Real-time Passenger Accountability Systems

Innovating Safety and Security

CT@G® Real-time Passenger Accountability Systems

The 'Alaska Mass Rescue' exercise experience - Ketchikan, AK, April 2009

➡ USCG, Ketchikan Fire Department, Holland America Line and US Customs and Border Protection sponsored a major exercise to simulate the evacuation of 1800 passengers and 700 crew from ship to shore.

➡ One of the primary objectives of the exercise was 100% accountability for passengers and crew throughout the exercise.

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The 'Alaska Mass Rescue' exercise experience - Ketchikan, AK, April 2009

CT@G achieved the following results:

➡ 100% accountability during the onboard muster to boats

➡ 1781 passengers and crew accounted to boats and rafts in just under 2 hours using only 2 PDAs - in reality, this would have been achieved in approx. 20 mins. with an appropriate number of PDAs

➡ The count for each lifeboat, holding 150 passengers, was achieved in 7 minutes.

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The 'Alaska Mass Rescue' exercise experience - Ketchikan, AK, April 2009

Results [contd.]:

- Ashore, 478 persons were accounted for, even in the absence of a wireless network

- When network capability was restored, this data was automatically uploaded to the server from the PDAs

- This allowed the 'beachmaster' and all interested parties access to accurate real-time data on the whereabouts of landed passengers and crew.

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Why do it ?

MAIB Report into the fire on the "STAR PRINCESS"

"Whatever method is used, the mustering of several thousand passengers, particularly by name and stateroom number, will inevitably take a long time. Notwithstanding difficulties such as names which are difficult to pronounce, language, identical surnames, and passengers not hearing, the calling of 500 names alone will probably take well over 1 hour. ..."

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Why do it ?

CT

Loss of the "Sea Diamond", April 2007

The unaccounted loss of two passengers during the evacuation from the "Sea Diamond" demonstrates the inability of manual systems to provide the level of information required to account for and to protect passengers in the event of a major emergency.

CT@G® Real-time Passenger Accountability Systems

Why do it ?

MAIB Report into the fire on the "STAR PRINCESS"

"... Until advances in technology are forthcoming, the completion of a full roll call on board large passenger cruise ships will be difficult to achieve within a reasonable timescale. ..."

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CT@G® Real-time Passenger Accountability Systems

"Until advances in technology are forthcoming, the completion of a full roll call on board large passenger cruise ships will be difficult to achieve within a reasonable timescale."

Can you do it ? Yes, you can !

Technology has advanced - CT@G®'s passenger accountability system provides an accurate full roll call for all passenger ships - large or small - in real time.

CT@G® Real-time Passenger Accountability Systems

How does CT@G® do it ?

By utilising asset tracking capabilities such as barcodes and RFID, the 'CT@G®' range of innovative safety products couple the use of modern technology with established safety processes and procedures, to provide a rapid, accurate, CT@G Real-time indication of people muster.

Muster and Boat Station personnel scan passengers and crew members as they arrive at each Muster Station, lifeboat or liferaft.

Utilising WiFi links to the ship's network, accurate CT@G® Real-time reports are readily available to Command and Control personnel. CT@G® is web-based so that this information can be available ashore to operators, SAR authorities and others.

CT@G® Real-time Passenger Accountability Systems

What are the benefits ?

➡ *Accurate, CT@G® Real-time reports of muster progress*

➡ *Verification of attendance at pre-departure statutory muster*

➡ *Post-incident traceability*

As well as …

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CT@G® Real-time Passenger Accountability Systems

Additional Benefits

- *"CT@G® Real-time picture" of events enabling:*

  - **Confidence**

  - **Optimum use of resources**

  - **Early indication of potential problem areas**

  - **Effective monitoring of children, families and passengers with special needs**

  - **Automatic situational awareness for shipowners and SAR authorities**

CT@G® Real-time Passenger Accountability Systems

What is the ultimate benefit ?

➡️ *In the event of Abandon Ship, ALL data comes ashore with the crew in the survival craft for effective and accurate accountability of survivors when landed !*

CT@G® Real-time Passenger Accountability Systems

m.v. "Alaska Cruiser"

LAW, ANKITA   CABIN   4064

LB 04

scooter

CTAG MRO 10505
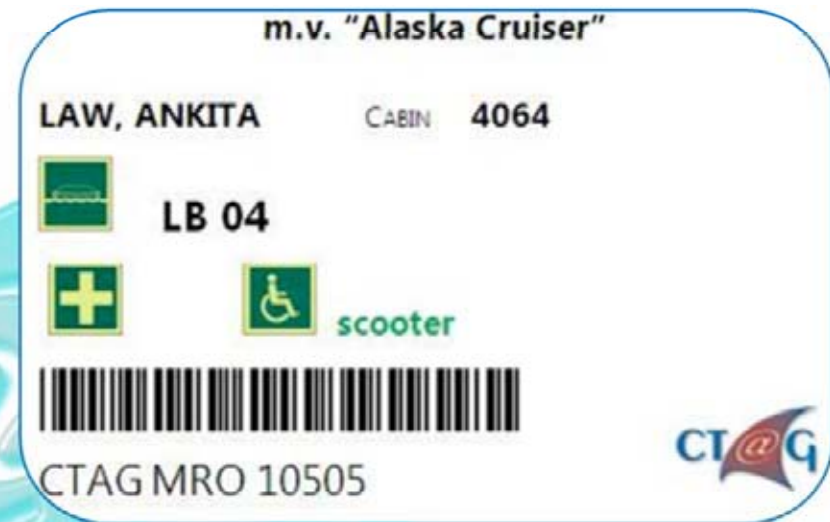
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CT@G® Real-time Passenger Accountability Systems -
Identification methodology

All onboard personnel may be identified from barcodes or RFID tags integral to their cruise cards, ID cards or lifejackets by CT@G's software running on state-of-the-art WiFi and scanner-equipped Portable Data Assistants (PDAs) . The scanned information from the PDA is transmitted to the host PC on the vessel.

By passing ID information between CT@G's tracking software and the on-board hotel and crew management system, CT@G Real-time passenger and crew accountability can be achieved during passenger and crew muster.

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CT@G® Real-time Passenger Accountability Systems -
Hardware

Bar code and/or RFID scanners are fitted to hand-held PDAs programmed with custom asset management software.

One or more readers may be in use at each Muster and Boat or Raft Station.

Collected data is transmitted to other PDAs by Wi-Fi network connection to the ship's data networks. It is available on-screen at local computers at the Muster Stations and at other central locations to give a CT@G Real-time passenger and crew count.

Information and instructions may also be transmitted from the Emergency Control Centre to the PDAs for Muster and Boat Station leaders.

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CT@G® Real-time Passenger Accountability Systems -
System topology
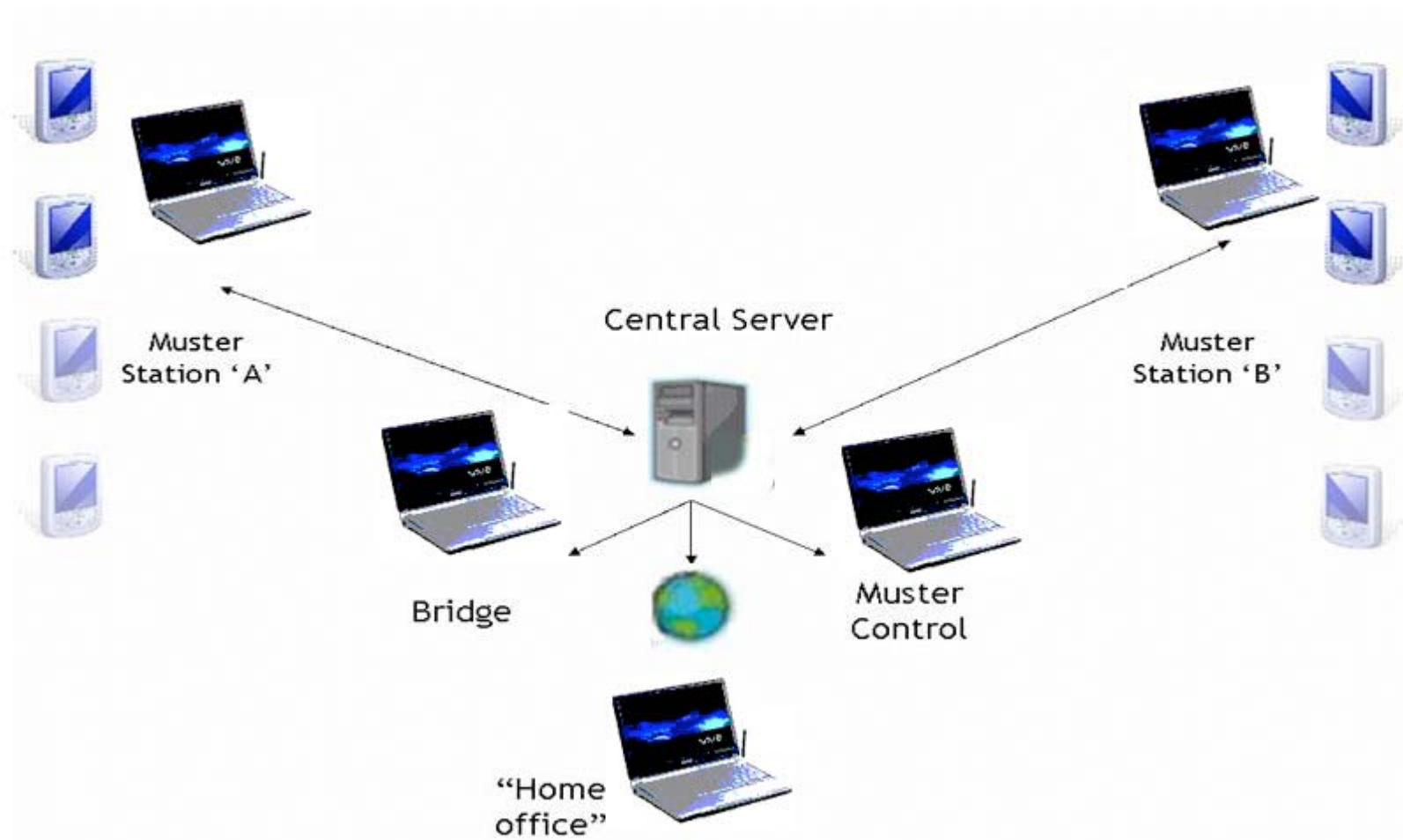
CT@G® Real-time Passenger Accountability Systems -
Software overview

Main control screen for Bridge / Emergency Control Centre
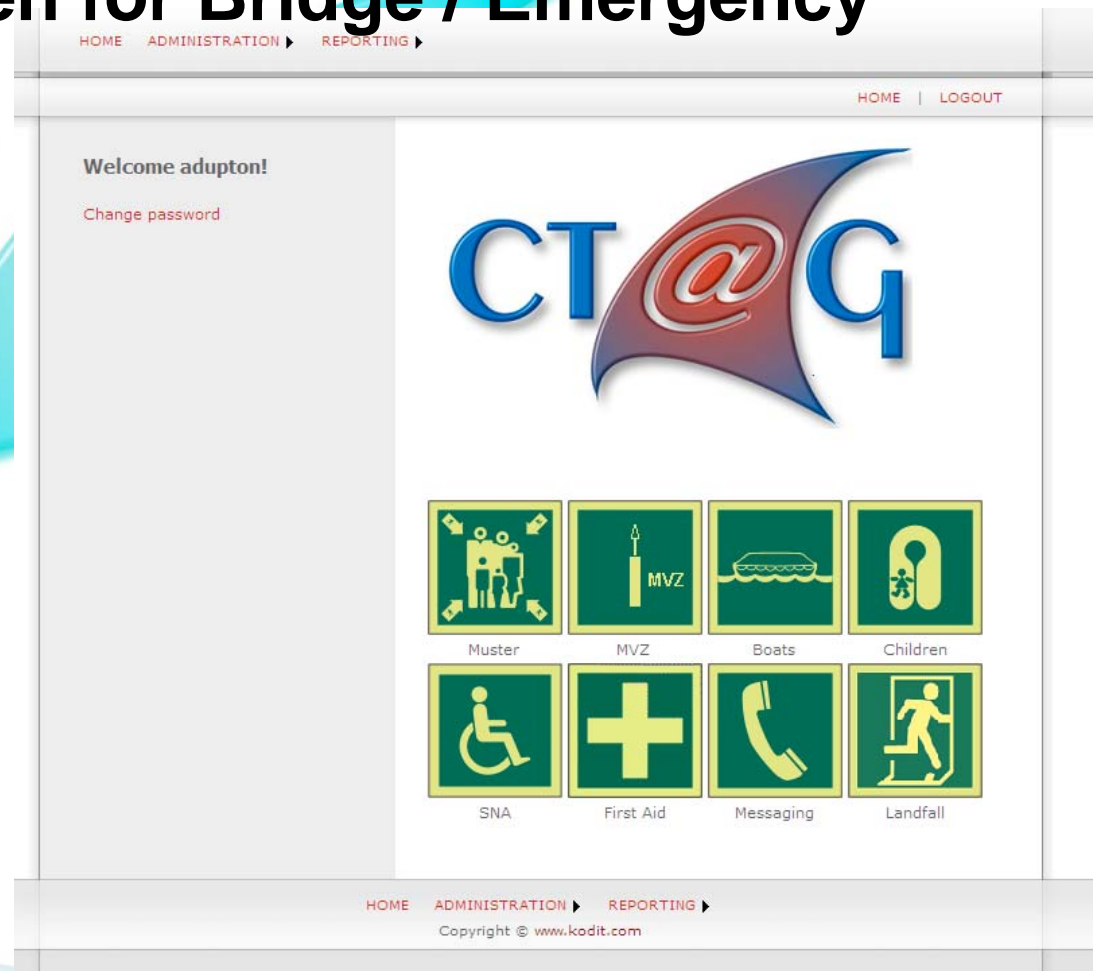
CT@G® Real-time Passenger Accountability Systems -
Software overview

- ➡ **Passenger ID update**
- ➡ **Muster process and progress**
- ➡ **Abandon Ship process and progress**
- ➡ **Ancillary functionality**

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

INITIALIZE PASSENGER AND CREW LISTS

▪The Pax / Crew safety list is updated into each Pocket PC [PDA] using the ship's wireless network so that the system always contains the latest safety list.

▪In the event of network failure, the PDA reverts to 'batch process', storing the data locally until the network is restored - when data is exchanged automatically.

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

SELECTION OF MUSTER TYPE

➡For ease of use, the user has the option to choose between "Controlled Muster" - e.g., at passenger embarkation drills - or "Emergency Muster" - "the real thing".

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

START OF MUSTER

▪ At the beginning of the muster, this screen will appear on all PDAs.

▪ Crew members can now start to scan pax arriving at Muster Stations.

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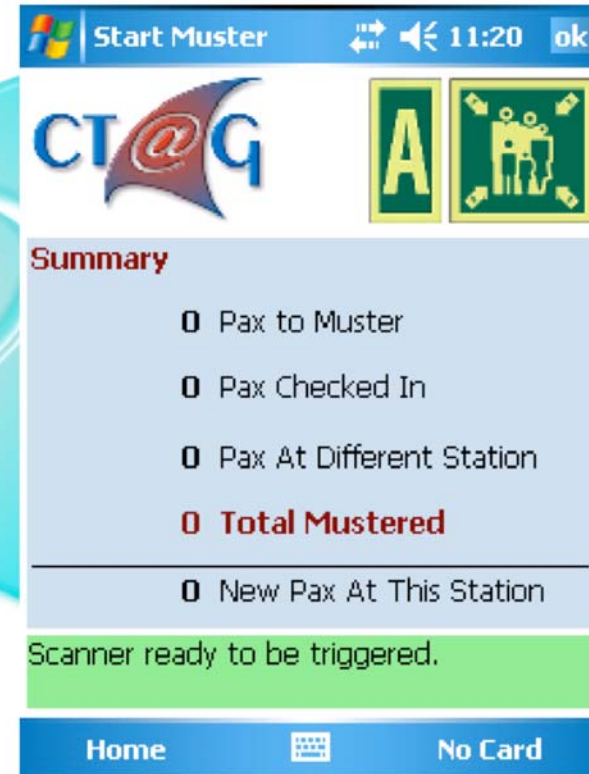
CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

PASSENGER IDENTIFICATION AND RECORDING

➡ Under "controlled" conditions, utilising the passenger's cruise card, their details are automatically saved into the system and their id is confirmed at the bottom of the screen.

➡ Within seconds, the next passenger can be scanned and recorded.

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

PASSENGERS WITHOUT ID

⮚Pax arrives with no cruise card

⮚Enter passenger's name or stateroom number

⮚Select "**Muster**"

⮚Passenger is automatically mustered

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

CHILDREN AND INFANTS

▸With children, the primary ID can be either cruise card or other ID tag

▸When a child is mustered, crew members will record if the child is accompanied

▸With appropriate links in the passenger manifest, CT@G® will allow for family check-in from a single swipe of a cruise card

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

PASSENGERS WITH SPECIAL NEEDS

➡️Appropriate data fields have been incorporated to ensure that these passengers are identified on arrival at a Muster Station.

➡️For pax with special needs, a separate drop-down list will appear for crew members to select the appropriate status.
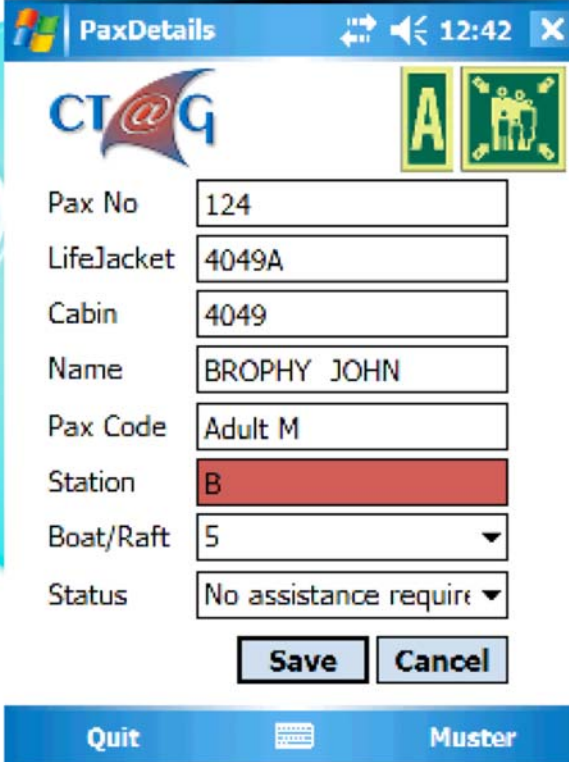
CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

"WRONG" MUSTER STATION

▶ In the event that a pax arrives at the "wrong" Muster Station, their allocated Muster Station is highlighted on screen.

▶ The "new" Muster Station is automatically registered on the PDA and the passenger is shown to be at the "new" Muster Station on all records.

PaxDetails 12:42

CT@G

Pax No	124
LifeJacket	4049A
Cabin	4049
Name	BROPHY JOHN
Pax Code	Adult M
Station	B
Boat/Raft	5
Status	No assistance require

Save   Cancel

Quit   Muster

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

MUSTER PROGRESS UPDATED

▶As each pax is checked-in, the current status of the muster is automatically updated on the PDA

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

ABANDON SHIP PROGRESS

-

'GO TO BOATS' function

▶ When moving pax or crew
from Muster Stations to boats or
rafts, select the boat and scan
the passenger's ID once again

| Go To Boats | 09:50 |

CT@G

Summary

Boat No: 1
Capacity: 60
Spaces Rem.: 60

Quit | Home

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

ABANDON SHIP PROGRESS
-
LIFEBOAT STATION REPORTS

▸Passengers are recorded on screen and into a boat manifest.

CT@G® Real-time Passenger Accountability Systems -
Software: PDA overview

ABANDON SHIP
PROGRESS -

'LANDFALL'
REPORTING

▣As passengers and crew
are landed ashore,
CT@G® facilitates
tracking them to reception
centres, hospitals,
airports etc.

Landfall

Current Date: 28/04/2009 03:56:35

Last Updated: 28/04/2009 03:56:34

Name

[   ] [Search] [Clear]

Cabin Number	Name	Status	Muster Station	Muster Date	Boat Number	Boat Date	Destination	Comments
4035	Dunn Arturo						Home	
7005	Dunn Anna						Secondary Reception	
6003	Dunn Aerianna						Primary Reception	
7126	Dunn Danica						Hospital	

CT@G® Real-time Passenger Accountability Systems -
Software: additional functionality

ADDITIONAL FUNCTIONALITY
- SEARCH CAPABILITY

▶Crew members at Muster Stations can utilise CT@G® to search for other family members and friends.

CT@G® Real-time Passenger Accountability Systems -
Software: additional functionality

SEARCH FUNCTION: FIND MISSING PERSONS - CHILDREN OR FRIENDS

▸Children or shipmates who are unaccounted for are highlighted in red:

▸those who have already been accounted for are shown in green.

CT@G® Real-time Passenger Accountability Systems -
Software: additional functionality

FIRST AID / TRIAGE REPORTING

➡ CT@G® allows for triage reporting of casualties to the Emergency Control Centre.

➡ Additionally, details of injuries may be included in the information sent to the ECC.

CT@G® Real-time Passenger Accountability Systems -
Software: additional functionality

MESSAGING FUNCTION

▸ To reduce voice communications, CT@G® has incorporated a messaging function so that messages may be sent from the Emergency Control Centre to the PDAs and vice-versa.

Messaging

Send

Transcript

ISSSERVER1 (04:07:00): Welcome to CT@G

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CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities

Muster Stations

Main Vertical Zones

Boat Stations

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CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities

Muster Station Reporting   Home

MUSTER STATION REPORTS

➡ Muster Station reports are provided in graphic format to give immediate indications of the muster progress.
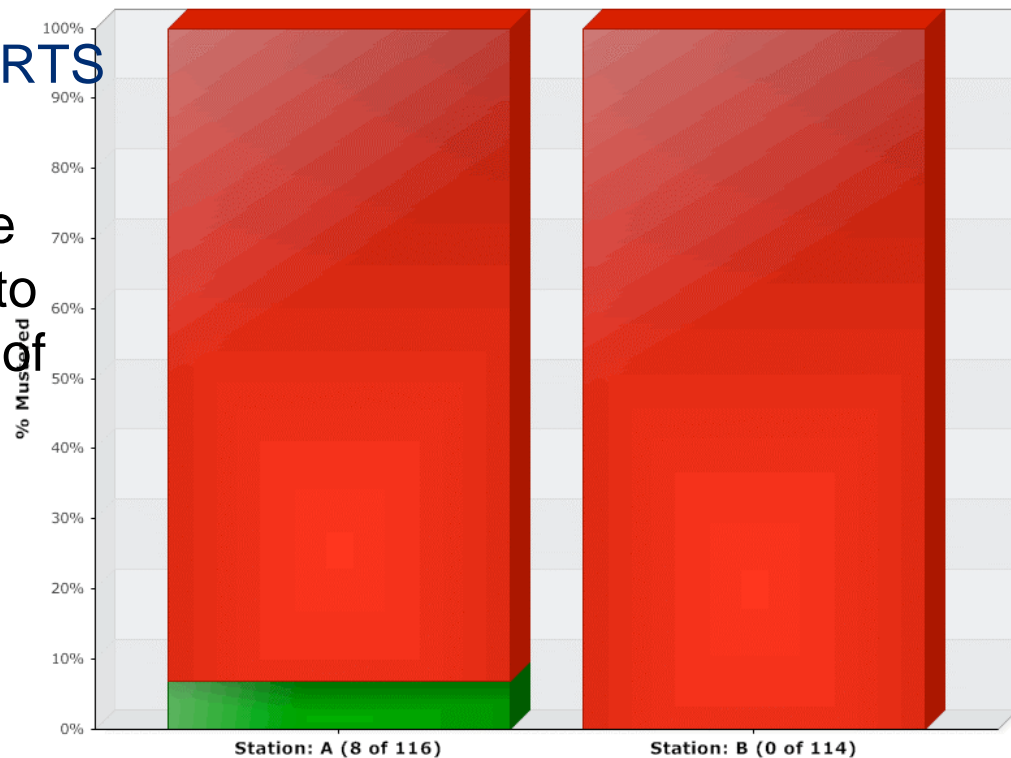

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CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities

MAIN VERTICAL ZONE REPORTS

→ Total number of Pax remaining in each MVZ automatically decreases as Pax are checked-in at the Muster Stations

→ RED boxes show where no pax have been accounted for; YELLOW boxes indicate 'partial' clearance: hover over the cell and the missing pax is identified.

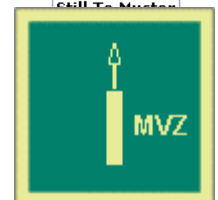→ GREEN boxes indicate that all pax are clear from this cabin.

Last Updated: 11/09/2007 10:09:19

Main Vertical Zone Reporting

MVZ: 2		MVZ: 3		MVZ: 4		MVZ: 5	
4004	2	4016	2	4047	1	6060	2
4005	2	4018	2	4048	2	6062	2
4006	2	4019	2	4049	2	6063	2
4007	2	4020	2	4050	2	6064	2
4008	2	4021	2	4051	2	6065	2
4009	2	4022	2	4052	2	6066	2
4010	2	4023	2	4053	2	6067	2
4011	2	4024	2	4055	2	6068	1
4012	2	4025	2	4056	2	6069	2
4014	2	4026	2	6044	2	6070	2
4015	1	4027	2	6045	2	6071	2
4017	2	4028	2	6046	2	6072	2
6000	2	4029	2	6047	2	6073	2
6001	2	4030	2	6048	2	6074	2
6002	2	4031	2	6049	2	6075	2
6003	2	4032	1	6050	2	6076	2
6004	2	4033	2	6051	2	6077	2
6005	2	4034	2	6052	2	6078	2
6006	2	4035	0	6053	2	6079	2
6007	2	4036	0	6054	2	6080	2
6008	2	4037	1	6055	2	6081	2
6009	2	4039	2	6056	2	6082	2
6010	2	4040	2	6057	2	6083	2
6011	2	4041	2	6058	2	6084	2
6012	2	4042	2	6059	2	6085	2
6014	2	43	2	6061	2	6086	2
7001	2	7044	2	7062	2	6087	2
7007	2	7053	1	8033	2	6088	2

- TYLER CHRISTINE
- TYLER DERWOOD

Still To Muster: 57   Still To Muster: 51   Still To Muster: 57   Still To Muster

MVZ

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CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities

MAIN VERTICAL ZONE REPORTS

It is possible to provide printed lists of missing personnel by MVZ

Missing Pax List MVZ 2

Print

| CabinNo	Name
4004	WELSH JOHN
4004	WELSH JOSEPHINE
4005	PEDULLA ALBERT
4005	PEDULLA BEVERLY
4006	MURPHY DANIEL
4006	MURPHY JOSEPH
4007	BOUBEL AMBROSE
4007	BOUBEL DOREENE
4008	MADAY JOSEPHINE
4008	MADAY RICHARD
4009	MORITZ JOHN
4009	MORITZ SUE
4010	MARSH ANN
4010	TROST BETTY
4011	SUNDERMANN JOSEPH
4011	SUNDERMANN LYNN
4012	KAMM DANIEL
4012	KAMM GAIL
4014	URITIS GEORGE
4014	URITIS MARY JOANN
4015	AVERITTE RONALD
4017	AKARD MARY
4017	AKARD SAM
6000	GUERIN MARK
6000	SHERIDAN LILLIAN
6001	PIOVARCY JULIA
6001	PIOVARCY LEE
6002	HOWARD ARTHUR
6002	HOWARD LESLIE
6003	BOCCIARDI JANET

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MVZ

CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities

MAIN VERTICAL ZONE REPORTS USING SHIP'S PLANS

➡By linking the CT@G ® software to ship's CAD plans, muster progress can be visually indicated, using the same colour schemes as before
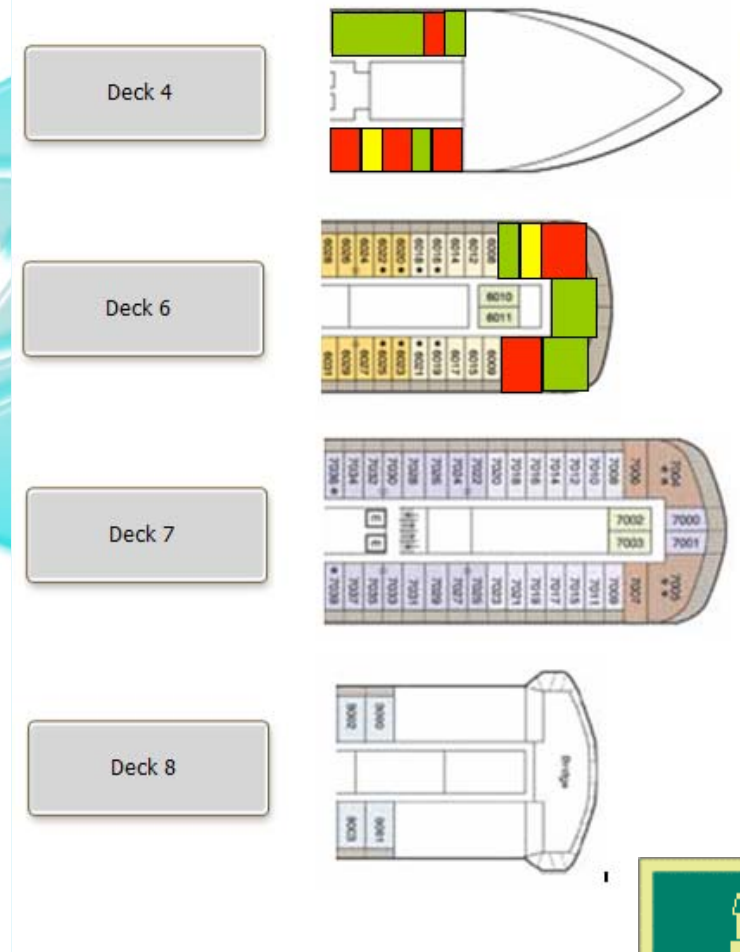
Deck 4

Deck 6

Deck 7

Deck 8

MVZ

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CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities
MUSTER AND/OR LIFEBOAT STATION PROGRESS REPORTS

CT@G® Real-time Passenger Accountability Systems -
Real-time Reporting capabilities
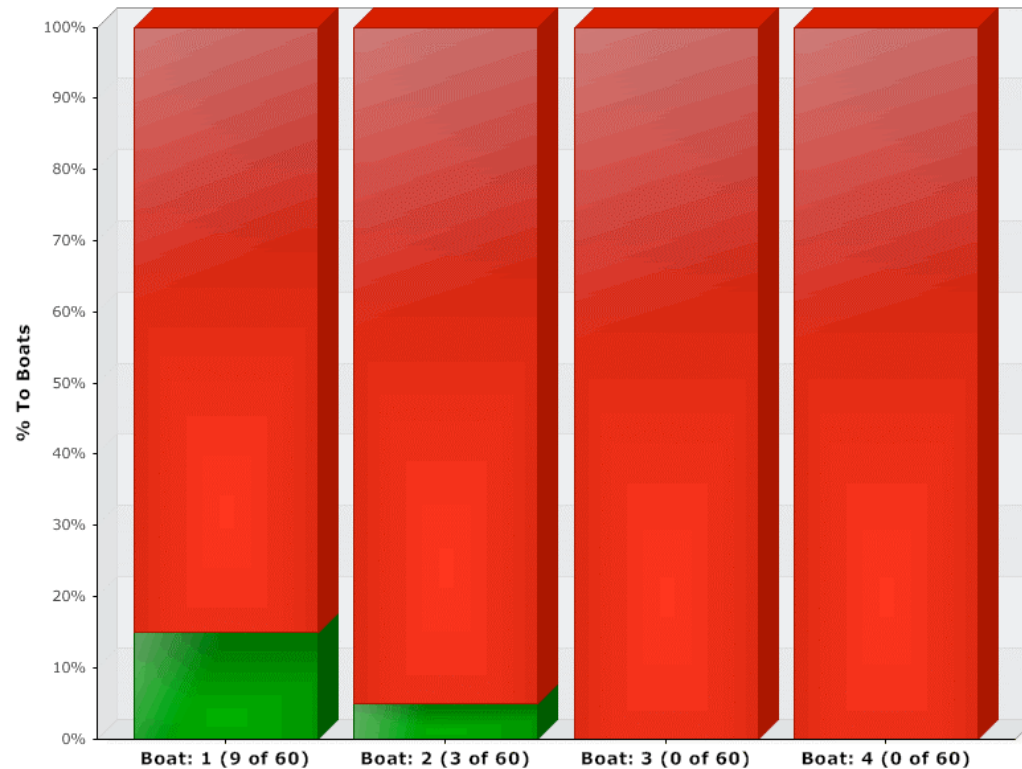## MUSTER AND/OR LIFEBOAT STATION PROGRESS REPORTS

Lifeboat No. 1 Manifest

Print   Back

mark@kodit.com
cstory@kodit.com   Email

Cabin no	Name	Pax type	Passport	Nationality	Date Of Birth
4015	AVERITTE LAURA	Adult F	134857602	United States	12/7/1935
4049	BROPHY JOHN	Adult M	PA4011278	Ireland	10/4/1943
4035	CAPASSO FRANCES	Adult F	0459733285	United States	2/4/1940
4035	CAPASSO RALPH	Adult M	045973284	United States	11/29/1936
7053	DUROCHER LUCA	Minor M	217069010	United States	10/11/1992
4036	LOVENBERG MARJO...	Adult F	212078694	United States	6/18/1932
4019	LOWELL DIANA	Adult F	218920883	United States	8/25/1937
4019	LOWELL FRED	Adult M	218920882	United States	3/1/1932
4049	REILLY EILEEN	Adult F	T921567	Ireland	6/27/1952

With internet access available from the ship to shore, appropriately signed in authorities may view these reports directly or the reports may be sent to shore offices and rescue co-ordination centres by e-mail or other appropriate means.

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CT@G® Real-time Passenger Accountability Systems

CT@G® System recap

➡ *"CT@G® Real-time picture" of events enabling:*

➡ **Confidence**

➡ **Optimum use of resources**

➡ **Early indication of potential problem areas**

➡ **Effective monitoring of children, families and passengers with special needs**

➡ **Automatic situational awareness for shipowners and SAR authorities**

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What is the ultimate benefit ?

➡ ***In the event of Abandon Ship, ALL data comes ashore with the crew in the survival craft for effective and accurate accountability of survivors when landed !***

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CT@G ®'s Proven Technology Partners

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About Kodit

Kodit Database Limited was established in 1992 to address growing market demand for high quality asset identification systems. Kodit Database Limited is certified to ISO 9000:2000, and in 1998 became the first company in Europe to pass the Loss Prevention Council's LPS1224 Certification. This was followed by the award of the LPS1225 Certification for the Kodit Securitags. Over the last several years Kodit has expanded its range of products and services, and now covers in excess of 500,000 assets annually. Kodit is the preferred single source supplier for many organizations in all matters relating to Asset Management and Identification.

For further information, please visit www.kodit.com.

kodit

About Oracle

Oracle (Nasdaq: ORCL) is the world's largest enterprise software company. Oracle's business is information - how to manage it, use it, share it, protect it. For nearly three decades, Oracle has provided the software and services that let organisations get the most up-to-date and accurate information from their business systems.

Today, Oracle is helping more governments and businesses around the world become information-driven than any other company.

For further information, please visit www.oracle.com.

ORACLE

Current users of Kodit's technology include: DELL Corporation, The Royal Bank of Scotland Group, Oil Spill Response Ltd and the UK Maritime and Coastguard Agency.

CT@G

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