

Volume 12, Number 9 • September 1993 \$3.75 U.S.



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# Monitoring Times

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Coverage*

**Blue Ribbon Scanning  
at the State Fair!**

**Back to School**

**Educational Radio in Costa Rica**

**Remnants of the Cold War**

**DXing the Two Koreas**

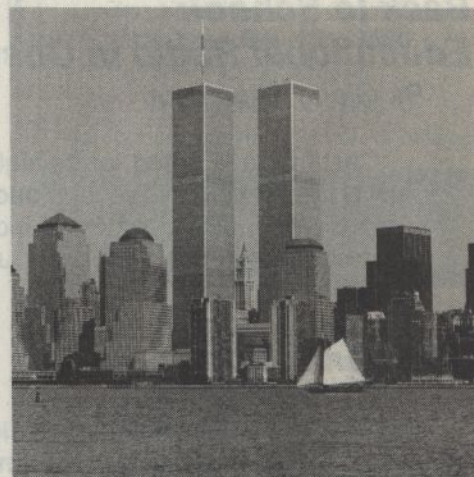
**MT Reviews the BC2500XLT**

**Target For  
Terrorism**  
*Monitoring the  
New York Port Authority*





# Monitoring Times



## Target for Terrorism — New York's Port Authority

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By Bob Kozlarek

In a 25 mile radius from the Statue of Liberty, the Port Authority of New York and New Jersey is in charge of all moving traffic—planes, trains, ships and automobiles. So what does that have to do with the bombing of the World Trade Center? The Port Authority owns the Twin Towers. Furthermore, the Authority's responsibility for the flow of traffic makes it a prime target for future terrorist attempts.

In this brief tour (complete with frequencies) of the agencies under the Authority's jurisdiction, the monitor gains an appreciation for the enormous amount of coordination and communications required to keep New York City on the move.

## Remnants of the Cold War—DXing the Two Koreas

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By Jeff Chanowitz

Both born of the Korean War, Radio Pyongyang and Radio Korea are still battling the cold war in an attempt to influence the Korean people. Outside of that, their styles have nothing in common. Recent showdowns between the US and North Korea have brought this area of the world back into the public eye. It's a good time to tune in these two voices of a divided people.



## Blue Ribbon Scanning at the State Fair

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By Allen Cole

In some places it's called the State Exhibition, and among the harvest of crops and livestock, there is also an exhibition dear to the heart of the scanner listener. Displayed in full view are all sorts of radio communications. The challenge is to find as many as possible within a week, because next year much of it will be new all over again.

**COVER:** The Statue of Liberty is flanked by the twin towers of the World Trade Center in this view of the Lower Manhattan skyline, courtesy of the Port Authority of New York and New Jersey.



## A Farewell Visit to WCC

By Everett Slosman

22

Ship to shore communications stations such as WCC in Chatham, MA, are becoming irrelevant in today's modern technology. In fact, WCC's current traffic is already handled through a relay to KPH in Point Reyes, California. The first Marconi Wireless Telegraph station may be about to go off the air; be sure to log it before it does.

## Back to School: Educational Radio in Costa Rica

By Glenn Thompson

26

Costa Rica is noted for its high literacy rate, but that has not always applied to indigenous peoples and rural workers located far from the population centers. Since 1973, a program has been in place to carry these people through the required basic education program—by radio.

## And Much More ...

Bob Kay has some tricks up his sleeve for avoiding the prohibition against obtrusive antennas for apartment dwellers. Whether you erect an indoor or an outdoor antenna, "Scanning Report" will get you to look around your home site to see what configuration might work for you. Meanwhile, "Antenna Topics" will help you with the construction of two of the most popular and basic antennas, no matter whether you monitor shortwave broadcasting or public safety frequencies—the halfwave dipole and the groundplane.

If you'd like to pick up a new aspect of the hobby without a big investment, why not try the mediumwave AM/FM broadcast bands? As we move into autumn, the conditions are favorable to pick up signals from outside your local listening area. Check out "American Bandscan" to learn some tricks of the trade, and "DX Tests" for some specially scheduled opportunities for long distance loggings.

Reviews, listening tips, maritime monitoring, more broadcast schedule updates ... you'll find it all in this issue of *Monitoring Times*!

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# Monitoring New York's Port Authority

By Bob Kozlarek, WA2SQQ

It was February 26. Snow flurries were falling and hundreds of people filled the observation deck atop New York's famous World Trade Center located on the southern tip of Manhattan. At 12:18 pm, without warning, a massive explosion occurred within the subterranean levels creating a 100 foot wide crater spanning the five lower levels. The parking garages, the PATH train station, and the Vista Hotel sustained major structural damage.

In an instant the seven million square foot complex went dark, trapping thousands of ten-

ants and visitors, among them two kindergarten classes visiting on a school trip. Elevators came to an abrupt halt and the dimly lit emergency stairwells quickly filled with thick black smoke.

Radio and TV stations preempted regular programming with live reports which first cited the cause as a transformer explosion. Their reports were to be short-lived as Consolidated Edison cut all remaining power to the complex, much of which supplied power to the transmitters of many New York radio and TV stations located atop the Twin Towers. Acting quickly,

CBS reactivated transmitters located atop the Empire State building, former home to most metro area television transmitters. ABC negotiated and routed its programming to neighboring PBS channels in New Jersey, reaching a limited audience on UHF channels 50 and 58.

Disasters of this magnitude serve as an indicator for the media's emergency preparedness. Of the hundreds of active frequencies, fig.4 lists some of the NY citywide frequencies used during the emergency.

Of course, further investigations revealed that the explosion was the result of a 1200 pound terrorist bomb driven into the underground parking garage on level B2. In the days that followed, radio activity by federal, state, and city agencies reached a level seldom heard. Although the actual damage was confined to a one square block area, com-

muters throughout the NY metro area would feel the effects for weeks. Security at all of the major airports was increased, and many indoor parking garages at the airports were closed. Those that did remain open subjected vehicles to a search.

With threats of terrorism running rampant, hundreds of "copy cat" bomb threats would follow. Terrorism, a word most of us associated with foreign countries, was now a local issue. The bombing of the World Trade Center was by far the worst act of terrorism in US history. Officially, six people were killed, 1000 injured, and total property damage is now estimated at 300 million dollars.

## The Twin Towers

Built in the early 1970's, the 110 story "Twin Towers" rise 1,350 feet above the New York skyline, the tallest structures in New York and second tallest buildings in the world. The towers are owned and operated by The Port Authority of New York and New Jersey. This private agency was formed on April 30, 1921, and is responsible for much of New York's air, land, rail, and sea transportation. Port Authority's jurisdiction extends outward in a 25 mile radius from the Statue of Liberty in New York Harbor.

Monitoring the Port Authority and its associated agencies can provide hours of exciting listening, and that was the original intent behind this article. Two weeks into writing this article, the explosion occurred and all Port Authority offices were closed. But, persistence pays off! Contacting each agency independently and pleading my situation, I was able to find understanding people who were very willing to help. To those individuals, I would like to extend my sincere appreciation. Without their cooperation this article would have not been possible.

We'll begin our tour at the top, 1350 feet above the New York skyline. Atop the Twin Towers, hundreds of antennas share space with a small heliport and a 360 foot tower built in 1979 that supports 10 television stations, hundreds of auxiliary antennas, and a master FM



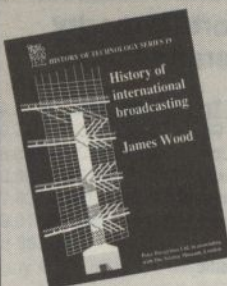
Steve Spak



World Trade Center (circa 1973). Note that adjoining property wasn't developed yet. The top picture is of an evacuation helicopter after the explosion on February 26th.



## History of International Broadcasting \$59.00



The origin and growth of information broadcasting (chiefly of propaganda) by radio – most renowned for its prominence in World War II and the Cold War – is outlined. The author chronicles the technological and engineering achievements that enabled long-range

broadcasting to develop, but keeps them in the context of the social and political environment of the day. The appeal of the book is by no means restricted to scientists and engineers and many will find much to stir their own memories of international radio broadcasts in wartime and peacetime alike. 264pp., casebound, ISBN 0 86341 282 5 - 1992

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broadcast antenna. To illustrate the potential RF field density which exists, EPA officials conducted some studies shortly after the site became radio active. Their studies concluded that RF levels within the upper floors of the adjacent tower were above accepted levels. Specially designed leaded glass windows provided the necessary attenuation to protect the buildings' tenants.

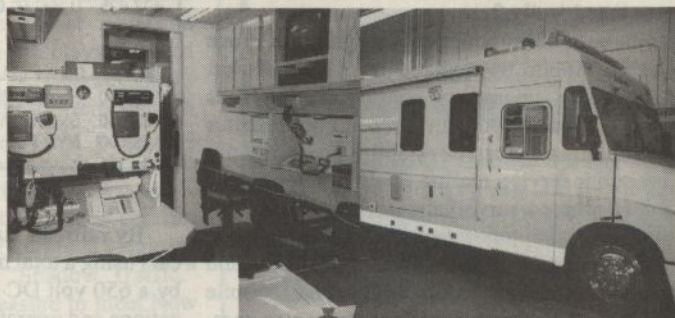
Incidentally, in the hours following the explosion hundreds of people that were stranded in the lifeless skyscrapers' upper floors were moved to the roof. Emergency service crews quickly cut down hundreds of non-essential antennas and effected efficient rooftop rescues using several helicopters.

As one might imagine, providing solid radio coverage throughout a seven million square foot complex required some careful planning. Motorola design engineers created a system by which a four foot corner reflector atop the roof of an adjacent building directs a signal at the twin towers. Using coaxial cable that is designed to leak the RF signal it carries, over 15,000 feet of "radiax" was routed throughout the complex, thus providing reliable communications using only 1/2 watt UHF radios! This somewhat passive system was highly instrumental in providing communications during evacuation.

World Trade operations use three frequencies designated channels X, Y, and Z (fig 1). Port Authority police who have jurisdiction throughout the New York and New Jersey area maintain headquarters here also. Designated as channel "W", constant activity can be heard on 453.375 MHz. In addition, most vehicles are equipped with New Jersey - Bergen County "F2" (477.1875) as well as the statewide inter-system channel "SPEN 1" (154.680).

While Port Authority was assigned several 800 MHz repeater channels about two years ago,

*Port Authority Mobile Communications Vans can establish a link on virtually any band within minutes of an airport emergency.*



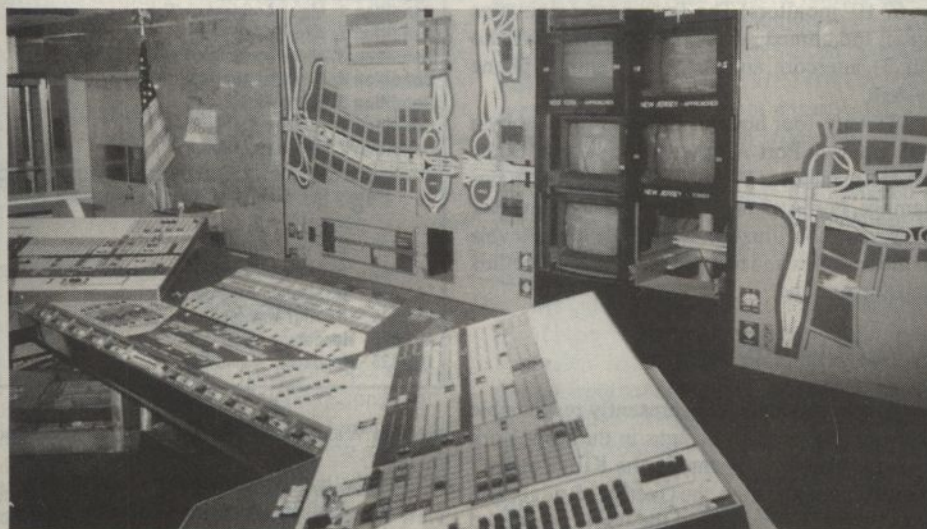
the change-over would have required extensive modification to their unique antenna system. This influenced the decision to give up the allocated frequencies. Most of these frequencies were transferred to the New Jersey Department of Transportation for future implementation. I did learn that there is serious consideration being given for a new 800 MHz trunked system which will complement the existing 450 MHz system.

### Planes!

The Port Authority operates three major airports in the New York metro area; Newark International (NIA), JFK International (JFK), and LaGuardia (LGA). While writing this article, I had the pleasure of visiting Port Authority operations at Newark International Airport. My guides for the tour were Airport Duty Manager, Dan Harvey, and Deputy Chief Operations, Frank Lopprano.

Dan explained that Newark International Airport currently ranks as the sixth busiest airport in the U.S., handling as many as 1300 flights daily. Since all New York air space is coordinated at a separate facility about 50 miles east of Newark, the FAA's control tower is often staffed by only four or five controllers, quieter than most would imagine it. Fig.2 lists the frequencies in use throughout the New York metro area.

Port Authority communications at Newark International Airport use three primary channels designated "B", "X", and "Z" (fig.2), with most of the related antennas and repeaters located atop the large heating complex building. Since Port Authority vehicles travel many of the same roads used by aircraft, each vehicle is equipped with aircraft radios tuned to Newark's ground



George Washington Bridge Control Center in Jersey City, NJ.





Newark, NJ, airport tower

frequency, 121.9 MHz. Active runways are controlled by FAA personnel in the tower, while inactive runways are under Port Authority control. In fact, while crossing active FAA runways, our vehicle had to request permission from the tower on several occasions! With three major airports in the New York metro area, most FAA allocated frequencies are quite active. Readers may note local activity on many of those frequencies listed in fig. 2.

In case of an emergency, communications can go mobile on demand from one of Port Authority's emergency communication vans located at each of the airports. Within minutes communications can be established on virtually any public service, marine, or aircraft frequency. Roof mounted surveillance cameras also provide radio operators with panoramic views of the situation outside. Add the cellular phones and fax machines, and we have an instant mobile communications center! Each airport also operates a traveler's information radio service at 530 kHz.

During my visit, maintenance workers were putting the finishing touches on a new antenna system that will use about 100 radials to complement a new antenna mounted 35 feet above ground along the perimeter of the airport — a system any 160 meter DXer would envy! This new system replaces the present system that is located atop the airport's North Terminal.

## Trains!

Without any official ground breaking or fanfare a group of laborers began digging at a land fill site in Jersey City, NJ, on November 17, 1874. This began a major engineering achievement that would come to fruition 34 years later when the first rail system passing under the Hudson River would open. President Theodore Roosevelt sounded a bell on February 25, 1908, that signaled the activation of the system.

Opened as the Hudson & Manhattan Railroad, ownership was transferred in 1962 to the Port Authority which renamed the system, "PATH," Port Authority Trans Hudson. PATH is the primary rail link between Manhattan and several New Jersey urban communities and suburban commuter railroads. Carrying nearly 200,000 passengers daily, PATH is now celebrating its 30th anniversary.

## Fig. 1: Port Authority Operations

### World Trade Center

453.4000 "A" - Central Police Desk  
453.3750 "W" - Police Opr.  
470.5625 "X" - WTC Maint.  
470.5875 "Y" - Elevator Maintenance  
470.6125 "Z" - Operations  
123.05 - WTC Heliport  
130.50 - WTC Aero Traffic

### Airport Support Frequencies

453.650 "B" - Newark, LaGuardia  
453.375 "W" - JFK

### Bridge & Tunnels

453.800 "C" - Holland Tunnel,  
George Washington Bridge  
Staten Island Bridges  
150.995 "D" - Lincoln Tunnel  
151.115 "E" - P.A. Bus Terminals  
153.755 "F" - Lincoln Tunnel  
154.965 "S" - Passenger Ship Terminals

### Hudson River Traffic

407.625 - U.S.C.G. Operations NY Harbor  
417.850  
417.925  
34.790 - Statue of Liberty /Governors Island  
123.050 - Hudson River Helo Traffic  
122.850 - Sky Writing Aircraft  
123.100 - NYC Police Helicopters

By railroad standards PATH is small: 342 cars using a total of 43 miles of track electrified by a 650 volt DC third rail system. Communications and operations is coordinated from The John F. Hoban Operation Control Center located at Journal Square in Jersey City, NJ.

Supervising and overseeing these operations is the Trainmaster who, from a central location, has a commanding view of all essential elements — the position of every train in service is displayed on an illuminated 200 square foot board. The status of traction power emanating from PATH's power substation is displayed on a 300 square foot display board, and passenger flow through each of PATH's 13 stations is displayed on 67 19" monitors! The Trainmaster maintains direct and immediate communications via radio (fig. 3), intercom, and a backup "Centrex" phone system.

Twenty-four hour security is provided by a 105 member Port Authority police unit. Since PATH's station at World Trade sustained major damage, Port Authority police provided much of the rescue coordination within the lower levels of the complex and relayed the names of victims that were found.

## And Automobiles!

The Port Authority is presently responsible for four of the major bridges in the New York metropolitan area; spanning the Kill Van Kull is the Bayonne Bridge, the Goethals Bridge, The Outerbridge Crossing and the world renowned

## Fig. 2: Port Authority Operations at Newark Int'l Airport

453.6500 - Port Authority "B"  
473.5625 - Port Authority "X"  
470.6125 - Operations "Z"  
118.30 - Newark Tower  
119.20 - Newark Depart  
135.35 - Newark Depart  
126.70 - Approach Control  
126.80 - Approach Control  
128.55 - Approach Control  
118.85 - Clearance Control  
132.45 - ATIS  
127.85 - TCA Control  
121.90 - Newark Ground / Port Authority Police  
154.130 - Newark Fire Department  
477.1875 Bergen County Police  
154.680 - "SPEN 1"  
530 kHz - Airport Info Radio

### Airline Operation Freqs

129.30 - American Airlines  
130.65 - ZANTOP  
129.55 - United Airlines  
131.85 - Delta Airlines  
129.975 - Northwest Airlines  
130.72 - TWA  
131.925 - Federal Express  
130.45 - SAS

### Press Disaster Freqs

453.000 - Metro Traffic  
173.325 - Assoc. Press  
173.225 - NY Times  
452.975 - UPI  
450.350 - CBS / ABC  
450.0875 - CBS Helicopter  
161.730 - ABC / NBC / CBS  
35.375 - CBS TV  
41.275 - NBC TV  
170.160 - WWOR-TV  
450.150 - WPIX-TV

### Active FAA Channels

135.850 - FAA Traffic  
135.950 - FAA Traffic  
172.900 - Channel A1 - "Rpt"  
170.200 - Channel A2 - "Rpt"  
172.925 - Channel F1  
172.950 - Channel F2  
172.975 - Channel F3  
172.850 - Channel F4  
172.875 - Channel F5  
172.900 - Channel F6 - "Rpt"  
172.825 - Channel F7 - "Rpt"  
172.125 - Channel F8 - "Rpt"  
172.150 - Channel F9/H2  
172.175 - Channel F10 - "Rpt"  
166.175 - Channel F11 - "Rpt"  
170.150 - Channel H1 - "Rpt"  
169.300 - VOR Control

### Airport Emergency Codes

Condition 1: Major Accident or Fire  
Condition 2: Aircraft Accident  
Condition 3: Minor accident / Fire  
Condition 4: Potential Aircraft Emergency  
Condition 5: Bomb Threat  
Condition 6: Hi-Jack (On Ground)  
Condition 7: Sky-Jack (Airborne)

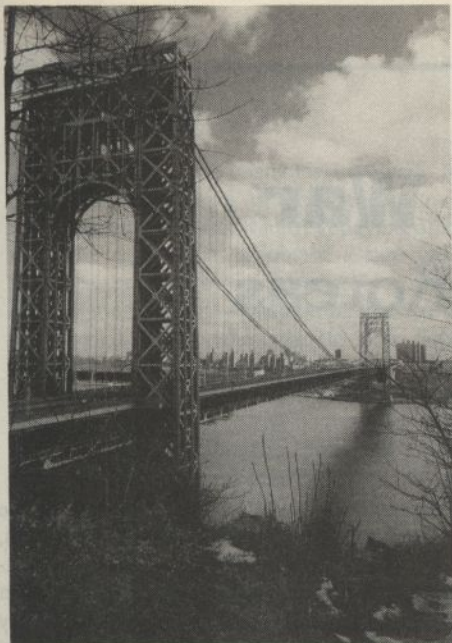
## Fig. 3: PATH Train System

160.470 - "R1" Train Control  
161.040 - "R2" Police Operations  
161.460 - "R3" Maint / Emergency  
161.535 - "R4" Car Maintenance  
452.875 - Henderson Maint. Yard  
160.425 - Henderson Maint. Yard

George Washington Bridge, which was opened in 1931.

Connecting New York City with Ft. Lee, New Jersey, "The George" stretches 4760 feet providing a total of 14 lanes on its two levels.





**George Washington Bridge  
viewed from Ft. Lee, NJ.**

G.W. Bridge manager, Allegra Lockett, and Operations Supervisor, Ken Oliver, were gracious enough to provide me with a behind-the-scenes look at the bridge operations center which is undergoing major renovations. The impressive wall display and control position will be replaced with a much more efficient PC based system. Seven surveillance cameras equipped with powerful telephoto lenses mounted atop the 640 foot bridge towers provide operations with a spectacular view of the New York skyline.

Scanning bridge communications, Hudson River maritime traffic, and local Hudson River aeronautical traffic can in itself provide hours of uninterrupted listening pleasure. During the summer months, sightseeing helicopters circling "The Lady" (Statue of Liberty) can be monitored on 123.05 MHz, while sky writing aircraft can be heard on 122.85 MHz. coordinating their cumulus scripting! New York Harbor also plays home to Governors Island, The Statue of Liberty, and the home of the U.S. Coast Guard (fig.1), all of which interact with The Port Authority daily. Deep beneath the Hudson River, The Port Authority operates the Holland and Lincoln Tunnels. Though much of the communications is carried out on an internal wire system, some activity can be heard on the frequencies listed in fig.1.

## Getting It All Together

As you can see, Port Authority operates each agency independently. Realizing some sort of coordination was needed, work began in 1984 towards this direction. In 1986, TRANSCOM, a consortium of fifteen transportation and public safety agencies in New York, New Jersey and Connecticut was created. Headquartered in Jer-

**Fig. 4: NYC Citywide  
Communications**

470.8375 - Citywide Special Operations  
 476.7375 - "Citywide 1"  
 476.6875 - "Citywide 2"  
 470.8625 - "Citywide 3"  
 477.8375 - Manhattan Emergency Med Services (EMS)  
 478.0125 - EMS Citywide \*  
 856-860.9875 - EMS Citywide \*  
 \*Many 470 & 800 MHz frequencies are simulcast

**Fig. 5: New Jersey Transit**

453.325 - Operations  
 856-860.2375 - Trunked Sys  
 856-860.3875 - Trunked Sys  
 856-860.4125 - Trunked Sys  
 856-860.4875 - Trunked Sys

sey City, NJ, TRANSCOM relays traffic and transportation related incidents through several inter-agency networks. These include digital paging, "HAR" highway advisory radio stations operated within the AM broadcast band, and "VMS" variable message displays located throughout the New York / New Jersey area.

During my research I spent an afternoon with TRANSCOM Operations manager, Bernie Wagenblast. Bernie, by the way, is the voice commuters hear on the various highway advisory radio stations under TRANSCOM control. Readers may also remember Bernie as the morning voice of New York's "Shadow Traffic." While visiting I had the pleasure to meet New York veteran traffic reporter, Fred Feldman, who reported from WOR radio's "helicopter 710" for many years.

Operating as a silent component of The Port Authority, TRANSCOM operates 24 hours a day coordinating transportation and informing the tri-state area. TRANSCOM is exploring the feasibility of tying incident information delivery directly into major employers in the affected area. Future plans also include more use of "IVHS," Intelligent Vehicle Highway Systems. In such a system, road sensors, remote cameras and other interactive technology will provide real time feedback to TRANSCOM operations. Visions of George Orwell's 1984 sprang to mind as real time video images of unsuspecting commuters were displayed on large wall mounted monitors.

Though TRANSCOM is not assigned any frequencies of their own, communications with New Jersey Transit occurs on an as-needed basis as listed in fig.5.

My sincere thanks go out to The Port Authority of New York and New Jersey. Amongst the confusion and turmoil which was occurring, their cooperation and assistance was outstanding. Readers having any specific questions are invited to contact me at 69 Memorial Place, Elmwood Park, NJ 07407 - SASE Please! Hams can drop me a message via packet to WA2SQQ @WB2GTX.NJ.USA.NA

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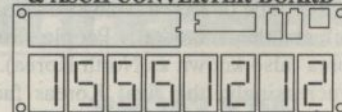
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