stereomatic 302 S Amplifier.

First and foremost, I want to extend my sincerest thanks to Nick Soudas, an *aX* project author himself, for helping me with my first tube amplifier project from beginning to end. I could have not done this alone, and Nick has helped me with schematics, parts, advice, and with all the obstacles I have come across in the building and testing process.

PHOTO 1: The Nardeux 302 S Stereomatic.

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1). The 302 S is a PA amplifier unit containing two power supplies and two monoblock amps using 807 pentodes, a preamp with push-switch type bass and treble controls, and two inputs—one for a Shure microphone for public address, and one for a cartridge pick-up for the dual 1009 turntable with a Shure M3D stereo cartridge. It was a full-range system consisting of four speaker cabinets.

The bass cabinet had an 18" bass speaker and two 7.5" paper cone tweeters. The midrange cabinet consisted of four 7.5" full-range speakers with whizzer cones and alnico magnets. This unit was original equipment from Loches, France, that was a part of the Himalaya amusement ride in Coney Island from about 1967 to 1975. Although I had no access to the Nardeux 302 S schemat-

ics, I remembered that each amp section power supply consisted of two 866A mercury rectifier tubes and the amplifier section used 807s in the output stage.

After reading Nick's featured article in *aX* May 2001 ("A 211 SE Triode Amp," p. 32), I decided to contact Nick and ask him whether he would be willing to help me with a good design for my project. He said yes, and has been very pleasant and patient throughout. After numerous e-mails over a span of about one year, and many troubleshooting tests, I can finally say that I have an excellent and powerful amplifier (**Photo 2**). There is nothing more exciting than listening for the first time to your own first-built vacuum tube amplifier, in this case, the "Nardeux Stereomatic 602 S" (30W per channel $\times$ 2 channels in stereo).

REFERENCE

REFERENCE	Part
C1, C2, C4	20μF
C3, C11-13	100N
C5-8	220N
C9, C10	240μF
C14, C15	1N
C16, C17	40μF
F1	2A
F2, F3	0.5A
J1	RCA input
J2	120V AC
L1, L2	Lamp
R1, R9, R10	470k
R2	10k
R3, R11, R16, R17	1k
R4, R5, R12, R13	47k
R6	3k9
R7, R8	22k
R14, R15, R23	100k
R18, R19	300
R20, R21	100
R22	150
R24	50
R25	LSK
S5	Power DPDT
TDR1	Relay 45 sec.
T1	Hammond
T1	HT 375V AC
T2	2.5V
T3	Filament 6.3V CT
V2, V1	6SN7
V3, V4	807
V6, V5	866A

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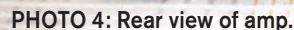
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each with its own power supply and amplifier on one chassis instead of the two chassis I used here. I did this because I wanted to basically build a layout similar to the original Nardeux 302 S. I would also use small diameter microphone-shielded cable for all audio signal paths, add volume controls for each channel, and use a choke in the power supply to reduce the high voltage hash that is slightly audible at the speakers. The AC power cables tightly twisted away from signal cables. Matched tubes in the output section also may improve stability and provide equal power output in each output channel. This schematic uses a fixed bias on the 807s.

I chose to keep the integrity of the

original Nardeux 302 S by using the 866As in the power supply. Any input from readers is most appreciated, since I plan to build another version of this amplifier in the future.

This project also brings back fond memories of my brother Andrew Badalamenti, who also worked on the Reverchon Himalaya ride in Coney Island and worked the Nardeux Stereomatic 302 S PA music system and the ride during the summer months for many years. It was my brother who got me interested in the Nardeux system and stereo equipment. We both have great memories when we reminisce about the good old days testing, experimenting, and just enjoying classic stereo equipment such as the Nardeux.



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