

ProService Magazine

April 2002

NEW FORMAT FOR —
NESDA AND ISCET NEWS —
THE RETURN OF AN OLD FRIEND

An official journal of NESDA
(National Electronics Service
Dealers Association), and ISCET
(International Society of Certified
Electronics Technicians).

— Recycling 101 —

Recycling and Electronics: What Should Be Done?

Don Cressin reports on the state of recycling in the electronics industry, the recycling conference he spoke at, and his thoughts for the future of recycling as it relates to electronics.

by Don Cressin, NESDA Region 3
Director, NESDA Treasurer

Earlier this month I attended a conference about electronics recycling in Washington DC. I had very little knowledge about what actually was being done so I did some research before attending. What I thought was going to be a straightforward topic turned out to be more tumultuous than our own industry! It turns out that as an industry e-scrap recycling is only about six years old. The scope of this article is to present some background into the industry as well as where it may be going, some of the pitfalls that have occurred, and some of the possible solutions.

NESDA'S CONNECTION

This was the first year that NESDA was invited to the conference. I was there to speak as a panelist in the repair and reuse session moderated by Robin Ingrenthron, a partner in Electronicycle, a business owned and operated by Dick Peloquin. This was probably one of the fastest two-day conferences I've ever attended. It was a learning experience on both sides and a positive one at that. I would like to take this time to thank all the members of NESDA who responded to my e-mail request for topics they wanted specifically addressed. Rest assured they were put on the table. There were people from EIA (Electronic Industry Alliance), EPA, NEPSI (a national group of municipality and industry leaders from all fifty states), EPR (Electronic Product Recyclers), NERC (Northeast

Recycling Council), along with many others. There were also other prominent groups who were in attendance such as IEEE, an organization focusing on processes in manufacturing. IAER is another group who appears to be evolving into a certification group.

RECYCLING IN OUR INDUSTRY

If the thought hasn't crossed your mind, as an industry I feel we are the oldest recyclers and one of the best options available when it comes to keeping the landfills empty. We have also been overlooked. Presently most recycling efforts have been centered on computer hardware and related accessories. Most of the people I spoke with told me they have seen a steady increase in the amount of scrap being received for processing and on average they are processing over four times what they did just two years ago. One company stated they processed about 120 million tons of e-waste last year! The trend for faster and more memory-hungry programs and some of the strict licensing requirements from software vendors make computers obsolete much faster than they otherwise would be.

RESTRICTIONS MADE BY RECYCLERS

One theme that was common is most of the recyclers present only accepted large quantities from other smaller specialty vendors with whom they had an agreement. Most of these recyclers told me they did not work with municipali-

(Recycling, continued on page 15)

PURPOSE

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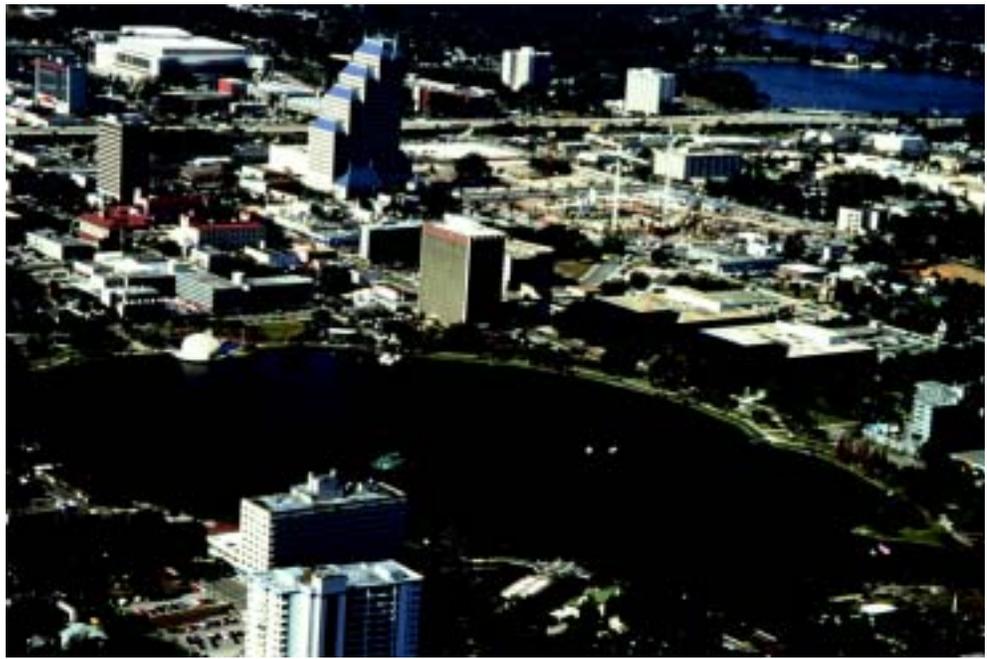
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Get Connected

NPSC 2002 invites service dealers and technicians — and their families — to experience Central Florida. Attendees will find that there are many activities to choose from, and activities that will delight diverse desires. Attendees will also find that NPSC 2002 is a unique opportunity — one that they shouldn't miss.



Downtown Orlando, Florida.

*by Stephanie Peistrup,
NESDA Associate Editor*

GET CONNECTED

Not only will this year's National Professional Service Convention (NPSC) be held in beautiful Orlando, it will also offer attendees the chance to "get connected."

This means that besides the various seminars, association meetings and a two-day trade show, there will also be the valuable opportunity to network with peers. This is a chance to

meet other professional servicers from around the country, and find out what works for their businesses, and what doesn't work.

There are activities to keep everyone entertained, but the real bonus of the convention is training. The schedule is packed with management and industry-specific technical training. For people wanting to improve their businesses and make them grow, this is a unique opportunity that shouldn't be missed.

Still not sure if you should attend NPSC 2002? The NPSC section of www.nesda.com answers many frequently asked questions, and will keep people updated on the training schedule as it develops. Online registration is available, or attendees can print and fax their registrations. Call 817/921-9061 ext. 16 for any questions regarding NPSC 2002.

NPSC 2002

THE ROSEN CENTRE

The Rosen Centre is an award-winning hotel, and is the site for NPSC 2002. It's located twelve minutes from Orlando International Airport and is rimmed by theme park attractions and shopping.

Of course, visitors may be tempted to explore what the hotel itself has to offer, including a swimming grotto, tennis courts, full-service spa and workout facilities, and five restaurants. The hotel also features attraction ticket sales and transportation arrangements, since many attractions are just minutes away.

WALT DISNEY WORLD

When many people think of Orlando, they think of Walt Disney World. Located ten minutes from the Rosen Centre, it's an option that shouldn't be ruled out.

Features at Disney World include Animal Kingdom, which focuses on real, extinct, and imaginary animals. Disney-MGM Studios Theme Park is an amusement park containing a complete motion picture and television studio.

Visitors can also explore diversity at Epcot, with Future World and its World Showcase.

In the Magic Kingdom, there are seven lands featuring roller coasters, restaurants and shops. Visit the Walt Disney World Web

site at www.disneyworld.com, or contact your travel agent for more information.

NOT JUST DISNEY WORLD

Universal Orlando invites visitors to enjoy vacations at either Universal Studios Florida or Islands of Adventure.

Universal Studios Florida is a movie studio theme park where guests can "ride the movies." Participate in a 3-D cyber adventure at Terminator 2: 3-D Battle Across Time, battle with aliens at Men in Black Alien Attack, feel what it is like to be a storm chaser at Twister and much more. Rides that are currently featured, along with park hours and ticket information can be found at www.universalorlando.com.

Islands of Adventure is a separate theme park that gives guests the option of visiting five islands. Current information can be found online at www.uescape.com.

Feeling daring? Try riding Kraken, Orlando's highest and only floorless roller coaster, located at SeaWorld. Or visit the shows and animal exhibits that make SeaWorld a popular marine life adventure park. For more information visit www.seaworld.com.

GET INFORMATION

Orlando just has too many attractions to list in one place. The Orlando/Orange County Convention and Visitors Bureau specializes in what Orlando has to offer. Visit the Bureau's site at www.orlandoinfo.com or call 800/646-2087 to request free information about Orlando.

Regardless of the attractions you or your family wants to see, we hope to see you at NPSC 2002 in Orlando!



Universal Studios in Orlando.

Photos courtesy Orlando/Orange County Convention & Visitors Bureau, Inc.



**NPSC 2002 — July 31-
August 3**
**July 30 — Welcoming
Reception**
**The Rosen Centre Hotel
Orlando, Florida**
Trade Show August 1-2

For more information and a registration form, contact:
NPSC, 3608 Pershing Ave., Fort Worth, TX 76107;
817.921.9061; Fax 817.921.3741
*see info at NESDA Website regarding travel and hotel.



TENTATIVE SCHEDULE — NPSC 2002

Tuesday, July 30:

11:00am-5:00pm Registration Desk Open
12:00pm-6:00pm NESDA Board Meeting
2:00pm-6:00pm NESDA State/Local
Reps. Meeting
6:00pm-7:00pm Sponsored Reception
(KeyPrestige)

Wednesday, July 31:

7:30-8am; 10am-Noon; 2-6pm
Registration Desk Open
7:30am-8:00am First-Timer Orientation
8:00am-9:00am Sponsored Breakfast
(Pioneer)
9:00am-5:00pm Maximizing Home
Theatre Performance
(Sencore)
9:15am-12:15pm NESDA Past Presidents
Meeting
9:15am-12:15pm Schedule Seminars or
Presentations
9:00am-12:00pm Servicing Toshiba DVD
Players (Toshiba)
(repeats in p.m. and
Thursday)
12:00pm-1:30pm Sponsored Luncheon
(ECI)
1:45pm-4:45pm Schedule Seminars or
Presentations
1:45pm-4:45pm Servicing Toshiba DVD
Players (Toshiba)
(repeats Thursday a.m.)
5:00pm-6:00pm
Principal Speaker (Keynote – no compet
ing events)
6:00pm Sponsored Cocktails
(Sharp)
7:00pm Sponsored Dinner
(Sharp)
9:00pm-11:00pm Meeting

Thursday, August 1:

7:30-8am; 9:30-10:30am; 5-6pm
Registration Desk Open

12pm-4pm Registration Open at
Exhibit Area
7:30am-8:00am First-Timer Orientation
8:00am-9:00am Sponsored Breakfast
(Panasonic)
9:00am-10:00 am CEA TES Committee
9:00am-12noon Servicing Toshiba DVD
Players (Toshiba)
(same as courses
offered Wed. a.m./p.m.)
9:00a.m.-12noon CSM Prep Course
(Randy Whitehead,
CSM)
9:15am-12:00pm NESDA Annual
Membership Meeting
9:30am-12:00pm Schedule Seminars or
Presentations
10:30am-11:30am CEA: Customer Service
Benchmarking – Deb
West
10am-2 pm CEA TES Executive
Committee
12:00pm-1:30pm Sponsored Lunch
(Thomson)
1:30pm-5:30pm Trade Show
2:30pm-5pm CEA Customer Care
Council
4:30pm-6:00pm Schedule Seminars or
Presentations
6:00pm Cocktails (Sony)
7:00pm Sponsored Dinner
(Sony)

Friday, August 2:

7:30-8am; 9:30am-11:30am
Registration Desk Open
1:30pm-5:30pm Registration Open at
Exhibit Area
7:30am-8:00am First-Timer Orientation
8:00am-9:00am Sponsored Breakfast
(Toshiba)
9:00am-12:00pm ISCET Board of
Governors Meeting
9:00am-12:00pm Schedule Seminars or
Presentations

9:15am-10:15am Symposiums (First Half
of Companies)
10:30am-11:30am Symposiums (Last Half
of Companies)
12:00pm-1:30pm Sponsored Luncheon
(Samsung)
1:30pm-5:30pm Trade Show
4 pm-5:30 pm Mitsubishi – Tech
Seminar on HDTV
products
5:00pm-6:00pm NESDA Elections
6:00pm Sponsored Reception
(Philips)
Or 7:00pm Sponsored Dinner
(Philips)

Saturday, August 3:

7:30-8am; 10am-Noon; 4-6pm
Registration Desk
8:00am-9:00am Sponsored Breakfast
(Hitachi)
9:15am-12:15pm ISCET Annual Member
ship Meeting
9:30am-12:30pm Schedule Seminars or
Presentations
9:30am-5:30pm Schedule Seminars or
Presentations
12:00pm-1:30pm Sponsored Lunch
(Open)
2:00pm-5:00pm Certification Testing
2:00pm-5:00pm Schedule Seminars or
Presentations
2:00pm-5:00pm NESDA (New)Board
Meeting
6:00pm Cash Bar or Sponsored
Cocktail Party
7:00pm Sponsored Banquet
Dinner (LG-Zenith)

Upcoming Events:



If you would like your event listed in this section, please contact stephanie@nesda.com or call 817/921-9061 ext. 13.

NESDA Board Meeting
April 20, 2002
Orlando, Florida
www.nesda.com

CEA and EIA Spring Conference
April 21-23, 2002
Washington, D.C.
www.ce.org

T-E-A Technical Institute
May 17-18, 2002
Austin, TX
webpages.charter.net/sm2001/teanewsdigest/

Mid-Atlantic Electronics Conference
May 30-June 2, 2002
Virginia Beach, VA
www.vpea.exis.net

Wisconsin Electronic Service Association Convention 2002
June 7-9, 2002
Manitowoc, WI
www.wesa.org

T-E-A Annual Convention
June 21-23, 2002
Irving, TX
webpages.charter.net/sm2001/teanewsdigest/

ESDA Midwest Regional Summer Service Conference and Trade Show
July 12-14, 2002
Peoria, IL
Contact: 773/282-9400

National Professional Service Convention (NPSC) 2002
July 31-August 3, 2002
Orlando, FL
www.nesda.com

CEA Industry Forum and Fall Conference
October 13-16, 2002
San Francisco, CA
www.ce.org

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The Big Squeeze: The ABC's of Anamorphic DVD

This article was first published on The Digital Bits Website and is reprinted here by permission of Bill Hunt and The Digital Bits, www.thedigitalbits.com. The Website contains some great information about anamorphic DVD.

by Bill Hunt

So you have some questions about anamorphic DVD. What does it mean when DVD packaging says “letterboxed”, or “anamorphic widescreen”, or “enhanced for 16x9 displays”? Why is widescreen presentation on DVD better than pan & scan? What are those black bars at the top & bottom of the screen? Why does my DVD player make everyone look so thin?

Well, pull up a chair and I'll tell you. [Editor's Note: the more expert among you will find the first part of this editorial an over-simplification, but my intent is to make the topic as easy as possible to understand for the average reader.] Let's start with a bit of history.

First of all, everyone knows that a TV screen and a movie theater screen aren't the same shape, right? Movie screens are much wider. This hasn't always been the case. When films first appeared (just before the turn of the century), they were roughly the same shape as your TV set is now. If you are lucky enough to see a showing of an old film like **Citizen Kane** or **It's a Wonderful Life** in a theater, the projected image will look squarish (aspect ratio roughly 1.33:1), like your current TV.

But when TV became popular in the 1950s, it was a marvel. Virtually everyone, who lived through that time, can remember when they saw their first TV set. TVs were so popular, in fact, that people started going out to the movies less and less. Hollywood producers, noticing this trend, invented more and more ingenious ways to bring the crowds of moviegoers back to the theaters. To start with, they decided to make their films look different than TV

— better if you will. They invented widescreen and super-widescreen formats, like CinemaScope and Cinerama. They made the colors more vivid (Technicolor). They made films where the images started popping right of the screen at you (via those silly 3D glasses).

“Why is
widescreen
presentation on
DVD better
than pan & scan?”

Widescreen was the most popular of these changes, and it stuck. Today, films generally come in one of two basic widescreen aspect ratios: Academy Standard (or “Flat”, aspect ratio 1.85:1), and Anamorphic Scope (or “Scope”, also called Panavision or CinemaScope, aspect ratio 2.35:1). Films in Flat are widescreen (like **English Patient**, **Toy Story** or **Silence of the Lambs**), but do not appear quite as wide as Scope films (like **Star Wars**, **Lawrence of Arabia**, or **Apollo 13**).

When transferring an older film (pre-1950s) to video there's no problem — the film image has roughly the same shape as your TV. But the problem remains: how do you transfer a widescreen film to video, for use on a standard TV set?

There are two basic ways to do this. The first, is what is often called pan &

scan (sometimes incorrectly called “full frame”). The film is transferred in such a way that it fills your TV screen vertically. But there's no way to get the whole horizontal image to appear, so the camera “pans & scans” back and forth during the transfer, to keep the main action centered on your TV screen. Unfortunately, this often destroys the visual effect the director and cinematographer intended you to see. At any given time, you're not seeing as much as 33% of the original film image. To many film and home theater buffs (such as myself), this is simply unacceptable.

The alternative that has long been available with VHS and laserdisc, is letterboxing. In this case, the film is transferred in such a way that the entire horizontal picture fills your TV screen. Unfortunately, there's not enough film image to fill the screen vertically, so black bars are created (often electronically) to fill the empty space on top and bottom. Now you can see the film as intended by the director, and as it was shown originally in the theater. But there is a loss of vertical picture resolution. The black bars take up space on your screen - the wider the film horizontally, the thicker the black bars.

In the past, depending on which method you preferred, you simply purchased a pan & scan or letterboxed videotape or laserdisc. But the beauty of DVD, is that studios can often give consumers BOTH options on the same disc, so that they can choose for themselves. Watch side A for widescreen, or flip the disc over to side B for pan & scan. Everybody's happy.

Unfortunately, for some longer films (over 160 minutes) it can be very difficult to fit both versions onto the same DVD, and still maintain picture and sound quality — there's only so much space on the disc. This is even true of RSDL dual-layered DVDs. On a dual-sided DVD (sometimes called a “flipper”), you have two sides to work with. On a dual-layered DVD, you have two layers (there's actually less space for data on a dual-layered disc than on a dual-sided disc, for reasons which are too technical to get into here). To make

matters worse, if you start adding highly-valued special edition materials to a DVD (commentaries, featurettes, etc...), you have even less room to work with. So it comes down to a choice — one or the other. This is why most Special Edition DVDs tend to have widescreen-only presentation. The studios know that, generally, people who are willing to spend the extra money for Special Edition materials prefer the widescreen image. With any luck, when they are finally perfected, DVD-18 discs (which are dual-sided AND dual-layered) will help to remedy this situation.

Occasionally, the decision as to whether or not to include both formats on a DVD is a cost decision. Having both costs more, and the studios may feel that some films will not sell enough copies on DVD to justify the extra expense. Overall, however, DVD consumers generally feel that if a studio can include both on the same disc, they should. DVD is about nothing so much as choice.

But we now find ourselves at the edge of a new phase of television viewing — the advent of Digital TV. Many of you have no doubt seen news stories about Digital TV (of which HDTV, or High Definition TV is a part). Starting this fall, and continuing for likely the next 10 to 15 years, the United States will gradually begin a conversion to Digital TV, with its potential for greatly improved picture and sound quality. But one of the most interesting features of Digital TVs, is their shape — widescreen. The aspect ratio of a Digital TV is 1.78:1 (also referred to as 16x9 — current TVs are often said to be 4x3). This is not quite as wide as either Flat or Scope films, but the potential for much better presentation of widescreen films is obvious.

This is where the anamorphic capabilities of DVD come into play (I bet you thought I'd never get to it, right?). The DVD format allows for a good solution to the problem of the black bars seen in letterboxed widescreen, on 16x9 TVs. If a studio prepares an anamorphic transfer of a

widescreen film for DVD, a 16x9 TV can display it with nearly full vertical resolution, while still showing you the full horizontal film image. The improvement in picture quality is dramatic.

It works like this: a widescreen film is transferred to video from an anamorphic print (the actual film frame appears horizontally squeezed), or it can be electronically squeezed after the transfer. That video is then compressed via MPEG-2, and encoded onto your DVD (I'm oversimplifying again, but you get the idea). If you were to view the actual image on the DVD, it would appear squeezed on your TV (more on that in a minute).

Now, before you can play the disc, you have to make sure that your DVD player knows what type of TV set you have — a current 4x3 TV, or a new widescreen 16x9 TV. This simply involves using your remote to enter the setup menu, and making the appropriate menu selection (see your player manual for specific instructions). Once this is done, if you play the DVD on a 16x9 widescreen TV, the TV itself will unsqueeze the image, so that it looks normal and fills the frame vertically, while still showing you the whole widescreen image. If you have a normal 4x3 TV, your player performs a clever digital trick — it unsqueezes the picture electronically, then deletes about every 4th line of horizontal resolution, and adds black bars on the top and bottom, to create a standard letterboxed image.

So the first advantage of utilizing the anamorphic widescreen capabilities of DVD, is that the discs you buy today will not only look great on your existing TV, they'll look even better in a few years, when you get around to buying a widescreen Digital TV. On the flip side, DVDs that are not presented in anamorphic widescreen, but just regular letterboxed widescreen, will look terrible. That's because in order to have them fill the display on a 16x9 TV without the black bars, the TV will have to electronically magnify the image. Every flaw on the print will be enhanced, and the lack of resolution will become much more visible. The

difference in quality between anamorphic and non-anamorphic widescreen on a 16x9 TV is stunning. Bottom line — in a few years, you'll want to throw away all of those non-anamorphic DVDs, and you'll be very happy that some studios were thinking ahead.

OK, so you're still not convinced? Well there are other benefits to anamorphic DVD as well, even if you have only a normal 4x3 TV. First of all, creating an anamorphic DVD almost always requires doing a brand new transfer of the film. This likely means that the best quality print will be used, and the transfer will be done to today's higher quality standards, using all-digital video tape formats (like D1 or Digital Betacam). Remember, DVD is a digital format. It looks best when mastered from all-digital sources — far less compression artifacts will be apparent in the final picture. Also, older film masters (transferred for previous VHS or laserdisc releases) will often have edge-enhancement, or Digital Video Noise Reduction (DVNR) in the picture, needed to make analog video look sharper and cleaner. But because DVD is digital, the detail is already there. Adding it artificially via edge-enhancement or DVNR actually makes a great DVD look bad — it simply adds noise to an otherwise clean picture (this is why you should always have your TVs sharpness control turned all the way down when watching DVD).

Anyone who doubts how good anamorphic widescreen can look on DVD, regardless of the kind of TV you have, need only watch a Columbia TriStar disc. Look closely at **A Few Good Men**, **Seven Years in Tibet** or **Starship Troopers** — the image quality is startling.

To be fair, one can occasionally notice a very slight side-effect of the player's electronic creation of a letterbox image from an anamorphic DVD. The effect appears as a slight shimmering in vertical movement, usually most apparent when watching the credits roll at the end of a film. It's more obvious on early, 1st generation DVD players - new players are much better at making the conversion. The

effect is entirely related to how your player handles the process — as players get better at it, this problem will go away. In any case, the effect is very difficult for most people to notice, and even a highly-trained eye will quickly overlook it, as one becomes absorbed in the film. It is (in my opinion) a very small price to pay for the increased quality of a new transfer, and the increased life of the disc, given that the DVD will look better than ever when you eventually buy a Digital TV.

So how do you know a DVD has anamorphic widescreen? Usually, the packaging will say one of two things: “anamorphic widescreen” (Universal and very recent Columbia TriStar titles) or “enhanced for 16x9 displays” (Warner, New Line, HBO, etc...). Unfortunately, labeling can be a bit vague on this subject — most Columbia TriStar DVDs simply say nothing about anamorphic at all (I believe **Thunderheart** was the first recent title from them to label this feature as “anamorphic widescreen”).

So lets say you already own a DVD, and you can't tell if it's anamorphic or not. Here's a little trick — go into your player's setup menu, and tell it that you have a 16x9 display, even if you don't. When you play the widescreen side of the disc, you'll see the un-enhanced, squeezed picture if it's anamorphic (simply reset your player to 4x3 to play it normally again). If it looks normal, it's not anamorphic (but be sure to reset your player anyway). This trick is why so many people complain that their DVD player makes things look squished — they simply haven't set their player up properly. Unfortunately, many DVD players come shipped from the factory preset to 16x9, so things look squished right out of the box. This has no doubt resulted in some players being returned as defective. It's also common to walk into the electronics department of a store carrying DVD players, and see this same problem on an improperly set-up display (I've seen this amusing, but frustrating, situation at Circuit City, Best Buy, Sears, Suncoast - you name it).

Ultimately, the exciting thing about

the DVD format, is that it gives the studios the ability to include all three options on the same DVD. You can have the choice of watching pan & scan or letterbox now on your current TV, and you can take advantage of a DVD's anamorphic widescreen capabilities on a Digital TV in the future. No studio has been more supportive of all of DVD's presentation capabilities than Columbia TriStar. Disc for disc, they have released a greater percentage of DVDs with both pan & scan and anamorphic widescreen than anyone else (although Warner Brothers is not far behind). In fact, virtually every

“So how do you know if a DVD has anamorphic widescreen?”

major studio, with the sole exception of Buena Vista (Disney) has released at least some DVDs in anamorphic widescreen. It should be noted, that as of the time of this writing, we have yet to see if Fox and DreamWorks SKG will adopt anamorphic widescreen for their DVDs.

Bottom line - it is my opinion, that every widescreen film (originally released theatrically in a widescreen aspect ratio), should be released in anamorphic widescreen on DVD. If possible, a pan & scan presentation should be included for those who prefer it in the near term. Clearly, it can be done, if the studios are of a mind to do so. In certain cases, I can understand that it is not economically possible. But every major or marquee film (in short, all the widescreen classics) should be so treated. Only in this way, will consumers get the choice they want, the quality they deserve, and the value of knowing that the DVDs they buy today, will continue to look great well into the future.

Anamorphic Update – December 9, 1999

Since this editorial was first written, DreamWorks has adopted the anamorphic widescreen feature of DVD as standard on all of their releases. Paramount began releasing anamorphic widescreen DVDs, abandoned the practice for a time, and has since returned to it for almost all of their titles, with the puzzling exception of their **Titanic** DVD. Fox used the anamorphic feature on all four of their **Alien Legacy** series DVDs, abandoned the practice for a time, and now includes the feature on their DVDs occasionally, without labeling the discs as such (**The Thin Red Line**, **Patton** and a few other recent titles are 16x9-enhanced, but do not indicate this on the packaging). Buena Vista and Criterion have each released a handful of anamorphic widescreen titles on DVD (Buena Vista's **A Bug's Life: CE** & Miramax's **Shakespeare in Love**, and Criterion's **Insomnia** & **Monty Python's Life of Brian**). Both companies have indicated that they will become more aggressive with anamorphic in 2000. Warner, New Line, Universal and Columbia TriStar continue to support anamorphic vigorously (with only occasional exceptions).

The Digital Bits has been (and will continue to be) very aggressive in promoting anamorphic widescreen on DVD. All of the discs that we review which are enhanced for widescreen displays will feature the following stamp:



In this way, you can be sure that the DVDs that you buy are “future-proofed” for use on widescreen TVs. As always, I welcome your comments.

Bill Hunt, Editor
The Digital Bits
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INDUSTRY ANGELS PROGRAM UPDATE

As of 3/25/2002, 109 NESDA sponsored memberships have been donated by the following partner companies:



Toshiba America Consumer Products
SatisFusion, Inc.
Mitsubishi Digital Electronics America, Inc.
Samsung Electronics America Inc.
Tritronics Inc.
Kenwood U.S.A. Corp.
Hitachi America, Ltd./Home Electronics
Division
LG-Zenith Service
Sony Electronics Inc.
JVC Company of America
Sharp Electronics Corp.
B&D Enterprises
Sencore
Panasonic
N.E.W.
Service Net
echUB
ServiceBench
WACA
AON
Warrantech Consumer Product Services

For more information on sponsoring NESDA memberships through the Industry Angels Program, please contact Fay Wood, CEO of SatisFusion, Inc. and Chairperson, NESDA's Marketing Committee, at e-mail fay@satisfusion.com or 562/290-1376.

NESA/NESDA Literature Library Closing

The Nebraska Electronics Servicers Association has closed its lending library for original, factory service. NESDA members who wanted to have benefited from this library for almost two years when NESA offered the library to our members for the cost of shipping the manuals. Thanks, NESA for your willingness to share your resources.

BILLY WILLIAMS RECEIVES PSA AWARD



Longtime NESDA and FESA member Billy F. Williams EHF was awarded the Professional Service Association's Industry Service Award during the annual PSA/FESA convention held in March. Williams is also the acting NESDA Region 4 Director.

The Industry Service Award is PSA's most prestigious award, given annually in recognition of exceptional service to our industry by an individual or an organization. It is not an award reserved just for PSA members, because it reaches out to the entire industry to recognize those who are truly most worthy of recognition for their dedication and service to the industry as a whole.

Eligible candidates for this award are usually people or organizations who give unselfishly of their time and resources to further the goals of the consumer service repair industry over a period of time, resulting in a substantial benefit to the entire industry.

Previous recipients of this award are: VAC Service Corp.; Tritronics; Clyde Nabors, NESDA; Dick Glass, ETA; Wayne Markman, PSA; Leon Howland, ETA; and Walt Herrin, Hitachi America, Ltd./Home Electronics Division.

ISCET SPANISH MATERIALS AVAILABLE

If you are interested in printed educational electronics materials in Spanish, or know someone who may be interested, ISCET will be stocking the following printed materials, available only in Spanish:

Spanish Language Items	
Enciclopedia Virtual de la Electronica	\$16.50
Curso practico de Television a Color Moderna	\$38.10
Como aplicar el Oscilosc. En el Serv.	\$6.26
Fuentes de Alimentacion Commutadas en TV	\$13.90
Televisores de Nueva Generacion	\$32.10
El Manejo del Osciloscopio Moderno	\$12.90
Todo Sobre Transistors	\$13.10
Todo Sobre Condensadores y Bobinas	\$12.90
Todo Circuitos Integrados	\$12.90
Todo Sobre Diodos	\$12.90
Todo Sobre Resistencias	\$12.90

These materials will be available directly from ISCET within the next few weeks by calling the ISCET Order Desk at 817/921-9101 ext. 12, or by ordering online at the now-under-construction ISCET online store via the ISCET website.

Were You Prepared For New Retirement Tax Laws?

On January 1, 2002 your retirement plan became obsolete. Were you prepared? Three tax law changes are discussed in order to keep readers informed.

by Lance Wallach



This year you get a rare gift from the IRS in the form of **i n c r e a s e d** contribution limits to your retirement plan. The changes have numerous advantages for the well informed and numerous pitfalls for the unwary. This article will attempt to bring you up to speed on the three changes that will have the most effect on your business, your ability to reduce or eliminate taxes, and your ability to save toward your retirement.

401k's

All profit sharing plans that do not have a 401k employee deferral feature should add one in 2002. This year, a profit sharing plan allows you to contribute up to 15% of your total payroll. Adding a 401k allows employees to also defer their own money, which reduces the amount of money, you can put into the profit sharing part. Next year, a profit sharing plan will allow you to contribute up to 25% of payroll but employee

contributions to 401k plans will not effect the profit sharing plan. An example will illustrate the point a little better. Assume a company has total payroll of \$500,000 and has a profit sharing plan with a 401k feature:

Old Rule	New Rule
Total Salaries	
\$500,000	\$500,000
Deferrals	
\$50,000	No Effect
Net Salaries	
\$450,000	\$500,000
Plan Budget	
15%	25%
Allowable Contribution	
\$67,500	\$125,000
Less Deferrals	
-\$50,000	No Effect
Maximum Employer Contribution	
\$17,500	\$125,000

The same employer can contribute over \$100,000 more next year. This leads to an opportunity and a problem. You can contribute much more to your plan but if it is distributed evenly amongst the employees it may not benefit you. Therefore, it is imperative that all profit

sharing plans be either age weighted or cross-tested. Age weighting or cross testing allows you to favor yourself and any key employees in the plan formula and can mean the difference between a secure retirement and a disaster.

Money Purchase Plans

Money purchase plans allow you to put in up to 25% of salary, which profit sharing plans will also allow in 2002. The difference between the two is that contributions to profit sharing plans are flexible while money purchase plans are not. The bottom line is that money purchase plans are now obsolete; if you have one, you should convert it to a profit sharing plan to take advantage of the flexibility. Paired plans have also become quite popular where an employer pairs a money purchase and profit sharing plan. These are also now obsolete.

Defined Benefit Plans

The retirement age in defined benefit plans has been reduced to 62 and the maximum benefit has been increased to \$160,000/year for life. Because of this you may be able to make tax-deductible contributions of \$200,000 or more to your defined benefit plan.

Lance Wallach, of Plainview, New York, speaks and writes extensively about VEBAs, pension plans and tax reduction. He has spoken on the subject at more than 70 conventions and has written more than 100 articles for national publications.

Do you have technical information that you would like to share? Would you like to see your name in ProService Magazine? Why not write an article?

Contact: ProService Magazine, Attn: Submissions, 3608 Pershing Avenue, Fort Worth, TX 76107 or call 817/921-9061 ext. 13 for more information.

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Latest Attrition Figures For The Service Industry

*Do you know the attrition figures for the last ten years?
The numbers may surprise you.*

*by Ron Sawyer, Executive Director,
Professional Service Association (PSA)*

Each year, PSA monitors the size of the service industry by keeping track of how many service centers exist at the end of each calendar year. Most of you know that our industry has been shrinking annually for many years now and with the results in for the year 2001, we find that the negative trend is no different.

Below is listed the attrition rate for the last ten years.

Please note that the Electronics service industry is now below the 10,000 mark for the first time with no sign that the shrinking will stop. In fact, regardless of the existing service center numbers, it now appears that we are losing approximately 1000 Electronic service centers per year. That figure will probably increase over the next few years unless some dramatic changes in the way we do business are forthcoming very quickly.

On the Appliance side, the shrinkage is also occurring but not at the same rate as the Electronics side. Some of the slow-down in closures here has been attributed to manufacturers recognizing the problem and paying higher warranty rates and providing some relief from the burden of supporting warranties.

Although more work needs to be done in this area, it seems to be moving in the right direction. Appliance servicers seem to be more willing to negotiate sensible rates based on their individual needs and if that cannot be achieved they will terminate the agreement with unwilling trading partners.

Electronic servicers are still struggling with the concept that every agreement must be a profit center in its own right. They are still accepting agreements simply because they feel they need the authorizations even if it is unprofitable. Electronic Servicers need to give more consideration to those warranty provid-

ers who support them with higher rates and good product support by providing them good service and allowing the warranty provider who gives poor support and low payments to go elsewhere for their service needs.

Although it is a simple concept in the rules of management, this is probably the one management fault that is largely responsible for most service center failures.

Our whole industry suffers from a lack of self-esteem and therefore we tend to sell ourselves short on the value of our service. The Certified Service Center program that was introduced this month with the support of all of the national service associations is an attempt at bringing out the best in our individual service centers by raising the level of perceived professionalism to the consumer by highlighting the strengths of each Certified Service Center.

An added benefit will be that the service center owner will realize the worth of his operation and negotiate with warranty providers based on knowledge and not on guesswork.

The following figures represent the number of service centers nationally that advertised in the yellow page section of their local telephone directories. If the service center did not use display advertising but still had a phone listed in the company name, they are included.

Year	Electronic	Svc Ctr	Appliance	Svc Ctr
1992	20,014		18,546	
1993	17,378	-2536	16,662	-1884
1994	17,629	+251	16,887	+225
1995	16,556	-1073	16,327	-560
1996	16,022	-534	15,556	-771
1997	13,666	-2356	14,575	-981
1998	12,670	-996	14,521	-54
1999	11,680	-990	14,233	-288
2000	10,649	-1031	13,009	-1224
2001	9,687	-962	12,624	-385

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Electronics Service
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Since 1950**

NESDA has been the representative for you and your industry at the national level for half a century. If you are an appliance, computer, or consumer-electronics service dealer or technician, you need one of the divisions of NESDA — and NESDA or ISCET needs you. Join today with your professional colleagues who work together to improve themselves and their profession.

For more information, write or call
NESDA
3608 Pershing Ave.,
Fort Worth TX 76107
817-921-9061

It's a Joint Effort: ISCET President's Report

ISCET President George Brownyard discusses the inaugural issue of this publication, the joint efforts between NESDA and ISCET, and ISCET's increased exposure throughout the U.S. and rest of the world.

by George W. Brownyard CET,
ISCET President

Welcome to our new format. As I had mentioned in a previous report, one of the principal concerns our members have had has been exposure. Another is that you wanted to hear from us more than just quarterly. Well, this publication will allow us to help, at least a little, in those two areas.

First, by combining with NESDA we will also be reaching that membership. Second, you will be receiving an additional two reports a year.

The ties between NESDA and ISCET are far stronger than they have ever been in the 20 plus years that I have been ac-

tively involved. Also, many ISCET members are also members of NESDA. Therefore, it is only natural that we should combine our common efforts to better serve the members of both organizations.

Of course, a large number of our membership is not in the Consumer Electronics field. To those of you not involved with Consumer Electronics I hope you will appreciate the added bonus of gaining a better understanding of this field of electronics.

The number one joint effort between ISCET and NESDA has been the NPSC. This NESDA/ISCET Convention is the largest of its kind in the country. Just being

able to attend the technical training is worth more than the registration rate. You'll find more information on page 4. Take advantage of the lower cost and sign up today. As we get closer to convention time, the price will be going up.

ISCET is continuing to expand its presence in the world. We are now moving into Eastern Europe. ISCET has just set up a CA in Poland, and we are receiving inquiries from other countries as well. Mexico is again conducting Certification Review training for instructors this summer. Testing will be in Mexico City and San Luis Potosi. I'll keep you posted.

I am also receiving many inquiries from large companies in the U.S. as well. One company, Intel, has added 3 CA's to their staff to screen employees.

Thanks again for your help in moving ISCET forward.

Remember, if you have any questions, or comments, don't hesitate to contact me by e-mail at GBrownyard@aol.com, or contact our office staff. I promise to respond to every request.

ISCET BITS & PIECES:

IF YOU'VE GOT IT, FLAUNT IT!

ISCET has a supply of clear window decals that state "We Employ Certified Electronics Technicians" available for the asking for members with the CET certification. We'll be glad to send you one if you'll let us know that where to send it. Please call Patricia in the ISCET office at 817/921-9101 ext. 19 or e-mail patricia@iscet.org to request a decal.

NEW STUDY GUIDE/ PRACTICE TEST AVAILABLE — COMMUNICATIONS ELECTRONICS JOURNEYMAN CERTIFICATION®

Interested in taking the Communications Electronics Journeyman-Level Exam? A new

study guide is now available to help you prepare for the exam. The guide, written by Stanley J. Nawrocki, CET, includes basic communications circuits and components, transmitters, and receivers, and deals with components, concepts, and circuits for basic study. A 25-question practice exam is also included to help you assess your readiness for the actual exam. The cost of the guide is \$19.95 plus shipping. ISCET accepts personal or company checks, Visa, and MasterCard.

Two other relatively new guides are also available, the Study Guide and Practice Test for the ISCET Associate Level Examination® and the Study Guide and Practice Test for the ISCET Computer Electronics Certification®. These guides are also \$19.95 each. All three of these

guides may be ordered from ISCET by calling 817/921-9101 ext. 12.

ISCET TO PROVIDE TEST FOR STATE COMPETITION

ISCET will be participating in a SkillsUSA-VICA competition in Louisiana by providing the test used for the electronics area of the competition, as well as an ISCET test administrator. The competition includes testing in trade, industrial, and technical occupation areas where students receive training as part of the SkillsUSA program, such as architectural drafting, cabinetmaking, cosmetology, diesel equipment technology, robotics, residential wiring, health occupations, and a number of other fields.

See page 9 for news on ISCET's new Spanish-language materials!

Mugging The Independent Servicer: NESDA President's Report

NESDA President John Eubanks discusses the problems independent servicers are having with national service providers, laws that are being violated, and the need to seek solutions that will work.

by John Eubanks CET,
NESDA President

The definition of the term Mugger according to Webster's dictionary is:

1. A freshwater Crocodile of Southeast Asia.
2. One that attacks with intent to rob.
3. One that grimaces before an audience.

With those choices for a definition it is safe to discard the first and third options in respect to this article. In other words you have three choices but two of them don't count.

The size of the mugger won't matter as much as the surprise and scope of his effect upon the victims. It may be the act of a single large retailer or any product maker acting individually or in aggregate to deprive other independent servicers of a source of income they were previously encouraged to seek and retain. Some may simply term such actions as business as usual with a minute degree of truth, however that is dependent upon many conditions at the time. Whenever it is the result of fair competition then it should surely be termed routine business.

Our association insists upon its members abiding by all local laws and ordinances to conduct business. We expect other industry partners to abide by the same standards in their business ventures. To do less could be the means of invoking unfair advantage through illegal acts. For too many years large retailers hedged for an advantage by purchasing products without manufacturers warranty leaving authorized service networks for those products at considerable risk. In the course of time after incurring loss most servicers learned this the hard way. It is a fact some national chain store shoppers still don't grasp, because that information isn't with the product regardless of all the warranty notification requirements in the Federal Moss Magnuson Act.

Recently a national service provider has begun to incorporate stealth with an agreement from a product manufacturer to disguise a mutual service scheme un-

der a defunct service company's name. At the same time this large national retail chain plans to close all its service centers in favor of operating 6 nationwide service depots — moving their entire fleet of service vans to work from employee's homes. On a smaller scale at least one major product manufacturer appears to have followed this trend to the detriment of their area independent service agents. In addition others are regularly referring service assignments to technicians having no facilities beyond an equipped service van and a home phone. In some of these cases many area laws and zoning ordinances appear to be openly violated regularly.

It seems that an industry so rampantly paranoid of non-professional activities by its independent servicers may have a much larger arena of concern. If not, then the independent servicer may simply be an excellent student who has quickly learned much of what they are taught. You can't have it both ways.

The future in every sense seems to harbor the same clouds of deceit. The electronics product end of life disposal problems facing this entire industry is a prime

example. The federal government has termed products using the cathode ray tube to be hazardous and illegal to deposit in the nations landfills. The problem is being addressed on a state-by-state basis with varying degrees of emphasis. The thing that is clear is those who produce these products don't want to accept the amount of responsibility in the United States they have been legislatively assigned in Europe and Japan. It seems primary focus of many of our states is to ambush it at the Service facility. The amazing thing about this approach is that it can never succeed as the effective solution for this problem because it will simply hasten the failure rate of an already devastated industry. When you consider the possibilities of assigned responsibility for an effective solution, there are only three. Assign total responsibility to its producer; assign total responsibility to its consumer, or some combination of these two. Assessing fines on a struggling service industry to achieve compliance is simply a fast track ticket to a bankruptcy court.

It is time to seek solutions that work, that are fair to all segments of the industry that abide by all laws, and consider all these concerns honestly. One example of this type of cooperation by servicers can be found in the Certified Service Center program recently established after four years of bickering. A similar approach needs to be taken by other sectors of this industry to end many of these muggings. Simply do the right thing — it is long overdue.

NESDA BITS & PIECES:

NEW REGION 4 DIRECTOR

At the January NESDA board meeting, Billy Williams EHF was elected interim Region 4 Director to serve out the unexpired term of Bruce Jarret CET, who resigned. A new director will be elected for Region 4 in August by the membership.

FAREWELL ALICE

For anyone who has been a member of NESDA and ISCET for any length of time, you probably knew or perhaps talked with Alice Brown, Director of Member Services. Alice had served the associations in several capacities since coming on board in September of 1985. She had worked with Barbara Rubin, Wallace Harrison, and Clyde Nabors for many years.

In late February, Alice tendered her resignation in order to pursue other interests. NESDA/ISCET thanks her for almost 17 years of service, and wishes her well in all future endeavors.

DELORES OTTO LOSES BATTLE WITH CANCER

Delores Otto, beloved wife of NESDA member Rudi Otto (K&O Electronics in Dallas, TX) lost her battle with cancer March 5 after a long illness. NESDA extends its deepest sympathies to Rudi and their family. Delores had attended many NESDA conventions with Rudi and was active in the Texas Electronics Association.

See page 9 for more NESDA news!

What's New In Electronics

Electronix Corporation Introduces E-Commerce Site

Electronix Corporation recently unveiled a newly revised e-commerce site, Electronix.com, that features a printable version of its entire catalog.

According to Electronix Corporation, the new Web site incorporates a new shopping cart design, with integrated searching, and detailed product descriptions and photographs.

The company's other Web site is RepairWorld.com, and is a site for electronics technicians.

For more information contact the Electronix sales department at 800/223-3205 or visit www.electronix.com.

Pomona Electronics Announces Oscilloscope Probes

At the end of February 2002, Pomona Electronics introduced a series of Microline Oscilloscope Probes with 500 MHz bandwidth.



The company indicated that the probes are compatible with digital and analog oscilloscopes and provide the capability to test a range of high-frequency applications.

"High-frequency

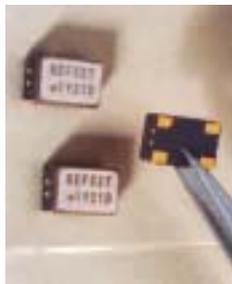
applications are more common and the new Microline Oscilloscope Probe offers a solution for testing with oscilloscopes in these applications," says Robert Poirier, Senior Product Manager for the company.

The units are priced at \$230, and are now available from authorized Pomona distributors.

For more information or a free copy of Pomona's Test & Measurement Accessories Catalog contact: **Pomona Electronics, 1500 E. Ninth St., Pomona, CA 91766; 909/469-2900; www.pomonaelectronics.com.**

Raltron Debuts Voltage Controlled Oscillator

Raltron Electronics Corporation introduced the RTVY-124, which is a voltage controlled oscillator that is also temperature compensated.



The company says the product was developed for low voltage battery powered products, particularly for wireless and Bluetooth applications.

The unit's package size is 5 x 3.2 x 1.7mm. Further technical details are available at the company's Web site.

For more information contact:
**Raltron Electronics Corporation,
10651 NW 19th St.,**

Miami, FL 33172; 305/593-6033; www.raltron.com.

CAIG Announces Improvement of DeoxIt Formula

CAIG Laboratories, Inc. announced the improvement of its DeoxIt Formula.

"Unlike other contact cleaners that just clean the surface, and may provide minimal lubrication, DeoxIt is formulated to dissolve oxidation, increase current carrying capabilities and provide continuous protection on metal surfaces from wear abrasion and atmospheric contamination," says Diane James of CAIG.



The company also indicated that DeoxIt can be used on all metals that conduct electricity. The company also noted that DeoxIt is available in various applicators including: sprays, pumps, pens, wipes, precision tip dispensers and bulk containers.

For more information contact: **CAIG Laboratories, Inc., 12200 Thatcher Court, Poway, CA 92064-6876; 800/CAIG-123; www.caig.com.**

M.M. Newman Introduces Soldering Iron Controller

M.M. Newman Corporation announced the introduction of its Dial-temp Soldering Iron Controller, which the company indicates plugs into any 115 VAC outlet. The company says it is designed for use with any fixed temperature soldering iron up to 1600 watts, and has a dial on top for adjusting the tip temperature from 150F to full heat.



The Dial-Temp Soldering Iron Controller is priced at \$45.71 (list).

For more information contact: **M.M. Newman Corporation, 24 Tioga Way/PO Box 615, Marblehead, MA 01945; 800/777-6309; www.mmnewman.com.**

Anver Corporation Designs Vacuum Lifter

Anver Corporation announced the introduction of its APF-Series Vacuum Lifter. The company says it is designed to let one person lift and handle televisions weighing up to 1000 pounds.

Anver APF-Series Vacuum Lifters are priced from \$2495 (list). The company indicated that literature and price quotations are available upon request.

For more information contact: **Anver Corporation, 96 Parmenter Rd.,**

Hudson, MA 01749; 800/654-3500; www.anver.com.



Send Press Releases For Consideration To:

**NESDA, Attn: Stephanie Peistrup, Associate Editor,
3608 Pershing Avenue, Fort Worth, TX 76107; 817/921-9061; www.nesda.com.**

ties (state or county waste departments) because they generally bid low. It costs the average recycler about thirty cents a pound to process material — as long as he has a buyer for the material he is reclaiming. While most would not go into specifics, the average recycler is making about 5 cents for every 100 lbs he processes. Not very large margins!

SO WHY RECYCLE?

It is estimated that the amount of precious metal, in particular copper consumption, is going to quadruple in the next ten years as developing countries become bigger players in the high-tech manufacturing sector. Furthermore it is estimated that land-based copper mining will be all but depleted leaving much less desirable ocean-based mining as the only viable alternative. I say much less desirable, but any mining being done has a drastic effect on the environment. Copper ore processing produces by-products such as arsenic.

PROCESSORS OR SHIPPERS?

The majority of the recyclers out there are responsible companies. They take in raw product, dismantle it, grind, separate and further process the material so it can be reused in the manufacture of new products. Envirocycle in Ohio is one such recycler who does glass-to-glass recycling for the CRT industry. There are also others who export complete product to other countries to be used in remanufacturing and repair of like equipment. Unfortunately there are a few bad apples in the group who do not ship units intact; instead they ship just the shell. For example, a computer monitor minus the PC board. You may have seen pictures on the evening news several weeks ago of monitors and electronic “trash” scattered in fields in China with children playing among them. Yes, this stuff does go on, but it is not the norm. In most cases these items were shipped as supposed whole units or were abandoned as scrap after the recipients took what they wanted from them. As it stands now a company can properly dispose of a large quantity of electronic waste only to have it end up on foreign soil. This could be tracked by serial numbers and the cost of

remediation of damages could be higher than the company could afford.

THE HDTV FACTOR

Consumer items are becoming the focus of most municipalities as the baby boomer and gen X-ers find more and more of an appetite for new electronics. The shift to HDTV also will have an effect on the electronic trash pile, but not as drastic as some feared. High definition broadcasting in this country will not become a mainstream reality for roughly another ten to twelve years. Congress set 2006 as a budgetary deadline only; it is NOT when our analog system is supposed to cease to exist. EIA (Electronic Industry Alliance) predicts only a 30% market penetration of HD products into the home by 2006. This is not enough to spur the market into more HD programming where broadcasters could recoup the large investment they have to make to change over to HD. The only way to recoup this expense is by selling airtime for commercials and at 30% penetration this will not be feasible. One possible exception to that is the broadband bill that is before Congress. We will save that for another article at a later time.

WE ARE PART OF THE SOLUTION

Besides the obvious, education of consumers and ourselves, we need to make wiser choices about our purchases. In the session I spoke in, I addressed the issues of no or non-economical service literature, lack of technical support, lack of parts and the laws governing parts manufacturing, high cost of parts relative to the product, the overall effect of cheap imports and what they in turn, as well as other issues stated previously, do to the already overburdened waste stream. Other issues discussed were processes for disposition of abandoned units, costs to servicers, and the effect all of this translates to at the bottom line — making repair not a viable option. Most recyclers do not handle television and NONE are presently ready or planning to handle projection television. They were not aware that most projection sets along with the run-of-the-mill hazardous materials such as lead, beryllium, and phosphorous, also contain ethylene glycol, otherwise known as *antifreeze*. Just the sheer size of the product makes it a problem.

ONE THOUGHT: WORKING TOGETHER

As a group we could be paid as certifiers. Our job could be to come in and examine products before they hit the grinder so products either become candidates for resale, parts or are verified as intact for export. After all, who else would have that kind of knowledge? Several of the people I spoke with were very interested in possibly doing just that. One vendor told me he has over 250 thousand Toshiba made IC chips pulled from consumer units. These were going to be crushed and recycled for the precious metals inside; however, he has decided to try to compile the list and make it available to us for purchase in pieces or in whole for pennies a piece. Most of this was from working equipment. There is a lot both sides can gain from working together. Even the marketing director for BEST BUY was interested in having some experts present at their product collection sites. I will be meeting with her in the near future to see if we can work out a mutually beneficial plan.

GET INVOLVED

As you can see there is more information than can be provided in just one article. Hopefully I've given you some insight into the issues and enough to allow you to wade your way thru the maze of questions and ideas. I only ask that you get involved! Most states have a Department of Environmental Protection and they are willing and eager to hear from us. Don't wait while thinking some one else will do it or it is way off in the future. If you are thinking that the European standard of making the manufacturer take back his product at its end of life is going to happen here, it has been shot down. You can rest assured if you don't voice your opinions and concerns to your local officials they will find some way to pull more funds from you as a business. Is this something you can afford? Be a part of the solution. Be proactive. There might be more in it than you think! If you would like more information on these issues please feel free to contact me by e-mail at certele@erols.com.

Tritronics

INCORPORATED



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Price, availability and ordering capability available on our website: www.tritronicsinc.com

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