



National Audio  
Company, Inc.

*THE GREAT AMERICAN CASSETTE COMPANY*

# National Audio Company History & Galleries



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# This is National Audio.



National Audio Company, Inc. plant, Springfield, Mo.

## **National Audio is the largest manufacturer of professional quality audio cassettes in the world and has grown to be the leader in duplicated analog tapes as well.**

Founded in 1969, National Audio grew steadily through its first twelve years, becoming the dominant distributor of both Ampex recording tapes and Fidelipac broadcast cartridges to the professional market. In 1980, audio cassette manufacturing began at our plant in Springfield, Missouri. As the demand for high quality cassettes increased, our production expanded to keep pace.

During the late 1980's, our "Audio Pro" cassettes became the recognized standard of excellence in the cassette duplication industry. Steadily increasing sales made additional production equipment a necessity. In January, 1989, National Audio moved into a 28,000 square foot facility. In May, 1998, National Audio again expanded into a 135,000 square foot factory.

National Audio's success is based upon five simple principles:

Make the best possible product

Meet the customer's needs

Ship orders on time

Offer competitive pricing

Be truthful and courteous with customers



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# NAC's History

## National Audio

Has served the professional recording industry for 45 years!

Uses only professional grade cassette shells - 700 tons annually!

Loads over 44 million feet (8,333 miles) of cassette tape each day!

Loads more than 2,125,915 miles of cassette tape each year!

Operates 65 cassette loaders!

Invented "Pizza Box" style bulk cassette packaging and hub locking system for cartons of 100 cassettes!

Employs the latest technology to develop and manufacture the best cassette available!

Sold some of the first audio cassettes in the USA!

Will be here to manufacture the "last" audiocassette!

Is your best source for professional audiocassettes!

By early 2005, National Audio observed that most of the major cassette duplicators in this country were investing heavily in CD replication lines and reducing cassette duplication as they devoted space and personnel to CD lines.

Recognizing the on-going demand for audio cassettes for teaching materials, religious programs, high quality music, and books on tape, National Audio expanded its duplication services to fill the needs of the industry. During 2005 and early 2006, we purchased the equipment of several of the USA's largest duplicators, signed confidentiality agreements with and began production for many more, and increased our customer base.

The equipment added during 2005-2006 alone would have made National Audio one of the largest duplication facilities ever assembled.

National Audio is dedicated to being a reliable, stable manufacturer of blank and duplicated cassettes for many years to come.

National Audio continues to deliver the best possible products, and we are known for the best customer service in the industry. With a long-term business plan focused on continuing to achieve excellence in every format of audio duplication, National Audio is in it for the long haul.

When it comes to all things audio, National Audio can do it better and faster than anyone else. In fact, we are the largest manufacturer of professional quality audio cassettes in the U.S.A., a medium that has stayed strong through the years and is growing as music fans and recording artists return to true analog sound. In addition, we also sell millions of blank and duplicated CDs, DVDs, and Blu-ray discs every year.

National Audio's services aren't limited to cassettes and optical media. We offer analog to digital transfer, helping businesses and individuals preserve data, spoken word, and music. While most companies transfer at a transfer rate of 1-1, National Audio has developed a system that allows transfer at a rate of 32-1 and we can clean up imperfections in the process. NAC also offers flash duplication of books, magazines and other recordings. While National Audio can handle the full production of projects, including layout and design, imprinting, duplication, printing inserts, assembly and shrink wrap; we can also participate in just one or two steps of the process. The company is equipped to handle clients and projects of all sizes.

Whether you need 100 copies or 100,000, we can handle the project. We work with anyone who uses media, and appreciates cost savings and convenience.



## **1. Why the growing popularity and return to the audio cassette?**

The audio cassette began its return as a major music format with independent labels and bands in 2010. Since that time it has become more popular each year with major labels joining the “retro revolution”. One reason for the return of the cassette is cost. Independent bands and labels can release new music in limited runs of 100 to 5000 much quicker and at lower cost than on vinyl or CD formats. Another reason for the cassette's new popularity is the discovery by a new generation of music fans that analog, with its harmonies and warmth, sounds better than MP3s or CDs. A third reason the cassette has gained renewed acceptance is the ability of artists to have their releases custom packaged with elaborate J-cards (cover art), many cassette colors, and intricate on-cassette imprinting. The audio cassette has become an art form combining nostalgia, individualism and collectability.

## **2. What makes the audio cassette unique?**

The audio cassette offers versatility, durability, and economy as a music format. It is versatile because it can be produced with four different tape types to match the music being recorded. These include “ferric”, “cobalt”, “chrome”, and “chrome plus”. Each has a unique frequency range and sound which can accentuate the features of the recording which the artist wishes to emphasize. Program lengths vary from 1 minute to 110 minutes and cassette colors and packaging options are limited only by creative imagination.

The cassette can take a beating and still perform perfectly. It doesn't scratch or warp like vinyl or CD releases and will remain playable indefinitely if kept between 40°F and 90°F. The audio cassette is 50 years old in 2014. Only vinyl equals the longevity of this format! As discussed earlier, economy is a strong incentive to release new artists and music on cassette.

## **3. Is National Audio surprised by the sudden resurgence? Who is most interested in the cassette format?**

National Audio has been very pleased but not surprised by the resurgence of the audio cassette. As other duplicators abandoned tape and rushed into CD replication, we recognized that the cassette would remain the format of choice for spoken word, educational and institutional uses as well as for audio publications for the visually impaired. We also believed that music listeners would eventually tire of the “sterile” sound of digital music and we are being proven right! The under 35 age group is driving the cassette revolution.

## **4. Is it possible that the cassette will be a mainstream thing again?**

The audio cassette is one of only two growing music formats; cassette tapes and vinyl! World-wide people may never buy physical music formats in the numbers they once did, but the audio cassette is re-staking its claim as mainstream music media!



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# Duplication Project Management



## Analog Expertise

Steve Stepp, the President of National Audio, has been manufacturing and duplicating analog tape products for more than 45 years. He works directly with customers providing project planning and quotations.



## Cassette project management

Tricia coordinates the incoming and outgoing duplication projects and directs the work to the four different departments each order passes through in the course of production.



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# Audio Services



## Audio mastering

National Audio offers expert engineering to preserve the integrity of your recordings. Saki manages a team of audio engineers who optimize masters for the tape type or other medium that will be used for duplication.

Our services include making audio levels uniform from track to track and between channels of stereo tape, graphic equalization and Dolby B noise reduction when appropriate for audio cassette duplication.



Jake and Alex perform adjustments to each cassette tape project to achieve the best sound output for our customers. The goal is to make no change to your mastered recording other than to make it fit the capabilities of magnetic tape.



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# Graphic Design Services



**In house design and printing for imprinting and packaging.**

The National Audio Graphic Design Department has two full-time designers.

Jonathan, the design department manager, has a background in advertising art and package design. This gives NAC the capability to customize the look of your tapes.



Tyler watches the details of designs NAC receives and makes sure they look their best in the final production.

High end laser print production and on-site facility for producing film and plates for NAC's various kinds of label and imprint processes allow us to handle the smallest and largest of jobs.



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# Technical Support Services



Chief Technical Engineer Bob Coverston tests Lyric duplicators for correct bias, azimuth and record levels.



Flexible plates are produced from film for cassette imprinting.



Labels for cassette projects are die-cut, printed and Brailled on National Audio's presses.



Magnesium plates for heat-stamp presses are acid-etched for label production.



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# Duplication Floor



## Cassette duplication lines B, C and D

The National Audio duplication production floor has the capacity to finish 100,000 individual custom-length cassette tapes per day.



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# Duplication Floor



## Cassette duplication lines A, B, C, D & E

Electro-Sound lines are kept busy duplicating programs onto ferric type I cassette tape.



Cassettes are duplicated on open-reel equipment at 80:1 speed using Saki heads to achieve higher-output, better frequency response, and lower wow & flutter than is possible with in-cassette duplication.



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# Cassette & Open Reel Production



## Cassette duplication lines F, G, & H

Lyric lines duplicate programs on cobalt, chrome and chrome plus type II tapes.



## Cassette duplication quality control

Quality control testing is done on each batch of duplicated hubs of tape. All National Audio cassette duplications are equalized for playback on any cassette player.



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# Production Facility



## Cassette duplication lines

After a title is produced, the master is stored for reorders.



## Bulk tape

National Audio's tape production consumes approximately 220 million feet of magnetic tape a week.



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# Cassette Production



## Cassette duplication line D.

Each Electro-Sound line duplicates up to 20 hubs of tape at each pass.



## Cassette loading line #1

Production is scaled to the amount of work in the plant. Up to 65 loaders run at one time.



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# Cassette Loading



## Audio cassette loading line #4

The recorded tape is loaded into the imprinted tabs-out shells making each cassette identical. A C-90 cassette is loaded in 7 seconds!



National Audio's automated loaders perform 54 QC tests on every cassette. Timing accuracy is  $\pm 2$  seconds!



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# Cassette Imprinting



## Cassette Imprinting

A variety of ink colors can be imprinted directly onto the cassette shells, integrating the graphic design with the product.



## Imprinting plates

Both sides are imprinted in one pass of the cassette.



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# Cassette Labeling



## Cassette labeling stations

Roll labels, including braille labels are made and applied in several automated operations on the production floor.



## Automated cassette labeling

Up to 60 cassettes per minute are labelled.



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# J-card / O-card Production



J-cards and O-cards are printed on National Audio's high-production color printing system



Printed sheets of cards are cut and scored for folding using power shears and computerized folding equipment.



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# Cassette Packaging



## Audio cassette mailing

Thousands of cassettes and digital cartridges are produced and mailed weekly. Distribution of audio media to the blind is a staple of National Audio's business.



## Cassette boxing and overwrapping

Automated packaging lines assemble cassettes, J-cards, and Norelco boxes then overwrap them.



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# Shipping & Logistics



## Shipping and receiving

Finished products arrive via conveyor at National Audio's package shipping station from 3 floors of production.



## Our shipping dock

National Audio's facility is equipped to receive and ship materials and orders in any quantity. We purchase cassette shells by the container to keep up with the demand.