

# HISTORIC AMERICAN ENGINEERING RECORD

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UNITED STATES COAST GUARD LORAN SUPPORT UNIT  
12001 Pacific Avenue  
Wildwood Crest  
Cape May County  
New Jersey

HAER NJ-148

## INDEX TO BLACK AND WHITE PHOTOGRAPHS

Jet Lowe, photographer, April 2012

- |          |  |
|----------|--|
| NJ-148-1 | View looking west from over the Atlantic Ocean with Cape May Inlet at left and LORAN tower at center.  |
| NJ-148-2 | View looking southeast with LORAN tower to left and Cape May Inlet coming in from right.   |
| NJ-148-3 | View looking south southeast with LORAN Support Unit at left. The pond to the left of the LORAN tower is called the Old Lower Thorofare.             |
| NJ-148-4 | View looking south southwest at Coast Guard reservation with LORAN tower at center right and the Diamond Beach community in left foreground.         |
| NJ-148-5 | View looking southwest with Diamond Beach in foreground and Coast Guard training facility in distance on south bank of Cape May Inlet.               |
| NJ-148-6 | View looking west northwest with LORAN Support Unit in foreground, Cape May Harbor in distance at left, and Middle Thorofare Bridge at center right. |
| NJ-148-7 | View looking northwest with LORAN tower at center.   |
| NJ-148-8 | View looking southeast showing LORAN tower at center, Cape May Inlet at right, and Old Lower Thorofare pond at lower left in foreground.             |

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- NJ-148-9 General view looking northwest with LORAN tower and LORAN Support Unit at center and Cape May Harbor at left. Ocean Drive (County Highway 621) traverses from center right to left upper middle.
- NJ-148-10 View looking northeast with LORAN Support Unit in bottom foreground. Diamond Beach is the first community to the north followed immediately by Wildwood in the distance.
- NJ-148-11 View looking north northwest with LORAN tower at center and support buildings and current entrance to the facility at lower right.
- NJ-148-12 View looking east at center of complex. Note maintenance roads radiating out from the central building and tower.
- NJ-148-13 View looking west southwest with LORAN Support Unit in foreground and Cape May Inlet and Coast Guard training facility on south side of inlet.
- NJ-148-14 View looking almost due south at LORAN Support Unit with Cape May Inlet and Ocean Drive at bottom.
- NJ-148-15 View looking northwest at LORAN Support Unit with Middle Thorofare bridge top center.
- NJ-148-16 Oblique axonometric view of LORAN Support Unit looking southwest. Cape May Inlet at top with edge of Coast Guard training facility just visible at top.
- NJ-148-17 Distant view looking southwest from over Diamond Beach with Cape May in the distance.
- NJ-148-18 Long view looking south southwest showing shoreline and community of Diamond Beach at left, LORAN Support Unit at center, and Cape May at upper right.
- NJ-148-19 Looking west southwest with ocean and Diamond Beach in foreground, LORAN Support Unit at center, and Cape May and Cape May Harbor in distance.
- NJ-148-20 Looking southwest with ocean and Diamond Beach in right foreground, LORAN Support Unit at center, and Cape May in the background.

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- NJ-148-21 Looking west with Diamond Beach at right and LORAN Support Unit and Cape May at left.
- NJ-148-22 Looking west with LORAN Support Unit at center.
- NJ-148-23 Looking north with LORAN Support Unit at center.
- NJ-148-24 Looking west with LORAN Support Unit at center.
- NJ-148-25 Looking east with LORAN Support Unit at center right.
- NJ-148-26 Looking east with LORAN Support Unit at center.
- NJ-148-27 View of LORAN 625' monopole looking west from the Administrative Building (C-1). Transmitter buildings are below the tower.
- NJ-148-28 Closer view of 625' monopole looking west. Two CONEX boxes on left and right contain two Accufix-7500 second-generation solid state transmitters (nSSX) that have not been installed. Note there are two additional CONEX boxes to the left and right of the visible boxes for a total of four CONEX boxes hold two complete transmitters
- NJ-148-29 Looking east toward the Administrative Building (C-1). Gazebo and fire pit on the left for morale purposes with power distribution panels to the left of the gazebo. In the background on the right is the Repair and Laboratory Building (C-6).
- NJ-148-30 Looking west at Building C-1. In the foreground is the anchor for a Top Loading Element (TLE).
- NJ-148-31 Detailed view of anchor for a Top Loading Element (TLE) located between buildings C-6 and C-1 (the corner of which is seen in the upper left ).
- NJ-148-32 Looking upward to the top of the 625' monopole. The wires that run generally horizontal in the photograph are structural guys. The wires that converge at the top are Top Loading Elements (TLE).

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- NJ-148-33 View from the base of the 625' monopole looking upward. The darker, more prominent wires are the structural guys. The faint wires emanating from the top of the tower are the Top Loading Elements (TLE).
- NJ-148-34 Base of 625' monopole showing base insulator and obstruction light "donuts". The transmitter coaxial switch output is mounted on the wooden platform to the right.
- NJ-148-35 Base of 625' monopole tower showing base insulator and obstruction light "donuts". The solid-state transmitter (SSX) coaxial switch output is mounted on a wooden platform to the left. The coaxial from the tube type transmitter (TTX) running from the TTX transmitter building (on right) to transmitter switch (located in the SSX building on the left) can be seen in the background. Note the small GPS antenna on the roof to the right.
- NJ-148-36 Tube Type Transmitter (TTX) control room complete with AN/FPN-54A Timer Set, Remote Automated Integrated Loran (RAIL) dual-rate monitor/control set, and Remote Operating System (ROS).
- NJ-148-37 Tube Type Transmitter (TTX) (AN/FPN-44A) group # 2 and TTX Control Timer and AN/FPN-60. The door to the interior of the TTX is open on the right, showing inside the transmitter enclosure.
- NJ-148-38 AN/FPN-44A Intermediate power Amplifier (IPA) section. 1st and 2nd IPAs are shown (82C5 and 4PR1000 tubes).
- NJ-148-39 Detail view of AN/FPN-44A Power Amplifier (1A6) Section (F1086 Tubes).
- NJ-148-40 Detail view of AN/FPN-44A Transmitter output section (1AS tank coil, harmonic filter and Primary/Secondary water heat exchange).

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- NJ-148-41 First generation solid state Transmitter (SSX) AN/FPN-64 with pulse generator drawer extended. Front half of transmitter shown (second half can be seen in the background). This transmitter was the preproduction example received by the US Coast Guard.
- NJ-148-42 Rear of both sides of the AN/FPN-64 transmitter with the common output switch unit in the middle.
- NJ-148-43 Control room equipment for second-generation solid state transmitter (nSSX) AccuFix-7500. Shown from left to right: Transmitter Control Consoles #1 & #2, Remote Automated Integrated Loran (RAIL) system, Cesium Primary Frequency Standard, and timer set.
- NJ-148-44 Patch panel for connecting Tube Type Transmitter (TTX), solid-state transmitter (SSX) or new solid-state transmitter (nSSX) to simulator or 625' monopole. Rigid Coaxial plugs connect the transmitters to either the tower or the simulator.

Todd A Croteau, photographer, March 2012

- NJ-148-45 View of 625' monopole and Administrative Building (C-1) from the umbrella perimeter looking northeast.
- NJ-148-46 Southwest corner of Building C-1 looking northeast with monopole at left.
- NJ-148-47 Full view of Building C-1 and 625' monopole from the southeast.
- NJ-148-48 Detail of Building C-1 and 625' monopole (west elevation). Note the glass block windows and the cement block detail at the entry. Also note the guy wires for the tower with insulators.
- NJ-148-49 Detail of the monopole base showing the base insulator system and conduits for the signal equipment.
- NJ-148-50 Detail of the monopole base in a vertical orientation.

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- NJ-148-51 Closer detail of the monopole base. The base insulator is a single oil-filled ceramic cylinder type on a concrete footing. Four ground straps extend from the cylinder base over the concrete footing to the ground. The base is equipped with a ball gap lightning insulator, Isolation Transformers (two sets of interconnected rings) provide power to the obstruction lights at the top of the tower.
- NJ-148-52 Interior view of Tube Type Transmitter (TTX) room. On right is AN/FPN transmitter group #2, while AN/FPN-54A dual rate package, AN/FPN-60A, dual rate Remote Automated Integrated Loran (RAIL) system, and Remote Operating System (ROS) are on left.
- NJ-148-53 Detail view of Tube Type Transmitter (TTX) (AN/FPN-44A) group #2.
- NJ-148-54 Detail view of AN/FPN-44A Power Amplifier (1A6) Section (F1086 Tubes).
- NJ-148-55 Close up of AN/FPN-44A Power Amplifier (1A6) Section (F1086 Tubes), right side of two.
- NJ-148-56 AN/FPN-44A spare tube storage rack.
- NJ-148-57 AN/FPN-44A 1A4A1 chassis drawer (open). Chassis contains final voltage amplifier and feedback circuits.
- NJ-148-58 AN/FPN-44A Intermediate power Amplifier (IPA) section. 1st and 2nd IPAs shown (82C5 and 4PR1000 tubes).
- NJ-148-59 Interior of AN/FPN-44A group #2 transmitter showing 480V a/c power on a 208/120V control panel.
- NJ-148-60 Interior of AN/FPN-44A group #2 transmitter showing 480V SCR high voltage regulator.
- NJ-148-61 Interior of AN/FPN-44A group #2 transmitter showing high voltage transformer with SCR rectifiers.
- NJ-148-62 Interior of AN/FPN-44A group #2 transmitter showing 1AS output tank coil with 1A20 output filter and read of 1AG Power Amplifier section on left.

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- NJ-148-63            AccuFix-7500 transmitter and control equipment. Shown in foreground is one half of the transmitter assembly; in the background is the controller equipment.
- NJ-148-64            AccuFix-7500 control equipment suite.
- NJ-148-65            AccuFix-7500 control equipment suite.
- NJ-148-66            AccuFix-7500 transmitter.
- NJ-148-67            AccuFix-7500 transmitter with pulse generator assembly cabinet extended.
- NJ-148-68            AN/FPN-64 solid state transmitter (SSX). Shown are half cycle generator cabinets on one half of the transmitter.
- NJ-148-69            AN/FPN-64 solid state transmitter (SSX) control chassis showing TOPCO and PATCO.
- NJ-148-70            CDR Gary M. Thomas, US Coast Guard, last Commanding Officer of the LORAN Support Unit. View looking to the northwest with the transmitter building in the background (base of 625' monopole can be seen in the upper left corner).
- NJ-148-71            CDR Gary M. Thomas, US Coast Guard, last Commanding Officer of the LORAN Support Unit in front of the "last crew" board. The last members of the final crew signed the wall outside of the solid state transmitter office.