

2012 Annual Report



Protecting the lives and property of the citizens of our district, and all those who may pass through, from fire and other emergencies.



LINDSEY VOLUNTEER FIRE DEPARTMENT



238 South Main Street
Lindsey, Ohio 43442
(419) 665-2311

John Zimmerman, Chief
Dave Zimmerman, Asst. Chief
www.LindseyFire.org

February 4, 2013

Mayor Sandra Bowen
Lindsey Village Council
Washington Township Trustees
Rice Township Trustees

It is my pleasure to present the Lindsey Volunteer Fire Department's 2012 Annual Report. We are dedicated to our mission, "*...to protect the lives and property of the citizens of our district, and all those who may pass through, from fire and other emergencies*". The department strives to meet the needs of our community through the committed efforts of our firefighters.

As we look forward to 2013 and beyond, we continue to accept the challenges presented by the economy, demands for service, and ever changing technology. We constantly evaluate our operational platform to ensure it provides efficient and effective services to the community and make necessary changes when needed. The department also continues to collaborate regionally with other fire departments on training, specialized response teams, purchase of equipment, and mutual aid. These collaborations greatly reduce our overhead costs, while at the same time, allowing us to provide a broader array of services to our community.

The exceptional members of the Lindsey Volunteer Fire Department are proud to serve the community's citizens and guests. The Village of Lindsey, Washington Township and Rice Township are outstanding communities to live in, work in, and visit because of our dedicated personnel, reliable citizen support, and vigilant elected officials. Please accept my genuine thanks and appreciation for your continued investment in the future of our community.

If you have any questions regarding your fire department, please contact me at (419) 680-2714 or via email at Chief@LindseyFire.org.

Respectfully Submitted,

John Zimmerman
Fire Chief

PERSONNEL & TRAINING

In 2012, the Lindsey Fire Department consisted of 37 firefighters. We welcomed 3 new members to the department: Mike Magnuson, Caleb Reineck, and Mike Wells II. One member retired and we lost another to a tragic accident.

Two evenings each month, training is held in-house for our firefighters. Over the past year, we held 26 training sessions and members completed over 500 hours of training. Additionally, many of our members frequently attend training classes throughout the area. A survey was conducted to ask how many additional training hours had been taken, outside departmental training nights in 2012, and hours ranged from 16 to 49 hours per member.

Call Response

Responding to 86 calls also takes time. According to our internal reporting system, members spent 633 hours responding to calls. The average firefighter turnout per incident was 10 with the average time per incident being 41 minutes and 52 seconds.

Dedication to our Community

In addition to training and responding to calls, many of our members volunteer even more time to our community by attending more than 14 community events in a non-emergency capacity. It is estimated each member spends an additional 20-30 hours participating in community service projects which include the following:

- Fremont Speedway safety crew
- Raised money for the Nate Fought Family Fund donating all proceeds from Fall Chicken BBQ
- Donated time to barbecue chickens for the Tony Brake Benefit (Gibsonburg Firefighter)
- SCRAP Parking
- Washington Elementary School Fire Safety Day
- Ice & Water Safety Presentation to Fremont Exchange Club
- Helped build shelter house for Sandusky County Fireman's Association at Fairgrounds
- Helped Lindsey Lions Club park cars at the Sandusky County Fair
- Organized Lindsey Labor Day Festival
- Halloween refreshments at the fire station
- Santa Claus at the fire station
- Safety crew for Triathlon at White Star Park
- Participated in the Family Fun Day at Memorial Hospital

Trainings, Meetings, and Other Events

One must still add the amount of hours attending monthly meetings, county wide association meetings, committee meetings, fundraising events and weekly apparatus/equipment inspections. All of these can add up to more than 50 additional hours.

On the conservative side, each member will spend 20-30 hours per month (300 hours/year) as a member of the fire department.

PERSONNEL & TRAINING

United States Coast Guard Commendation

Special recognition must be given to Chief John Zimmerman, who was awarded a Commendation from the United States Coast Guard for his time and dedication to educating elementary aged children about water and ice safety. Chief Zimmerman has spent hundreds of hours on the planning committee, presenting the materials at schools around northwest Ohio and also helped organize a Train-the-Trainer class to further expand the reach of the program. Because of him, and the efforts of many others, thousands of elementary aged school children have been taught "No Ice is Safe Ice".

Bus Safety Training

After being in a charter bus accident while en route to New York, one of our members took it upon himself to organize a Bus Safety Training class. The course, organized by AJ Green, helped to educate firefighters from around Sandusky County on the basic operation and safety features of multiple types of buses. This stemmed from the fact the accident caused the driver of the bus to become incapacitated and no one knew how to shut the bus off or knew of any of the emergency features. The class included information about school, charter, patient transport vans, and other multiple person commercial vehicles.

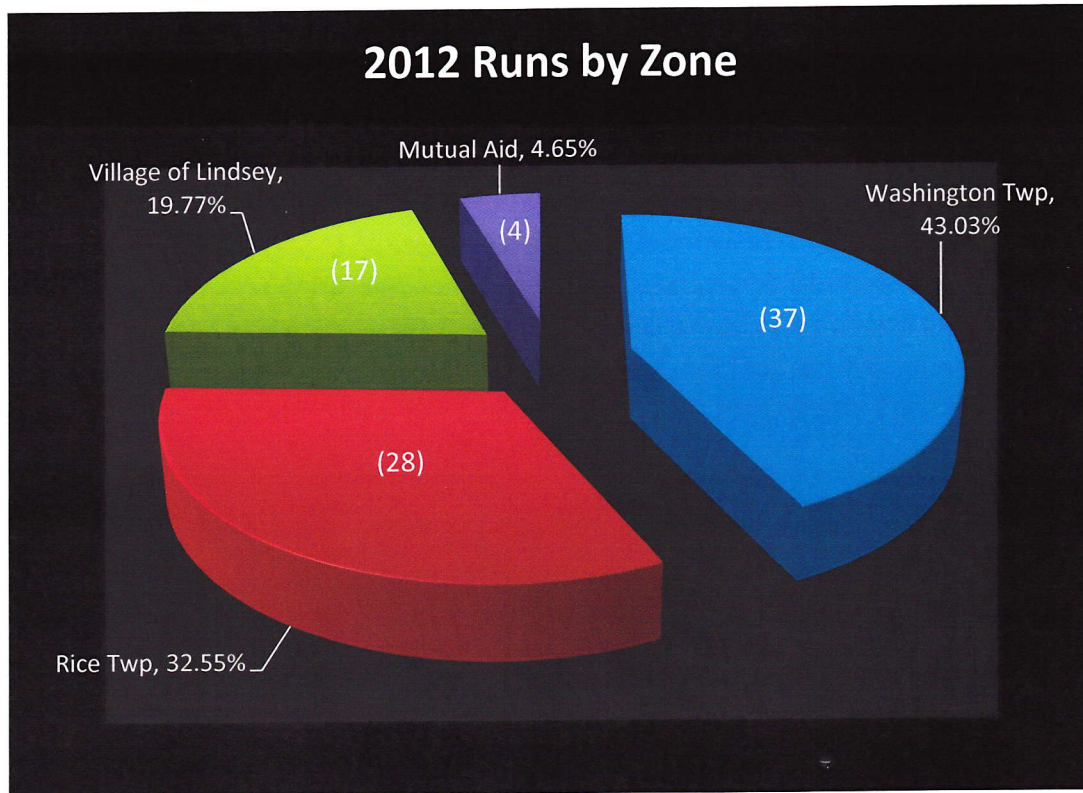
Summary

Firefighters are a department's greatest resource. The biggest station, newest apparatus, and most technically advanced equipment will do nothing to save lives without firefighters. Lindsey Fire Department has 37 highly trained and dedicated firefighters donating all of these hours. Having the appropriate staffing levels and training is critical to our mission of protecting our community from fire and other emergencies.



CALLS FOR HELP

In 2012, the Lindsey Fire Department responded to a total of 86 calls for help. As illustrated by the pie chart below, 17 responses were in the Village of Lindsey. This number is more than four times the average number of calls (4.5) between 2009 and 2011. Washington Township, Rice, Township and mutual aid calls were consistent with prior years' run history.



Rescue & Medical (48)

Medical responses and Rescue (mostly motor vehicle accidents) accounted for 56% of total runs. This is up 4%, or 14 additional calls, from the four year average of 52%. The distribution of calls was almost equally divided between Washington Township (19), Rice Township (15), and the Village of Lindsey (14). To maximize our resources and minimize the time between responders arriving on scene and patient care being initiated, we purchased 13 First Responder Bags. This equipment is essential to providing patient care before fire apparatus arrives on scene. These bags were purchased with a grant from the Ohio Department of EMS. On average, responders arrive on scene in personal vehicles approximately 2 minutes before department apparatus.

Fire (15)

Fire related incidents were the next highest calls, by volume, with 15. Three of these were structure fires with an estimated average loss of less than \$666.66. Most importantly, there was no loss of life. This is dramatically lower than the national average dollar loss per structure fire of \$20,006 according to the National Fire Protection Association in a report titled: [Fire Loss in the United States During 2011](#).

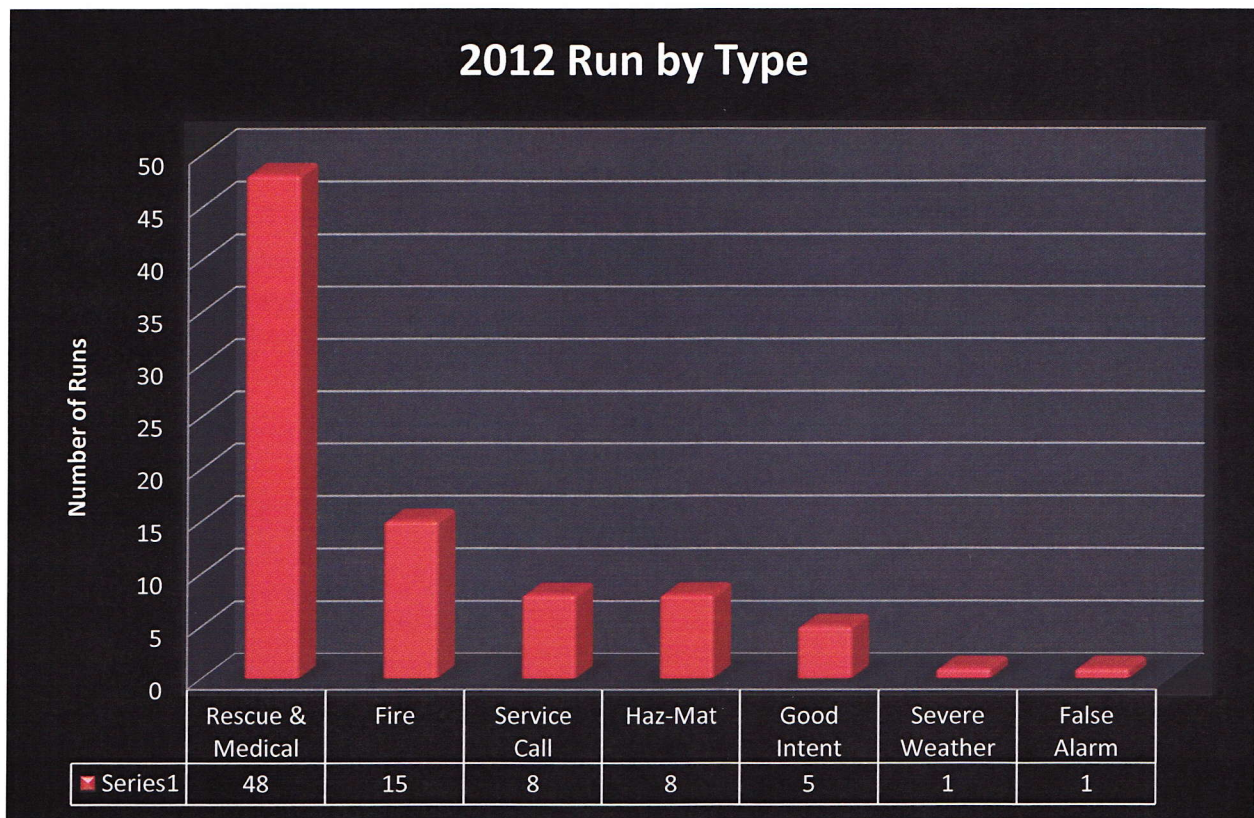
CALLS FOR HELP

Service Calls (8)

Service calls constituted 9.30% of totals calls with the majority, 5 of 8, being unauthorized burning. One problem area, identified by reviewing run reports between 2009 and 2012, is the burning of trash in Shorewood Village near the intersection of Harbor Hill Drive and Shorewood Drive in a vacant property next to the river. Since 2009, 7 of the 12 calls were to this location, most of which were reported in the early evening.

Other Calls (15)

The remaining 15 calls were for a variety of incidents. Hazardous Condition runs consisted of mostly fuel and chemical spills. When Lindsey Fire is dispatched and then canceled in route, these calls are classified as Good Intent. Severe Weather was down from 5 calls in 2011, while False Alarm calls remained the same at 1.



RESPONSE TIMES

The National Fire Protection Association (NFPA) sets standards for staffing and response times. NFPA 1720 sets the standard for volunteer fire departments. To meet the standard, response time must be less than 14 minutes with a minimum of 6 firefighters, 80% of the time. Response Time is defined as: the total amount of elapsed time between being dispatched to arriving on scene. Lindsey Fire has also further defined that the on scene time will be when the first apparatus arrives, not a responder in a personal vehicle.

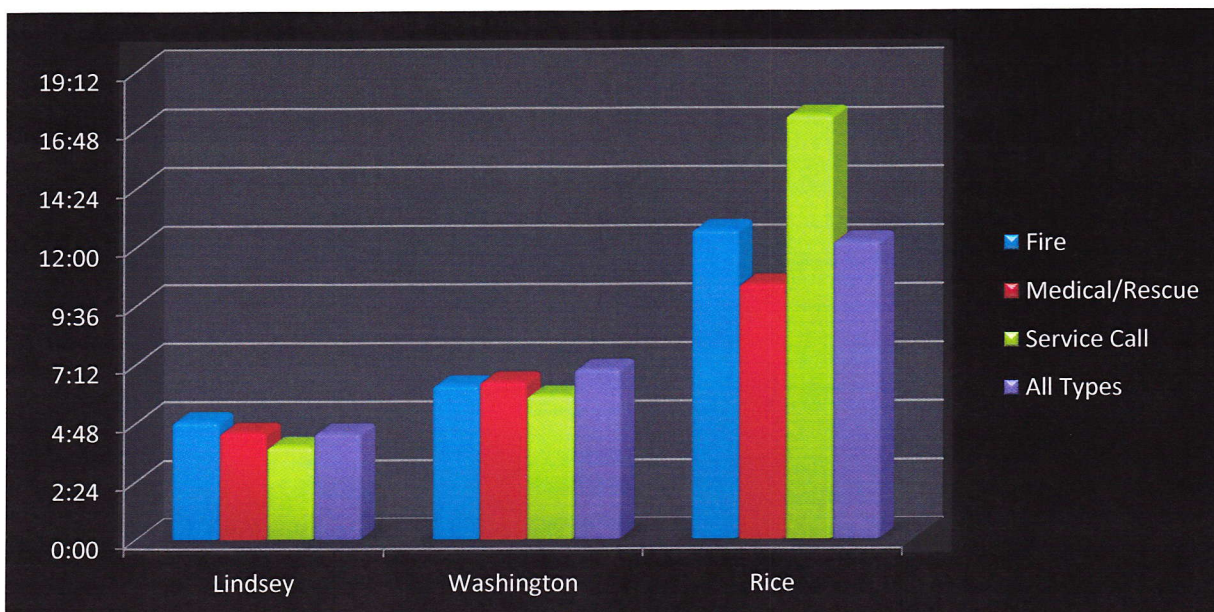
Meeting NFPA 1720

Demand Zone	Calls Responded to in 14 mins or Less	Total calls per Demand Zone	% of calls with response time less than 14 mins	Average dispatch to en route	Average en route to on scene	Average Response Time
Lindsey	13	13	100.00%	0:03:27	0:00:55	0:04:22
Washington	35	36	97.22%	0:03:13	0:03:16	0:06:29
Rice	20	28	71.43%	0:03:14	0:07:07	0:10:21
Overall	68	77*		0:03:18	0:03:46	0:07:04

* 86 Total calls - 9 calls (4 mutual aid, 5 good intent calls) = 77 calls

Looking at the table above, the standard was met in Lindsey and Washington Townships. In Rice Township, only three runs were over the 14 minutes or less standard. This would have made the percentage of runs 82.1%. For those three runs, the 14 minute response time was narrowly missed by 2 seconds, 31 seconds, and 1 minute 27 seconds, respectively.

Response Times by Call Type



Demand Zone	Fire	Medical/Rescue	Service Call	Avg All Types
Lindsey	0:04:52	0:04:25	0:03:50	0:04:24
Washington	0:06:20	0:06:29	0:05:54	0:07:00
Rice	0:12:42	0:10:28	0:17:22	0:12:14

RESPONSE TIMES

Reviewing the table, and graph, shows response times are proportionate and consistent across all demand zones. The exception to this is Service Calls in Rice Township. Service Calls show an average increased response time of 5 minutes and 46 seconds over Fire and Medical. Most of these Service Calls were for unauthorized burning. It is the department's policy to respond normal traffic to these incidents, for all demand zones, to increase the safety of our not only our firefighters, but the citizens in our district.

A complete list of the call analysis is listed in the Appendix.

Pre-Incident Planning

We are also working to complete Pre-Incident Plans for high risk, high impact locations across all demand zones. The purposes for creating these plans are to assist our department in effectively managing emergencies for the protection of occupants, property, responding personnel, and the environment. Creating and maintaining these plans play a critical role in achieving a successful outcome should an emergency incident occur. The creation of these plans allows everyone to know their duties and responsibilities in the event of an emergency.

These plans align with our goal of reducing response time. By knowing the dangers associated with each location prior to arrival, early dispatching of the proper amount, and type, of resources will lead to faster mitigation of the incident and safer operations. A copy of the Pre-Incident Plan Field Collection Sheet can be found in the Appendix.

As part of our Pre-Incident Planning, we examined how resources are dispersed across our demand zones, with relation to call volume and call type. Using this information, we can then strategically place resources throughout our demand zones which will dramatically reduce response times.

Full implementation of these plans will hinge on the willingness of all stakeholders to work together.

FINANCIAL REVIEW

Fire Fund Balance

The December 31, 2012, ending balance of the Fire Fund is \$354,442.64. After allocating the net income of \$53,142.29, there is a remaining balance of \$11,371.27 for operational expenses until the first contract payments are made in March, 2013.

	Dec 31, 2012	Dec 31, 2011	\$ Change
Fire Fund			
General Fire Fund	11,371.27	15,440.25	-4,068.98
Allocation-Pumper Replacement	225,000.00	200,000.00	25,000.00
Allocation-Other Rolling Stock	36,597.83	29,672.00	6,925.83
Allocation-Turnout Gear	43,589.78	43,913.10	-323.32
Allocation-Fire Equipment	6,603.04	8,000.00	-1,396.96
Allocation- Radio Replacement	25,000.00	1,500.00	23,500.00
Allocation-SCBA Bottle Replacement	5,100.00	1,200.00	3,900.00
Allocation-Hose	180.72	825.00	-644.28
Allocation-SCBA Unit Replacement	1,000.00	750.00	250.00
Total Fire Fund	354,442.64	301,300.35	53,142.29

Income

Last year, total contract income was \$94,595 and an additional \$2,822 was received from grants. The current contracts with Washington and Rice Townships are set to expire in 2015. The two grants were used to purchase Hazardous Material equipment and reimbursed the department for two new members' volunteer firefighter course taken in 2011.

Expenses

Many of the expenses were comparable to the prior year. Below is an explanation of a few new expenses and accounts with variances:

The State of Ohio audits the Village of Lindsey's financial records every two years. In years prior, the audit was paid for entirely out of the General Fund. However, because the audit covers all funds, the clerk allocated a portion of the audit costs to each fund. This year the Fire Fund was charged \$2,963.08.

Last year, a new brush/grass truck was purchased with funds from the Assistance to Firefighters Grant. According to the grant guidance documents, the old truck had to be removed from emergency service. It was the decision of the fire department, and Village Council, to sell the truck and skid unit separately. The negative amount listed in the Apparatus Purchase account is the money collected in 2012 for the sale.

Communication maintenance/repair spiked due to having to comply with Federal Communication Commission (FCC) regulations. All public radios were required to be narrow banded. This constituted approximately \$1,200. The remaining expense was related to normal repairs.

Under Dues and Subscriptions are two accounts not listed in 2011. Salamander Technologies is the software program used to print ID tags for accountability. Expenses listed are for new ID tags and software updates. Firehouse software is reporting software that creates a specific type of file format

FINANCIAL REVIEW

that must be sent to the state each month. This is an annual subscription and is required by the State of Ohio to submit reports. Many grants also require that electronic reports be submitted to the state in order to be eligible for funding.

Fire Equipment expense was higher due to the purchase of 3 nozzles, 3 suction hoses, 1 low lever strainer, and Class A foam. These are not yearly costs, but the reason why annual allocations are vitally important to make sure the money is available when large expenditures are need such as these.

Medical equipment expense was up due to the purchase of 16 first responder bags at a cost of \$1,626.75. A majority of this money, \$1,500, will be reimbursed by a grant award from the Ohio Division of EMS in 2013.

SCBA expense increased last year because a large number of packs and bottles were required to be tested, per NFPA, on a 5 year rotation. Each bottle can only be tested and certified 3 times (15 years old), per NFPA Standard 1981, before it must be removed from service. In addition to testing, repairs had to be made to both bottles and air packs.

Training expenses increased due to the addition of three new firefighters participating in the 36 hour Volunteer Firefighter course and one firefighter in a first responder course. The cost of the volunteer firefighter course will be reimbursed in 2014 by a training grant from the Ohio State Fire Marshal's Office.

The purchase of new turnout gear was temporarily suspended. The department applied for an equipment grant, through the Ohio Fire Marshal's Office, for 5 sets of gear and a gear washing machine. We will know if we received funding for our equipment request in March, 2013.

After reviewing our phone bill in detail, we found the majority of the bill was due to a forwarding service that was not being utilized. By dropping this service, we will save an estimated \$3,200 per year, as compared to the past 10 years.

2012 – 2011 Income and Expenses

At first glance, it may seem as if there was more of a cash surplus in 2012 than 2011. However, the actual variance is only \$9,187.96. Below are details explaining the variance:

2011 Net Income		28,462.42
2011 Training Grant	600.00	
Sandusky County Haz-Mat Grant	2,200.00	
Ohio EMS Grant	1,500.00	
Sale of Old Grass Truck	-6,925.83	
Phone Bill Cost Savings	-2,116.08	
Delay of Turnout Gear Purchase	-10,750.00	37,650.38

Actual Variance 2011- 2012

9,187.96

Fire Fund
Prev Year Comparison
January through December 2012

	Jan - Dec 12	Jan - Dec 11	\$ Change
Income			
Direct Public Support			
Corporate Contributions	0.00	100.00	-100.00
Total Direct Public Support	0.00	100.00	-100.00
Fire Levy Income	94,595.00	94,595.00	0.00
Grant Income			
2010 AFG	0.00	79,500.00	-79,500.00
2011 Div of State Fire Marshal	600.00	0.00	600.00
2012 Sandusky Co Haz-Mat	2,222.00	0.00	2,222.00
Total Grant Income	2,822.00	79,500.00	-76,678.00
Total Income	97,417.00	174,195.00	-76,778.00
Expense			
Recruitment & Retention			
Physical Exam	0.00	35.00	-35.00
Total Recruitment & Retention	0.00	35.00	-35.00
State Audit	2,963.08	0.00	2,963.08
Payroll Expense			
PERS	1,056.00	1,056.00	0.00
Payroll Taxes	337.86	337.86	0.00
Salaries	3,798.44	3,798.44	0.00
Total Payroll Expense	5,192.30	5,192.30	0.00
Apparatus			
Apparatus Pump Test	200.00	0.00	200.00
Apparatus Maint/Repair	3,970.15	3,220.23	749.92
Apparatus Purchase	-6,925.83	94,328.00	-101,253.83
Total Apparatus	-2,755.68	97,548.23	-100,303.91
BWC Payment	1,752.94	1,235.95	516.99
Communication Equipment			
Purchase	0.00	275.80	-275.80
Maintenance/Repair	2,414.49	114.93	2,299.56
Total Communication Equipment	2,414.49	390.73	2,023.76
Contract Services	1,043.30	0.00	1,043.30
Dues/Subscriptions			
Salamander Technologies	163.44	0.00	163.44
FireHouse Software	990.00	0.00	990.00
NFPA	855.00	832.50	22.50
Total Dues/Subscriptions	2,008.44	832.50	1,175.94
Fire Equipment			
Hose	644.28	778.27	-133.99
Ladder Test	171.40	136.35	35.05
Maintenance/Repair	545.04	152.21	392.83
Purchase	5,917.53	1,456.22	4,461.31
Total Fire Equipment	7,278.25	2,523.05	4,755.20

Fire Fund
Prev Year Comparison
January through December 2012

	Jan - Dec 12	Jan - Dec 11	\$ Change
Fire Pagers			
Pager Maintenance	893.08	855.89	37.19
Pager Replacement	2,125.00	2,216.22	-91.22
Total Fire Pagers	3,018.08	3,072.11	-54.03
Frequency/Channel Lease	697.50	798.00	-100.50
Fuel	1,753.28	1,862.19	-108.91
Insurance	6,783.00	6,399.00	384.00
LVFD Quarterly Payment	1,200.00	1,200.00	0.00
Medical Equipment	2,057.32	169.34	1,887.98
SCBA Expense			
SCBA Repairs	167.59	0.00	167.59
Static/Bench test	1,342.70	773.00	569.70
Total SCBA Expense	1,510.29	773.00	737.29
Station Expense			
Maintenance/Repair	115.76	2,038.09	-1,922.33
Total Station Expense	115.76	2,038.09	-1,922.33
Training	2,384.27	1,420.00	964.27
Turnout Gear			
Turnout-Purchase	781.80	13,306.06	-12,524.26
Turnout-Repair	0.00	321.13	-321.13
Total Turnout Gear	781.80	13,627.19	-12,845.39
Utilities			
Electric	1,166.84	1,135.19	31.65
Gas	664.19	1,900.12	-1,235.93
Internet	551.45	0.00	551.45
Phone	953.01	3,069.09	-2,116.08
Water & Sewer	400.80	361.50	39.30
Total Utilities	3,736.29	6,465.90	-2,729.61
Volunteer FF Dependant Fund	300.00	150.00	150.00
Total Expense	44,234.71	145,732.58	-101,497.87
Net Ordinary Income	53,182.29	28,462.42	24,719.87
Other Income/Expense			
Other Expense			
NOVFA Charity Fund	40.00	0.00	40.00
Total Other Expense	40.00	0.00	40.00
Net Other Income	-40.00	0.00	-40.00
Net Income	53,142.29	28,462.42	24,679.87

FUTURE INCOME AND EXPENSES

Income from contracts will remain the same until 2015, and we are working extremely hard to maximize our financial resources. However, with changes in NFPA standards, equipment coming to the end of its life expectancy (by regulation, age or condition), Sandusky County's plan to upgrade communication equipment, along with additional factors, will dramatically increase the amount of required capital to maintain current levels of service. The safety, and protection, of our firefighters and citizens, is top priority. Having the tools, equipment, training, and personnel to do this must be maintained.

SCBA Bottle Replacement

As of July, 2013, NFPA 1891, which sets standards for SCBA equipment, several new requirements will be implemented that will result in a significant price increase for future purchases. Currently, the department has 12 bottles that will expire in 2015. These bottles are estimated to cost \$925 each to replace, for a total amount of \$14,250.

Turnout Gear

If we are not awarded grant funding for turnout gear in March of 2013, we must purchase at least 3 new sets of gear for new firefighters that have joined our department. As with other equipment, NFPA Standard 1951, states turnout gear must be retired 10 years from the manufactured date. To eliminate financial strain on our budget all in one year, it is the department's intention to start replacing 5 sets of gear each year on a rotating schedule. Since there were no sets purchased last year, 10 sets would need to be purchased in 2013. Each set of gear is approximately \$2,150 each. If we don't continue to fund this allocation, only 10 more sets of gear can be purchased before the allocation has a zero balance. Additionally, if gear cannot be replaced after 10 years, the number of active firefighters will also have to be reduced, thus greatly impacting the safety of our firefighters and citizens.

Pumper Replacement

The retirement, and replacement, of our pumper will be considered within the next five years. The department tries to replace each of our pumpers on a 20 year cycle. This pumper is a 1979, making it 34 years old. Many safety concerns have arisen over the past two years. On several occasions, the apparatus has been removed from service, for an extended length of time, for mechanical problems. We have estimated the cost to replace this unit to be approximately \$325,000.

MARCS (Multi-Agency Radio Communication System)

A few years ago, the Sandusky County Fireman's Association, as well as other agencies in Sandusky County, formed a Communication Committee to investigate issues related to the Federal Communication Commission's (FCC) order to narrow band all public radio frequencies, aging communication equipment in the county, address dead zones where radio transmission/receiving was limited or nonexistent, advantages to digital verses analog systems, and what would be the best solution to correct these major problems. After numerous meetings, endless research, and conducting communication studies, the committee made a recommendation, in 2012, for Sandusky County to convert to MARCS (Multi-Agency Radio Communication System).

MARCS (Multi-Agency Radio Communication System) is an 800 MHz radio and data network that utilizes state-of-the-art trunked technology to provide statewide interoperability in digital clarity to its subscribers throughout Ohio and a 10 mile radius outside of Ohio. The MARCS system provides statewide, secure, reliable public service wireless communication for public safety and first responders.

FUTURE INCOME AND EXPENSES

This communication system is owned, operated, and maintained by the State of Ohio. The system is maintained through user fees charged on a per communication device basis. There are currently over 47,500 voice units and over 1,800 mobile data units on the MARCS system with over 1,200 public safety/public service agencies statewide. This includes local, state and federal agencies. Some of the agencies using the system include: Ohio State Highway Patrol, Ohio Department of Natural Resources, FBI, ATF, and Border Patrol.

The MARCS system would allow greater interoperability among all public service agencies around the State of Ohio, eliminate dead spots within Sandusky County, and allow for a standardized radio communication plan. Because of these things, among other advantages, the citizens of our district will be better protected. The relaying of critical information to the appropriate resources, the ability to easily communicate with multiple agencies simultaneously, and a standardized communication protocol will allow for more efficient delivery of services that will save lives.

Specifically in our area, there are 5 towers surrounding Lake Erie that are being updated, two of them are located in Castalia and Oak Harbor. The State of Ohio is also working on updating the Fremont tower and a tower in Bradner. Once we start using the MARCS system, these four towers will substantially improve our communication coverage area. MARCS is working to link the Harris System, which Ottawa County currently uses, into the MARCS system which will improve interoperability with our neighboring county. According to Daryl Anderson, Director of MARCS, they are planning to have the entire state built-out by mid-2015 at the latest. The Sandusky County Emergency Management Agency (EMA) has ordered 34 radios with grant money that will be divided between all county fire departments. Before any radios will be useable, the dispatch center will need to have MARCS radios installed. Commissioner Damschroder advised us that they have received two quotes and are developing a strategy on how to proceed with the upgrades.

Last year, our department took the lead on applying for an Assistance to Firefighter's (AFG) Regional grant that included fire departments from around Sandusky County. We are taking a proactive approach to implementing the MARCS system within our department. The total grant amount requested was \$999,028. If awarded, the Federal government would pay 90% of the cost of the equipment, leaving the remaining 10% to be covered by the fire departments within Sandusky County.

If we are not awarded funding from the AFG Regional Grant, the fire department is planning to phase in the MARCS system to minimize the financial impact as opposed to a one time purchase which is not feasible.

Although the upfront costs of the equipment are more, the immediate benefits outweigh the increased costs. As mentioned before, FCC regulations mandated the switch to narrow banding. Currently, portable radios carried by most of our firefighters can be purchased for \$450 and truck radios for \$650. New MARCS portable radios will cost approximately \$3,760 each and MARCS radios for each apparatus will be \$4,450 each.

Some of our existing portable radios, however, can still be utilized. By using a pyramid repeater, installed in our equipment truck, it will receive the narrow banded frequency our current radios transmit, change it to the MARCS frequency, and rebroadcast it. It will also receive MARCS

FUTURE INCOME AND EXPENSES

transmissions, and re-broadcast it in the current frequency. The one major drawback using this option is that if you are using an older radio, you must be within ½ mile of the repeater, in the equipment truck, to get a signal or hear/make transmissions. The cost of a repeater is estimated to be \$4,500.

To fully convert the fire department to the MARCS system, we would need to purchase 17 portables, 5 mobile (truck radios), and 1 repeater. The total cost being \$85,500. Product specification sheets for portable and mobiles radios can be found in the Appendix.

2012 Allocations

	2012 Allocation	Annual Estimated Allocation Needed	Variance
Fire Fund Allocations			
Allocation-Pumper Replacement	25,000.00	50,000.00	(25,000.00)
Allocation-Other Rolling Stock		30,000.00	(30,000.00)
Allocation-Turnout Gear		15,000.00	(15,000.00)
Allocation-Fire Equipment	492.29	8,000.00	(7,570.71)
Allocation- Radio Replacement	23,500.00	1,500.00	22,000.00
Allocation-SCBA Bottle Replacement	3,900.00	1,200.00	2,700.00
Allocation-Hose		825.00	(825.00)
Allocation-SCBA Unit Replacement	250.00	750.00	(500.00)
Total Fire Fund Allocations	53,142.29	107,275.00	(54,195.71)

This section does not take into consideration tools, apparatus, equipment, and/or gear not being able to be used to its full useful life. For example, if turnout gear is subjected to hazardous materials, extreme heat, or anything that jeopardizes the integrity of the gear, it must be removed from service and replaced before the 10 year period that NFPA standards mandate. Apparatus and equipment are mechanical pieces and are subject to breakdowns and failures. The potential of this happening greatly increases with age and use.

2013 BUDGET

Our budgeted income will remain \$94,660, until 2015, at which time contracts will be re-negotiated. We are projecting operating expenses of \$39,872 for 2013.

As detailed in the Future Income and Expenses section of this report, several large expenditures are expected within the next 2-5 years. Funding of allocations to help supplement these future expenditures are either not being funded, or severely underfunded. The Budget Overview report shows \$51,947 is needed to create a balanced budget. The department is always aggressively searching for grant and other funding opportunities. However, a combination of government program funding cuts, increased competition for grant dollars, a decreased amount of grants being issued, and reduced corporate giving leaves us two options to reduce this deficit.

Option one, increase response times, decrease services, and do not replacement worn and/or aging equipment. This option will substantially increase the risk of loss of life, decrease the safety and wellbeing of the people we protect, as well as our firefighters. Cutting operational expenses will also cut firefighters from the roster, eliminate replacing worn equipment, gear, and apparatus, and decrease training opportunities for firefighters that remain. This option considerably compounds the existing problem.

Option two, maintain our current level of services, retain dedicated firefighters, provide advanced training opportunities, and respond quickly, with the proper equipment, to save lives and property within our community. All of this can be achieved by increasing income from contracts in 2015. Incrementally increasing contracts will allow the department to begin reversing the existing problem by fully funding operational and allocation expenses.

Fire Fund
Budget Overview
January through December 2013

	<u>Jan - Dec 13</u>
Income	
Fire Levy Income	96,400.00
Total Income	<u>96,400.00</u>
Expense	
Recruitment & Retention	
Physical Exam	150.00
Total Recruitment & Retention	<u>150.00</u>
Payroll Expense	
PERS	864.00
Payroll Taxes	346.56
Salaries	3,798.44
Total Payroll Expense	<u>5,009.00</u>
Apparatus	
Apparatus Pump Test	400.00
Apparatus Maint/Repair	4,000.00
Total Apparatus	<u>4,400.00</u>
BWC Payment	1,800.00
Contract Services	2,050.00
Dues/Subscriptions	
Salamander Technologies	175.00
Ohio Fire Chiefs' Association	75.00
Pharmacy License	115.00
Sandusky County Fireman's Assoc	50.00
FireHouse Software	200.00
NFPA	875.00
NWO Volunteer Firemen's Assoc.	40.00
Total Dues/Subscriptions	<u>1,530.00</u>
Fire Equipment	
Hose	650.00
Ladder Test	175.00
Maintenance/Repair	150.00
Purchase	2,000.00
Total Fire Equipment	<u>2,975.00</u>
Fire Pagers	
Pager Maintenance	600.00
Pager Replacement	2,500.00
Total Fire Pagers	<u>3,100.00</u>
Frequency/Channel Lease	900.00
Fuel	1,600.00
Insurance	6,500.00
LVFD Quarterly Payment	1,200.00
Medical Equipment	450.00

Fire Fund
Budget Overview
January through December 2013

	<u>Jan - Dec 13</u>
SCBA Expense	
SCBA Repairs	100.00
Static/Bench test	800.00
Total SCBA Expense	<u>900.00</u>
Station Expense	
Maintenance/Repair	500.00
Total Station Expense	<u>500.00</u>
Training	1,500.00
Turnout Gear	
Turnout-Purchase	1,000.00
Turnout-Repair	300.00
Total Turnout Gear	<u>1,300.00</u>
Utilities	
Electric	1,200.00
Gas	1,500.00
Internet	588.00
Water & Sewer	420.00
Total Utilities	<u>3,708.00</u>
Volunteer FF Dependant Fund	300.00
Total Expense	<u>39,872.00</u>
Net Ordinary Income	56,528.00
Other Income/Expense	
Other Expense	
Allocations	
Pumper Replacement	25,000.00
Other Rolling Stock Replacement	30,000.00
Turnout Gear Replacement	15,000.00
Fire Equipment Replacement	8,000.00
Communications Replacement	25,000.00
SCBA Bottle Replacement	3,900.00
Hose Replacement	825.00
SCBA Unit Replacement	750.00
Total Allocations	<u>108,475.00</u>
Total Other Expense	<u>108,475.00</u>
Net Other Income	<u>-108,475.00</u>
Net Income	<u><u>-51,947.00</u></u>

Thank you for your support!

Contact Us

John Zimmerman, Chief	Chief@LindseyFire.org	419-680-2714
Dave Zimmerman, Asst. Chief	AsstChief@LindseyFire.org	419-680-0007
Jason Conklin, Fiscal Officer	jconklin@LindseyFire.org	419-680-4026

Lindsey Volunteer Fire Department

238 South Main Street
Lindsey, Ohio 43442

www.LindseyFire.org

APPENDIX

2012 Response Time Analysis

Pre-Incident Planning Field Collection Sheet

APX 6000 Portable Radio Specification Sheet (MARCS Radio)

APX 6500 Mobile Radio Specification Sheet (MARCS Radio)

2012 Response Time Analysis

Run #	Demand Zone	Alarm Date	Call Received	Dispatch	Call Rec to DispatchTime	Enroute	Dispatch to Enroute	On Scene	Enroute to On Scene	Response Time = On Scene - Dispatch
30	Washington	06-May-12	9:47:35	09:48:48	0:01:13	9:51:04	0:02:16	09:51:06	0:00:02	0:02:18
73	Washington	20-Oct-12	12:47:24	12:48:36	0:01:12	12:51:03	0:02:27	12:51:05	0:00:02	0:02:29
75	Lindsey	03-Nov-12	10:15:32	10:17:11	0:01:39	10:19:14	0:02:03	10:19:48	0:00:34	0:02:37
38	Lindsey	02-Jun-12	7:18:07	07:18:52	0:00:45	7:21:25	0:02:33	07:21:40	0:00:15	0:02:48
79	Washington	30-Nov-12	20:53:26	20:54:57	0:01:31	20:57:32	0:02:35	20:57:53	0:00:21	0:02:56
50	Lindsey	21-Jul-12	10:57:51	10:59:54	0:02:03	11:03:04	0:03:10	11:03:06	0:00:02	0:03:12
20	Washington	22-Mar-12	21:31:45	21:32:30	0:00:45	21:32:50	0:00:20	21:35:44	0:02:54	0:03:14
67	Lindsey	05-Oct-12	10:50:05	10:55:00	0:04:55	10:58:22	0:03:22	10:58:24	0:00:02	0:03:24
58	Washington	27-Aug-12	18:36:28	18:39:58	0:03:30	18:41:34	0:01:36	18:43:44	0:02:10	0:03:46
19	Rice	18-Mar-12	14:50:52	14:53:09	0:02:17	14:53:56	0:00:47	14:56:58	0:03:02	0:03:49
32	Lindsey	13-May-12	22:31:16	22:32:19	0:01:03	22:35:01	0:02:42	22:36:09	0:01:08	0:03:50
59	Washington	06-Sep-12	14:00:30	14:02:46	0:02:16	14:04:15	0:01:29	14:06:39	0:02:24	0:03:53
55	Lindsey	20-Aug-12	11:30:00	11:31:29	0:01:29	11:32:52	0:01:23	11:35:24	0:02:32	0:03:55
7	Washington	28-Jan-12	18:29:52	18:32:14	0:02:22	18:35:55	0:03:41	18:36:10	0:00:15	0:03:56
78	Washington	26-Nov-12	18:18:18	18:19:36	0:01:18	18:22:40	0:03:04	18:23:57	0:01:17	0:04:21
31	Lindsey	09-May-12	13:23:57	13:25:32	0:01:35	13:28:53	0:03:21	13:29:54	0:01:01	0:04:22
2	Lindsey	17-Jan-12	17:07:00	17:08:21	0:01:21	17:11:58	0:03:37	17:13:13	0:01:15	0:04:52
54	Washington	19-Aug-12	12:50:55	12:52:42	0:01:47	12:55:05	0:02:23	12:57:39	0:02:34	0:04:57
17	Lindsey	07-Mar-12	1:02:26	01:03:44	0:01:18	1:07:53	0:04:09	01:08:43	0:00:50	0:04:59
45	Washington	28-Jun-12	14:15:39	14:17:05	0:01:26	14:20:00	0:02:55	14:22:04	0:02:04	0:04:59
51	Lindsey	22-Jul-12	13:12:58	13:14:00	0:01:02	13:18:37	0:04:37	13:19:06	0:00:29	0:05:06
27	Rice	17-Apr-12	14:05:38	14:06:17	0:00:39	14:10:36	0:04:19	14:11:26	0:00:50	0:05:09
36	Washington	01-Jun-12	13:28:12	13:30:26	0:02:14	13:32:35	0:02:09	13:35:39	0:03:04	0:05:13
80	Lindsey	02-Dec-12	2:03:00	02:04:42	0:01:42	2:09:11	0:04:29	02:09:55	0:00:44	0:05:13
40	Lindsey	13-Jun-12	8:14:32	08:15:39	0:01:07	8:20:29	0:04:50	08:21:13	0:00:44	0:05:34
84	Lindsey	24-Dec-12	2:36:11	02:37:59	0:01:48	2:42:39	0:04:40	02:43:36	0:00:57	0:05:37
37	Washington	01-Jun-12	19:29:36	19:31:08	0:01:32	19:33:39	0:02:31	19:36:59	0:03:20	0:05:51
44	Washington	27-Jun-12	12:13:09	12:17:54	0:04:45	12:20:46	0:02:52	12:23:48	0:03:02	0:05:54
6	Lindsey	25-Jan-12	22:10:12	22:11:39	0:01:27	22:15:11	0:03:32	22:17:51	0:02:40	0:06:12
42	Washington	19-Jun-12	8:40:41	08:41:32	0:00:51	8:46:39	0:05:07	08:48:11	0:01:32	0:06:39
35	Washington	01-Jun-12	12:01:09	12:02:52	0:01:43	12:06:24	0:03:32	12:09:34	0:03:10	0:06:42
39	Washington	10-Jun-12	9:08:15	09:08:27	0:00:12	9:08:58	0:00:31	09:15:15	0:06:17	0:06:48
1	Rice	05-Jan-12	16:25:14	16:29:04	0:03:50	16:30:16	0:01:12	16:36:03	0:05:47	0:06:59
14	Washington	20-Feb-12	15:42:23	15:44:13	0:01:50	15:48:42	0:04:29	15:51:14	0:02:32	0:07:01
63	Washington	16-Sep-12	14:38:31	14:40:18	0:01:47	14:42:18	0:02:00	14:47:26	0:05:08	0:07:08
5	Rice	23-Jan-12	13:07:50	13:11:20	0:03:30	13:16:28	0:05:08	13:18:30	0:02:02	0:07:10
29	Washington	28-Apr-12	1:02:47	01:05:45	0:02:58	1:11:38	0:05:53	01:12:56	0:01:18	0:07:11

2012 Response Time Analysis

Run #	Demand Zone	Alarm Date	Call Received	Dispatch	Call Rec to DispatchTime	Enroute	Dispatch to Enroute	On Scene	Enroute to On Scene	Response Time = On Scene - Dispatch
10	Rice	05-Feb-12	21:43:23	21:44:52	0:01:29	21:46:54	0:02:02	21:52:20	0:05:26	0:07:28
22	Washington	27-Mar-12	17:00:23	17:01:19	0:00:56	17:05:55	0:04:36	17:08:49	0:02:54	0:07:30
8	Washington	29-Jan-12	19:48:23	19:50:04	0:01:41	19:51:57	0:01:53	19:57:51	0:05:54	0:07:47
4	Washington	19-Jan-12	16:12:39	16:13:40	0:01:01	16:19:05	0:05:25	16:21:39	0:02:34	0:07:59
64	Washington	26-Sep-12	15:34:04	15:34:58	0:00:54	15:39:44	0:04:46	15:42:57	0:03:13	0:07:59
60	Washington	11-Sep-12	6:42:38	6:45:55	0:03:17	6:49:20	0:03:25	6:53:57	0:04:37	0:08:02
25	Washington	14-Apr-12	21:28:33	21:31:27	0:02:54	21:35:02	0:03:35	21:39:33	0:04:31	0:08:06
86	Washington	30-Dec-12	6:39:19	06:41:16	0:01:57	6:45:40	0:04:24	06:49:25	0:03:45	0:08:09
72	Washington	15-Oct-12	15:53:32	15:56:13	0:02:41	15:58:16	0:02:03	16:04:32	0:06:16	0:08:19
68	Washington	05-Oct-12	12:28:22	12:30:05	0:01:43	12:33:47	0:03:42	12:38:36	0:04:49	0:08:31
52	Washington	23-Jul-12	22:46:50	22:48:27	0:01:37	22:51:25	0:02:58	22:57:05	0:05:40	0:08:38
65	Washington	27-Sep-12	7:05:00	07:07:35	0:02:35	7:10:09	0:02:34	07:16:21	0:06:12	0:08:46
76	Rice	09-Nov-12	23:06:09	23:07:03	0:00:54	23:11:20	0:04:17	23:15:59	0:04:39	0:08:56
21	Washington	27-Mar-12	12:21:30	12:23:49	0:02:19	12:29:27	0:05:38	12:32:48	0:03:21	0:08:59
15	Washington	20-Feb-12	23:14:02	23:15:11	0:01:09	23:19:11	0:04:00	23:24:16	0:05:05	0:09:05
9	Washington	04-Feb-12	22:33:56	23:11:21	0:37:25	23:15:55	0:04:34	23:20:27	0:04:32	0:09:06
66	Washington	29-Sep-12	18:14:25	18:16:06	0:01:41	18:19:35	0:03:29	18:25:59	0:06:24	0:09:53
74	Rice	25-Oct-12	8:13:13	08:14:46	0:01:33	8:19:05	0:04:19	08:24:42	0:05:37	0:09:56
85	Rice	28-Dec-12	21:02:47	21:07:27	0:04:40	21:10:20	0:02:53	21:17:35	0:07:15	0:10:08
71	Rice	12-Oct-12	8:55:29	08:56:52	0:01:23	9:02:27	0:05:35	09:07:32	0:05:05	0:10:40
48	Rice	09-Jul-12	15:06:29	15:09:20	0:02:51	15:13:31	0:04:11	15:20:16	0:06:45	0:10:56
12	Rice	08-Feb-12	14:20:13	14:21:33	0:01:20	14:25:25	0:03:52	14:32:56	0:07:31	0:11:23
77	Rice	23-Nov-12	15:27:00	15:30:42	0:03:42	15:32:47	0:02:05	15:42:21	0:09:34	0:11:39
53	Rice	19-Aug-12	7:30:44	07:31:08	0:00:24	7:35:47	0:04:39	07:43:19	0:07:32	0:12:11
49	Rice	12-Jul-12	18:26:23	18:40:46	0:14:23	18:41:23	0:00:37	18:53:01	0:11:38	0:12:15
34	Rice	18-May-12	17:42:34	17:44:12	0:01:38	17:46:47	0:02:35	17:56:38	0:09:51	0:12:26
69	Rice	06-Oct-12	22:46:37	22:50:37	0:04:00	22:54:46	0:04:09	23:03:07	0:08:21	0:12:30
26	Rice	15-Apr-12	22:48:16	22:50:31	0:02:15	22:53:43	0:03:12	23:03:08	0:09:25	0:12:37
81	Rice	05-Dec-12	11:20:09	11:25:06	0:04:57	11:25:06	0:00:00	11:38:25	0:13:19	0:13:19
57	Rice	26-Aug-12	22:01:20	22:07:11	0:05:51	22:10:09	0:02:58	22:20:46	0:10:37	0:13:35
46	Rice	28-Jun-12	19:57:06	19:58:35	0:01:29	20:04:18	0:05:43	20:12:19	0:08:01	0:13:44
16	Rice	24-Feb-12	19:12:46	19:15:54	0:03:08	19:18:20	0:02:26	19:29:56	0:11:36	0:14:02
11	Rice	07-Feb-12	1:29:06	01:29:37	0:00:31	1:35:27	0:05:50	01:44:08	0:08:41	0:14:31
82	Rice	07-Dec-12	21:45:39	21:47:14	0:01:35	21:52:13	0:04:59	22:02:41	0:10:28	0:15:27
3	Rice	18-Jan-12	16:44:27	16:45:48	0:01:21	16:49:47	0:03:59	17:01:30	0:11:43	0:15:42
61	Rice	11-Sep-12	22:59:18	23:00:53	0:01:35	23:07:23	0:06:30	23:17:38	0:10:15	0:16:45
33	Rice	14-May-12	19:03:39	19:13:31	0:09:52	19:17:01	0:03:30	19:32:02	0:15:01	0:18:31
62	Rice	15-Sep-12	10:04:34	10:06:10	0:01:36	10:15:45	0:09:35	10:26:02	0:10:17	0:19:52
43	Rice	26-Jun-12	8:22:15	08:24:10	0:01:55	8:29:17	0:05:07	08:45:08	0:15:51	0:20:58
41	Washington	15-Jun-12	13:45:24	13:46:19	0:00:55	13:56:11	0:09:52	14:09:14	0:13:03	0:22:55

LINDSEY VOLUNTEER FIRE DEPARTMENT

Pre-Incident Plan Field Collection Sheet

Address: _____

AKA Name: _____

Primary Entrance/Side: _____ Secondary entrance/Side: _____

Type of Occupancy: ☐ Assembly ☐ Business ☐ Education ☐ Factory
☐ Storage ☐ Residential ☐ High-Hazard ☐ Multi-Occupancy

EMERGENCY CONTACTS

Primary Contact: _____ Alarm Company: _____

Business phone: _____ Name: _____

Cell phone: _____ Emergency phone: _____

Secondary Contact: _____ Other Notes: _____

Business phone: _____

Cell phone: _____

FIREGROUND (Exposures: If a building give height, construction & type of occupancy- A=attached / S=separate + distance)

Side -A (street) _____ Side-C (rear) _____

Side-B (left) _____ Side-D (right) _____

No. of stories: _____ Building construction type: ☐ I ☐ II ☐ III ☐ IV ☐ V

Length: _____ x Width _____ = _____ GPM per division

WATER SUPPLY

Fire Hydrant locations: Primary: _____ Size of main: _____

Secondary: _____ Size of main: _____

Primary drafting water supply: ☐ Lake ☐ Pond ☐ River/Creek ☐ Pool

Location: _____

Travel time/Distance: _____

Secondary drafting water supply: ☐ Lake ☐ Pond ☐ River/Creek ☐ Pool

Location: _____

Travel time/Distance: _____

Water tank capacity: _____

Hydrant locations: Primary: _____ Secondary: _____

BUILDING FIRE PROTECTION SYSTEMS

FDC connections: ☐ Sprinkler ☐ Standpipe ☐ Combo Sprinkler/Standpipe ☐ N/A

FDC locations: ☐ Side-A ☐ Side-B ☐ Side-C ☐ Side-D ☐ N/A

Fire Pumps: Side: _____ Division: _____ GPM _____ ☐ N/A

Sprinkler System: ☐ Wet ☐ Dry ☐ Deluge ☐ Pre-Action ☐ Limited Area (20 SPKR heads) ☐ N/A

☐ Full Building ☐ Partial Building If, partial: Side: _____ Division: _____ Side: _____ Division: _____

Side: _____ Division: _____ Side: _____ Division: _____

Sprinkler Valves: ☐ Side-A ☐ Side-B ☐ Side-C ☐ Side-D

Chemical Extinguishing Systems: ☐ Clean Agent ☐ CO2 ☐ Dry Chemical ☐ Halon ☐ Wet Chemical ☐ N/A

Side: _____ Division: _____ Side: _____ Division: _____

Side: _____ Division: _____ Side: _____ Division: _____

Fire Alarm System Main Panel Location: Side: _____ Division: _____ ☐ N/A

Remote FAS Sub-panel(s): Side: _____ Division: _____ Side: _____ Division: _____ ☐ N/A

Fire Walls: Side: _____ Division: _____ Side: _____ Division: _____ ☐ N/A

Fire Partition(s): Side: _____ Division: _____ Side: _____ Division: _____ ☐ N/A

Pre-Incident Plan Field Collection Sheet

Occupancy Load: ☐ Low (less than 25) ☐ Medium (25 to 99) ☐ High (100 or more) *Should be based on maximum capacity*

Hours: _____ Days: _____

Special equipment needed to evacuate:

(stair chairs, lifts, stretchers, etc...)

Side: _____ Division: _____ Side: _____ Division: _____

Key Box Location: _____ Side: _____ ☐ N/A

Roof Structure:

Flooring Structure:

Floor Decking:

Basement: ☐ Full dimensions of building ☐ Partial ☐ N/A

If partial, Side:

Basement Access: ☐ Interior Side: ☐ Exterior Side: ☐ N/A

Crawl Space Access: ☐ Interior Side: ☐ Exterior Side: ☐ N/A

Elevator Bank(s): Key Location: _____

Floors Served: _____ Elevator Mech Room location: _____

Gas: _____ Location: _____ Side: _____ ☐ N/A

Water: _____ Location: _____ Side: _____ ☐ N/A

Electric: _____ Location: _____ Side: _____ ☐ N/A

Other: _____ Location: _____ Side: _____ ☐ N/A

Other: _____ Location: _____ Side: ☐ N/A

Other: _____ Location: _____ Side: _____ ☐ N/A

Location has Haz-Mat threat: ☐ Yes ☐ No

Haz-Mat threat level: ☐ High ☐ Moderate ☐ Low

Location contains: ☐ Class 1- Explosives ☐ Class 2- Gases ☐ Class 3- Flammable Liquids

☐ Class 4- Flammable Solids ☐ Class 5- Oxidizing substances and Organic ☐ Class 6- Toxic and Infectious

☐ Class 7- Radioactive Mat's ☐ Class 8- Corrosive substances ☐ Class 9- Miscellaneous

Material Safety Data Sheets (MSDS) location: _____

Haz-Mat locations: Side: Division: Side: Division:

Side: _____ Division: _____ Side: _____ Division: _____

NOTES, SPECIAL CONSIDERATIONS, DRAWINGS, Ect.....

[illegible]



APX™ 6000 PROJECT 25 PORTABLE RADIO

Delivering outstanding performance in a compact form factor without sacrificing the features you need most. The APX™ 6000 is the next generation of ruggedly-reliable performers that gives you the advanced features such as Mission Critical Wireless and GPS location tracking in a small, P25 Phase 2 capable radio. Whether you're on patrol or racing to a fire, the APX 6000 puts you in greater control of your safety, response time and technology investment.

Focus on the task not the technology, with the real-world ready radio that turns mission critical into mission complete.

CUTTING-EDGE FEATURES IN A COMPACT SIZE

- Innovative T-grip design gives you a secure grip and better control
- High-contrast color display is easy to read in different lighting conditions
- Top display is quick to read while looking down, at a glance or from an angle
- Universal push-to-talk button with enhanced grooves is easy to find by "touch"

EXCELLENT AUDIO YOU CAN HEAR LOUD AND CLEAR

- Excellent audio ensures voice communications are intelligible, even in high noise environments
- Dual sided 2 microphone noise canceling technology
- Equipped with the latest AMBE digital voice vocoder

FUTURE-READY TECHNOLOGY TO RELY ON TODAY

- Small P25 Phase 2 capable radio that provides twice the voice capacity
- Backwards and forwards compatible with all Motorola mission critical radio systems
- Supports applications like Mission Critical Wireless and GPS location tracking for greater safety

- Universal Push-to-Talk
- T-Grip
- Dual Battery Latch
- Orange emergency button
- 16 position rotary switch
- 2 position concentric switch
- 3 position toggle switch
- 3 programmable side buttons
- Transmit LED indicator
- Backlit Keypad:
 - Home and Data buttons
 - 3 soft keys
 - 4 direction navigation key
 - 4 x 3 keypad
- Full Bitmap Display:
 - 2 lines of icons
 - 4 lines x 14 characters of text
 - Status icons

PRODUCT SPEC SHEET

APX™ 6000



FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHF R1, and UHF R2 bands
Trunking standards supported:

- Clear or digital encrypted ASTRO®25 Trunked Operation
- Capable of SmartZone®, SmartZone Omnilink, SmartNet®

Analog MDC-1200 and Digital APCO P25 Conventional System Configurations

Narrow and wide bandwidth digital receiver
(6.25 kHz equivalent / 12.5 kHz / 30 kHz / 25 kHz)

Embedded digital signaling (ASTRO & ASTRO 25)

Available in 3 models

Integrated GPS capable

Man Down

Intelligent Lighting

Radio Profiles

Unified Call List (Models 2.5 and 3.5 only)

User programmable voice announcement

Meets Applicable MIL-STD-810C, D, E, F and G

IP67 standard

(submersible 1 meter, 30 minutes)**

Yellow and green colored housing options

Custom recess label areas

Superior Audio Features:

- 0.5 W high audio speaker
- Dual microphones
- 2-mic noise canceling technology

Utilizes Windows XP, Vista and Windows 7 Customer Programming Software (CPS)

- Supports USB communications
- Built in FLASHport™ support

Full portfolio of accessories including IMPRES batteries, chargers and audio devices

OPTIONAL FEATURES:

Mission Critical Wireless

Enhanced Encryption capability

Programming Over Project 25

Over the Air Rekey

Text Messaging

Rugged submersible housing** (2 meters, 2 hours)

*Per the FCC Narrowbanding rules, new products (APX6000 UHF R1, UHF R2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.

** Radios meet industry standards (IPx7) for immersion.

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz 800 MHz	763-776, 793-806 MHz 806-824, 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing		25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj ¹		1-3 Watts Max	1-6 Watts Max	1-5 Watts Max	1-5 Watts
Frequency Stability ¹ (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Modulation Limiting ¹		±5 kHz / ±4 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz	±5 kHz / ±4 kHz / ±2.5 kHz
Emissions (Conducted and Radiated) ¹		-75 dB	-75 dB	-75 dB	-75 dB
Audio Response ¹		+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum & Noise	700 MHz 800 MHz	-48 dB/-47 dB -46 dB/-45 dB	-47 dB -45 dB	-47 dB -45 dB	-47 dB -45 dB
Audio Distortion ¹	700 MHz 800 MHz	0.60 % 1 %	0.50 %	0.50 %	0.50 %

BATTERIES FOR APX 6000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2150 mAh IP67***	3.39" x 2.34" x 1.46"	5 oz	PMNN4403	2150 mAh
Li-Ion IMPRES 2900 mAh IP67	3.07" x 2.34" x 1.65"	6.53 oz	NNTN7038	2900 mAh
Li-Ion IMPRES 4200 mAh IP67	5.07" x 2.34" x 1.65"	11.29 oz	NNTN7034	4200 mAh
Li-Ion IMPRES 4100 mAh FM ² IP67	5.07" x 2.34" x 1.65"	11.29 oz	NNTN7033	4100 mAh
NiMH IMPRES 2100 mAh IP67	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7037	2100 mAh
NiMH IMPRES 2000 mAh FM ² IP67	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7036	2000 mAh
NiMH IMPRES 2000 mAh FM ² Rugged	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7035	2000 mAh
NiMH IMPRES 2100 mAh Rugged	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7573	2100 mAh
Li-Ion IMPRES 2300 mAh FM ² Rugged	3.39" x 2.34" x 1.65"	6.53 oz	NNTN8092	2300 mAh

***Standard shipping battery

PRODUCT SPEC SHEET
APX™ 6000

RADIO MODELS

MODEL 1.5



MODEL 2.5



MODEL 3.5



Display	Full bitmap monochromatic LCD top display 1 line text x 8 characters 1 line of icons No menu support Multi-color backlight	Top display plus: Full bitmap color LCD display 4 lines of text x 14 characters 2 lines of icons 1 menu line x 3 menus White backlight	Top display plus: Full bitmap color LCD display 4 lines of text x 14 characters 2 lines of icons 1 menu line x 3 menus White backlight
Keypad	none	Backlight keypad 3 soft keys 4 direction Navigation key Home and Data buttons	Backlight keypad 3 soft keys 4 direction navigation key 4x3 keypad Home and Data buttons
Channel Capacity*	96	870	870
FLASHport Memory	64 MB	64 MB	64 MB
700/800 MHz (763-870 MHz)	H98UCD9PW5AN Q360EF	H98UCF9PW6AN Q360EF	H98UCH9PW7AN Q360EF
VHF (136-174 MHz)	H98KGD9PW5AN Q360EG	H98KGF9PW6AN Q360EG	H98KGH9PW7AN Q360EG
UHF Range 1 (380-470 MHz)	H98QDD9PW5AN Q360EH	H98QDF9PW6AN Q360EH	H98QDH9PW7AN Q360EH
UHF Range 2 (450-520 MHz)	H98SDD9PW5AN Q360FC	H98SDF9PW6AN Q360FC	H98SDH9PW7AN Q360FC
Buttons & Switches	Large PTT button ■ Angled On/Off volume control ■ Orange emergency button ■ 16 position top-mounted rotary switch ■ 2-position concentric switch ■ Multi-color backlight ■ 3-position toggle switch ■ 3 programmable side buttons		
Transmitter Certification			
700/800 (764-869 MHz)	AZ489FT5863		
VHF (136-174 MHz)	AZ489FT3829		
UHF Range 1 (380-470 MHz)	AZ489FT4892		
UHF Range2 (450-520 MHz)	AZ489FT4903		
FCC Emissions Designators			
FCC Emissions Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E**		
Power Supply			
Power Supply	One rechargeable 2150 mAh Li-Ion Battery Standard (PMNN4403), with alternate battery options available.		

*Per the FCC Narrowbanding rules, new products (APX6000 UHFV1, UHFV2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only. **Enhancement package available

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz 800 MHz	763-776 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing		25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated ¹		500mW	500mW	500mW	1000 mW
Frequency Stability ¹ (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Analog Sensitivity ³	12 dB SINAD	0.250 µV	0.216 µV	0.234 µV	0.234 µV
Digital Sensitivity ⁴	1% BER (800 MHz) 5% BER	0.347 µV (0.333 µV) 0.251 µV	0.277 µV 0.188 µV	0.307 µV 0.207 µV	0.307 µV 0.207 µV
Selectivity ¹	25 kHz channel 12.5 kHz channel	75.7 dB 67.5 dB	79.3 dB 70 dB	78.3 dB 68.1 dB	78.3 dB 67.5 dB
Intermodulation		80 dB	80.5 dB	80.2 dB	80.2 dB
Spurious Rejection		76.6 dB	93.2 dB	80.3 dB	80.3 dB
FM Hum and Noise	25 kHz 12.5 kHz	-54 dB -48 dB	-53.8 dB -48 dB	-53.5 dB -47.4 dB	-53.5 dB -47.4 dB
Audio Distortion ¹		.9 %	1.20 %	0.91 %	0.91 %

PRODUCT SPEC SHEET
APX™ 6000

PORTABLE MILITARY STANDARDS 810 C, D, E, F & G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Basic Hot	501.5	I/A1, II/A2
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	I/C3, II/C1
Temperature Shock	503.1	I	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	1 Proc	507.5	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	1 Proc	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	1 Proc	1 Proc	510.2	II	510.3	II	510.4	II	510.5	II
Immersion	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I/24
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.6	I, V, VI
Shock (Drop)	516.2	II	516.2	IV	516.4	IV	516.5	IV	516.6	IV

DIMENSIONS OF THE RADIOS WITHOUT BATTERY

	Inches	Millimeters
Length	5.47	139
Width Push-To-Talk button	2.39	60.7
Depth Push-To-Talk button	1.40	35.6
Width Top	2.98	75.7
Depth Top	1.58	40.1
Depth Bottom of Battery	1.24	31.5
Weight of the radios without battery	10.9 oz	309 g

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
Encryption Algorithm Capacity	8
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
Encryption Frame Re-sync Interval	P25 CAI 300 mSec
Encryption Keying	Key Loader
Synchronization	XL — Counter Addressing OFB — Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command and tamper detection
Standards	FIPS 140-2 Level 3 FIPS 197

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	−159 dBm
Accuracy ⁵	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

RUGGED OPTION SPECIFICATIONS

Leakage (immersion)	MIL-STD-810 C,D,E,F and G Method 512.X Procedure I
Housing Availability	Black (Standard), Public Safety Yellow and High Impact Green

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature ⁶	−30°C / +60°C
Storage Temperature ⁶	−40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67, MIL-STD
Immersion	MIL-STD 512.X/I

¹ Measured in the analog mode per TIA / EIA 603 under nominal conditions

² When used with an FM approved intrinsically safe radio

³ Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.

⁴ Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.

⁵ Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal −130 dBm signal strength).

⁶ Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance.

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

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R3-4-2035E



SPECIFICATION SHEET



APX™ 6500

PROJECT 25 MOBILE RADIO

We've put exceptional flexibility into an advanced mission critical mobile radio that's easy to operate and intuitive to use. The APX 6500 P25 mobile allows users to choose from 4 control heads, mid and high power models and multiple installation configurations in an easy to install design. Innovative safety features such as GPS location tracking, intelligent lighting and one-touch controls help to keep first responders safer than ever before.

Focus on the task not the technology, with the hardworking mission critical mobile that turns mission critical into mission complete.

FLEXIBLE PLATFORM

- Interchangeable control heads that best support your operational needs - 02, 03, 05, 07
- Two transceiver options - high-power and mid-power
- Dual control head support offered on the 02, 05 and 07 control heads

EASY TO INSTALL AND EFFORTLESS TO USE

- Mid-power model fits into any existing XTL footprint, so you can reuse mounting holes and cables
- High-power model trunnion design lets you remove the radio without removing the cables
- 12 character RF ID label helps you track information without uninstalling your radio

CUTTING-EDGE TECHNOLOGY AND ADVANCED FEATURES

- Project 25 Phase 2 technology provides twice the voice capacity
- Integrated GPS lets you locate and track an individual or vehicle
- Advanced features like intelligent lighting, radio profiles and text messaging improve communication and coordination





APX™ 6500 SPECIFICATIONS

FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHF R1 and UHF R2 bands
Channels: 870*

Trunking Standards supported:

- Clear or digital encrypted Trunked Operation
- Capable of SmartZone®, SmartZone Omnilink, SmartNet®

Analog MDC-1200 and Digital APCO P25 Conventional System

Configurations

Narrow and wide bandwidth digital receiver
(6.25kHz/12.5kHz/25kHz/30 kHz)

Embedded digital signaling (ASTRO and ASTRO 25)

Integrated GPS capable

Integrated Encryption Hardware

Intelligent lighting

Radio profiles

Unified Call List

Meets applicable MIL-STD 810C, D, E, F and G

Ships standard IP54

Utilizes Windows XP, Vista and Windows 7
Customer Programming Software (CPS)

- Supports USB Communications

- Built in FLASHport™ support

Re-use of most XTL™ accessories, plus new
IMPRES accessories

OPTIONAL FEATURES:

Enhanced Encryption Software Options

Programming over Project 25 (POP25)

Text Messaging

Over the Air Rekeying (OTAR)

12 character RF ID asset tracking

Tactical OTAR

*Enhancement package available

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz		800 MHz		VHF		UHF Range 1		UHF Range 2	
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz		806-824 MHz 851-870 MHz		136-174 MHz		380-470 MHz		450-520 MHz	
Channel Spacing	25/12.5 kHz		25/12.5 kHz		30/25/12.5 kHz		25/12.5 kHz		25/12.5 kHz	
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit	
Rated RF Output Power Adj*	10-30 Watts		10-35 Watts		10-50 Watts or 25-100 Watts		10-40 Watts or 25-100 Watts		10-45 Watts (450-485 MHz) 10-40 Watts (485-512 MHz) 10-25 Watts (512-520 MHz)	
Frequency Stability* (-30°C to +60°C; +25°C Ref.)	±0.00015 %		±0.00015 %		±0.0002 %		±0.0002 %		±0.0002 %	
Modulation Limiting*	±5 kHz / ±2.5 kHz		±5 kHz/±4 kHz (NPSPAC) /±2.5 kHz		±5 kHz / ±2.5 kHz		±5 kHz / ±2.5 kHz		±5 kHz / ±2.5 kHz	
Modulation Fidelity (C4FM) 12.5kHz Digital Channel	±2.8 kHz		±2.8 kHz		±2.8 kHz		±2.8 kHz		±2.8 kHz	
Emissions*	Conducted+ -75/-85 dBc	Radiated+ -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm
Audio Response*	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise	25 kHz 12.5 kHz	-50 dB -48 dB	-50 dB -48 dB		-53 dB -52 dB		-53 dB -50 dB		-53 dB -50 dB	
Audio Distortion*	2 %		2 %		2 %		2 %		2 %	

DIMENSIONS

	Inches	Millimeters
Mid Power Radio Transceiver	2 x 7 x 8.6	50.8 x 177.8 x 218.4
O5 Control Head	2 x 7 x 2.5	50.8 x 180.3 x 63.5
O2 Control Head	2.7 x 8 x 2.1	68.4 x 206 x 52.83
O7 Control Head	2 x 7 x 1.5	50.8 x 178 x 40
Mid Power Radio Transceiver and O5 Control Head-Dash Mount	2 x 7 x 9.6	50.8 x 180.3 x 243.8
Mid Power Radio Transceiver and O2 Control Head - Dash Mount	2.7 x 8 x 10.5	68.4 x 206 x 268
Mid Power Radio Transceiver and O7 Control Head - Dash Mount	2 x 7 x 10.3	50.8 x 178 x 262
Mid Power Radio Transceiver and Remote Mount	2.0 x 7 x 9.6	50.8 x 180.3 x 243.8
High Power Radio Transceiver	2.9 x 11.5 x 8.8	74 x 293 x 223
High Power Radio Transceiver with Handle	3.4 x 11.5 x 8.8	87 x 293 x 223
Mid Power Radio Transceiver and O5 Control Head Weight	6.6 lbs	3.0 kg
Mid Power Radio Transceiver and O2 Control Head Weight	7.12 lbs	3.23 kg
Mid Power Radio Transceiver and O7 Control Head Weight	6.74 lbs	3.06 kg
High Power Radio Transceiver Weight	With Trunnion Without Trunnion	14.2 lbs 12 lbs
		6.4 kg 5.4 kg

APX 6500 CONTROL HEAD PORTFOLIO

**O2 RUGGED CONTROL HEAD**

- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Built in 7.5 watt speaker
- Multiple control head configuration (up to 2)
- Multifunction volume/channel knob
- Night/day mode button

**O3 HAND HELD CONTROL HEAD**

- Large color display with intelligent lighting
- 2 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Integrated full size DTMF keypad
- Hand-held control head with intuitive user interface
- Two quick-access side buttons
- Display contrast selector

**O5 STANDARD CONTROL HEAD**

- Tri-color display with intelligent lighting
- 2 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Available with Keypad Microphone
- Multiple control head configuration (up to 2)
- Display contrast selector

**O7 ENHANCED CONTROL HEAD**

- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Available with Lighting & Siren Controls or DTMF Keypad
- Multiple control head configuration (up to 2)
- Multifunction volume/channel knob
- Night/day mode button

RECEIVER – TYPICAL PERFORMANCE SPECIFICATIONS

		700 MHz	800 MHz	VHF	UHF Range 1		UHF Range 2	
Frequency Range/Bandsplits		764-776 MHz	851-870 MHz	136-174 MHz	380-470 MHz		450-520 MHz	
Channel Spacing		25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz		25/12.5 kHz	
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit		Full Bandsplit	
Audio Output Power at 3% distortion*		7.5 W or 15 W ++	7.5 W or 15 W ++	7.5 W or 15 W ++	7.5 W or 15 W ++		7.5 W or 15 W ++	
Frequency Stability* (-30°C to +60°C; +25°C Ref.)		+/-0.8 PPM	+/-0.8 PPM	+/-0.8 PPM	+/-0.8 PPM		+/-0.8 PPM	
Analog Sensitivity*	12 dB SINAD	-121 dBm	-121 dBm	Pre-Amp -123 dBm	Pre-Amp -123 dBm	Pre-Amp -123 dBm	Pre-Amp -123 dBm	Pre-Amp -123 dBm
Digital Sensitivity	5% BER	-121.5 dBm	-121.5 dBm	-123 dBm	-119 dBm	-123 dBm	-119 dBm	-123 dBm
Intermodulation	25 kHz	82 dB	82 dB	84 dB	86 dB	82 dB	86 dB	82 dB
	12.5 kHz	82 dB	82 dB	85 dB	86 dB	83 dB	85 dB	83 dB
Spurious Rejection		91 dB	91 dB	95 dB	93 dB		93 dB	
Audio Distortion at rated*		1.20%	1.20%	1.20%	1.20%		1.20%	
FM Hum & Noise	25 kHz	59 dB	59 dB	59 dB	55 dB		57 dB	
	12.5 kHz	50 dB	50 dB	50 dB	50 dB		50 dB	
Selectivity*	25 kHz	85 dB	85 dB	85 dB	85 dB		85 dB	
	12.5 kHz	75 dB	75 dB	75 dB	75 dB		75 dB	
	30 kHz	—	—	90 dB	—		—	

SIGNALING (ASTRO MODE)

Signaling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO® Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions.

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	-153 dBm
Accuracy**	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

POWER AND BATTERY DRAIN

Model Type	136-174 MHz, 380-470 MHz, 450-520 MHz, 764-870 MHz						
Minimum RF Power Output	10-35 Watt (764-870 MHz), 10-50 Watts or 25-100 Watts (136-174 MHz), 10-40W or 25-100 Watts (380-470 MHz), 10-45Watts (450-485 MHz), 10-40Watts (485-512 MHz), 10-25Watts (512-520 MHz)						
Operation	13.8V DC ±20% Negative Ground						
Standby at 13.8V	0.85A (764-870 MHz), 0.85A (136-174 MHz), 0.85A (380-470 MHz), 0.85A (450-520 MHz)						
Receive Current at Rated Audio at 13.8V	3.2A (764-870 MHz), 3.2A (136-174 MHz), 3.2A (380-470 MHz), 3.2A (450-520 MHz)						
Transmit Current (A) at Rated Power	136-174 MHz (10-50 Watt)	13A (50W)	8A (15W)	764-870 MHz (10-35 Watt)	12A (50W)	8A (15W)	
	380-470 MHz (10-40 Watt)	11A (40W)	8A (15W)	136-174 MHz (25-110 Watt)	20A (100W)		
	380-470 MHz (10-40 Watt)	11A (45W)	8A (15W)	380-470 MHz (25-110 Watt)	24A (100W)		

MOBILE MILITARY STANDARDS 810 C, D, E, F & G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.5	I-A1, II
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	I-C3, II
Temperature Shock	503.1	1 Proc	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	I-C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I-A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	1 Proc	507.5	II-Aggravated
Salt Fog	509.1	1 Proc	509.2	1 Proc	509.3	1 Proc	509.4	1 Proc	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I, II	510.3	I, II	510.4	I, II	510.5	I, II
Vibration	514.1w	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I-cat.24
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.6	I, V, VI

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
Encryption Algorithm Capacity	8
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
Encryption Frame Re-sync Interval	P25 CAI 300 mSec
Encryption Keying	Key Loader
Synchronization	XL – Counter Addressing, OFB – Output Feedback
Vector Generator	National Institute of Standards and Technology(NIST) approved random number generator
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command and tamper detection
Standards	FIPS 140-2 Level 3 FIPS 197

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP54, MIL-STD

FCC TYPE ACCEPTANCE ID

BAND	OUTPUT POWER	TRANSMITTER NUMBER
764-870 MHz	10-35 Watts	AZ492FT5858
136-174 MHz	25-100 Watts	AZ492FT3821
136-174 MHz	10-50 Watts	AZ492FT3824
380-470 MHz	10-40 Watts	AZ492FT4894
380-470 MHz	25-100 Watts	AZ492FT4897
450-520 MHz	10-45 Watts	AZ492FT4896

* Measured in the analog mode per TIA/EIA 603 under nominal conditions

** Accuracy specs are for long-term tracking
(95th percentile values >5 satellites visible at a nominal -130 dBm signal strength)

+ Specs includes performance for the non-GNSS/GNSS bands

++ Output power in to 8 and 3.2 Ohm external speakers respectively

Specifications subject to change without notice. All specifications shown are typical.
Radio meets applicable regulatory requirements.