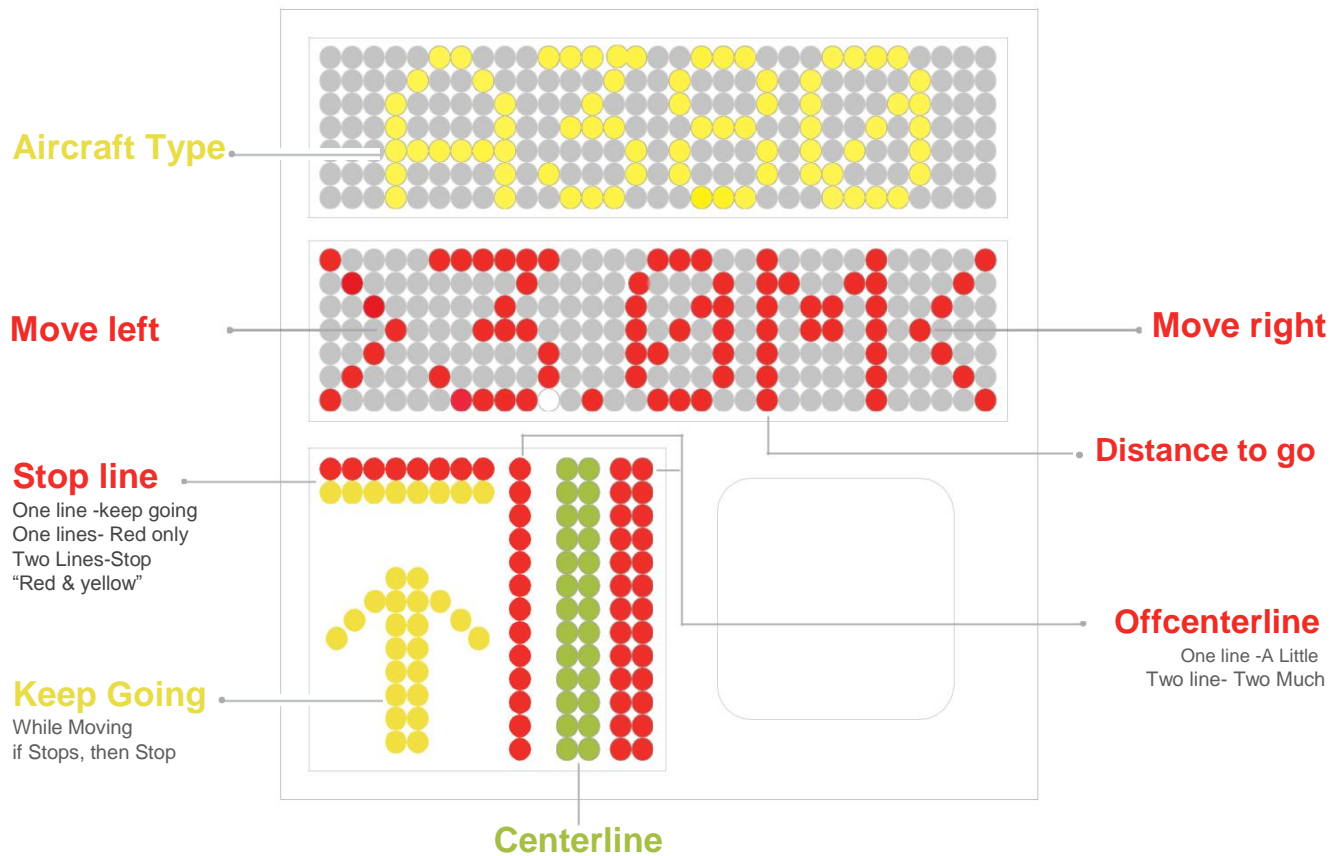# RLG
Docking System

RLG Docking Systems, Inc

- Docking can be accomplished by either the pilot or the copilot.

- Alert is given if the aircraft approaching the gate is not the aircraft type set to be docking.

- Large 8 inch highly visible alphanumeric display for the pilot and the copilot.

- The familiar azimuth bar display format is used featuring large 12 inch high azimuth bars easily visible to the pilot or the copilot.

- The operator interface uses a full graphic display for the clarity of the information presentation.

- Optional multiple operator interface points per gate.

- Optional host computer communication options for reporting and control.

- Optional lockout input in the case that the passenger loading bridge is not parked.

- Optional lockout output to prevent the passenger loading bridge from moving until the aircraft is docked.

- Compliance to ICAO Annex 14 recommendations.

VDGS INTERIOR

SYSTEM OVERVIEW

The only existing AVDGS Systems brand fully complies ICAO Annex 14@ Follows Chapter 5.3.25.12

Aircraft Type

Move left

Move right

Distance to go

Stop line

One line -keep going
One lines- Red only
Two Lines-Stop
"Red & yellow"

Offcenterline

One line -A Little
Two line- Two Much

Keep Going

While Moving
if Stops, then Stop

Centerline

EQUIPMENT
OPERATOR PANEL

- Industrial grade color touch panel.

- One touch aircraft model selection, fast and convenient.

- Can be connected to computers for data maintenance and program updates.

- With Emergency Stop function.

- With Dead Man Switch function (Optional).

LIFE TIME STORAGE
FOR DOCKING SYSTEM

- New user friendly.
- Windows Embedded PC Units.
- Be able to record real time log files.
- Be able to be supported thru internet.
- Ease-controlled touch screen.
- Real time azimuth & speed display.
- Operators or ground staffs can focus on one panel only with correct docking information.
- Easy steps for new aircraft model added.

RLG Docking System — Docking Control Center
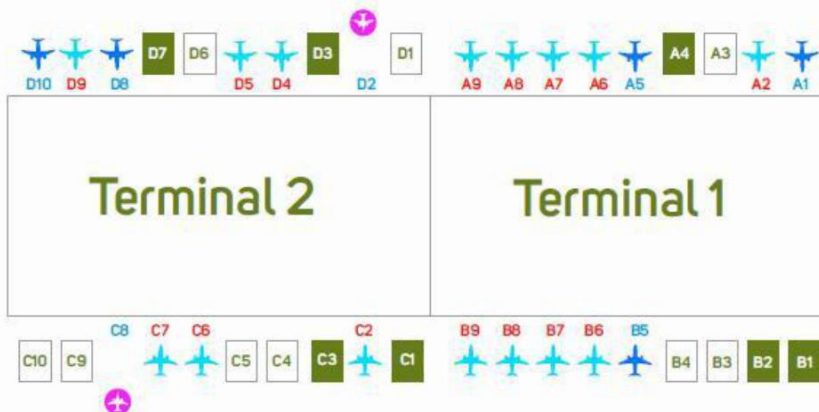
Scheduled Arrival

Gate	AD	ICAO No	Flight No	Aircraft	Estimated time
520	A	UPS064	5X064	B747	04-24 15:42:00
A4	A	CAL782	CI782	A333	04-26 15:15:00
B2	A	VAX	ZV006	A320	04-26 15:15:00
C1	A	BR272	BR272	B747	04-24 15:17:00

Arrival Non-check on/off

Gate	AD	ICAO No	Flight No	Aircraft	Estimated time	Actual time	Check

Flight status
- Schedule to Arrive
- Schedule to Departure

Docked Status
- Open
- Docking
- Parked
- Unidentified Aircraft Type
- Emergency Stop
- Equipment Malfunction

Parked Status
- Idle
- Parked
- On-site operation/Log Out
- Equipment Malfunction
- Disconnected
- Under Maintenance/Close

Check On
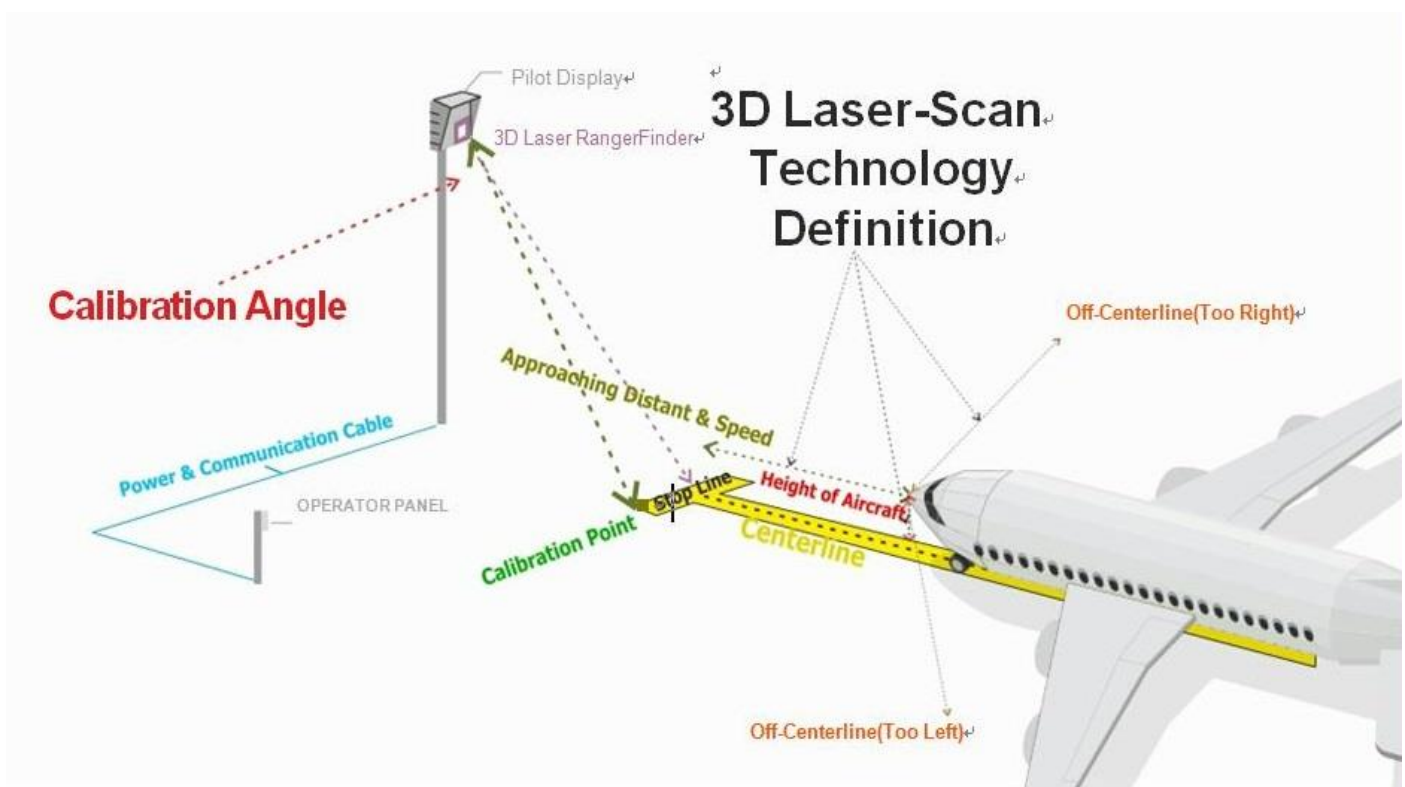Check Off
☐ Mute
☐ Show flight Info

- Easy to monitor live time status of all & each gate.

- Intergrate live time video of each gate.

- Intergrate FOS or FIS Information for future billing system upgradable.

- Clear report system of all the status or events for management.

- Extremely accurate recording of every & each step by 10 mini-second timing.

- Ease for RLG technicians to diagnose the issues.

- Clarify the problem once it happened.

- Be able to report system self-checking.

- Optional interface with PBB, GPU, PCA, CCTV, Flight Information System & Lead in Lights

- Provide the information to GOS (Gate Operation System), can be linked online with SITA AMS and provides in billing information and RIDS Support
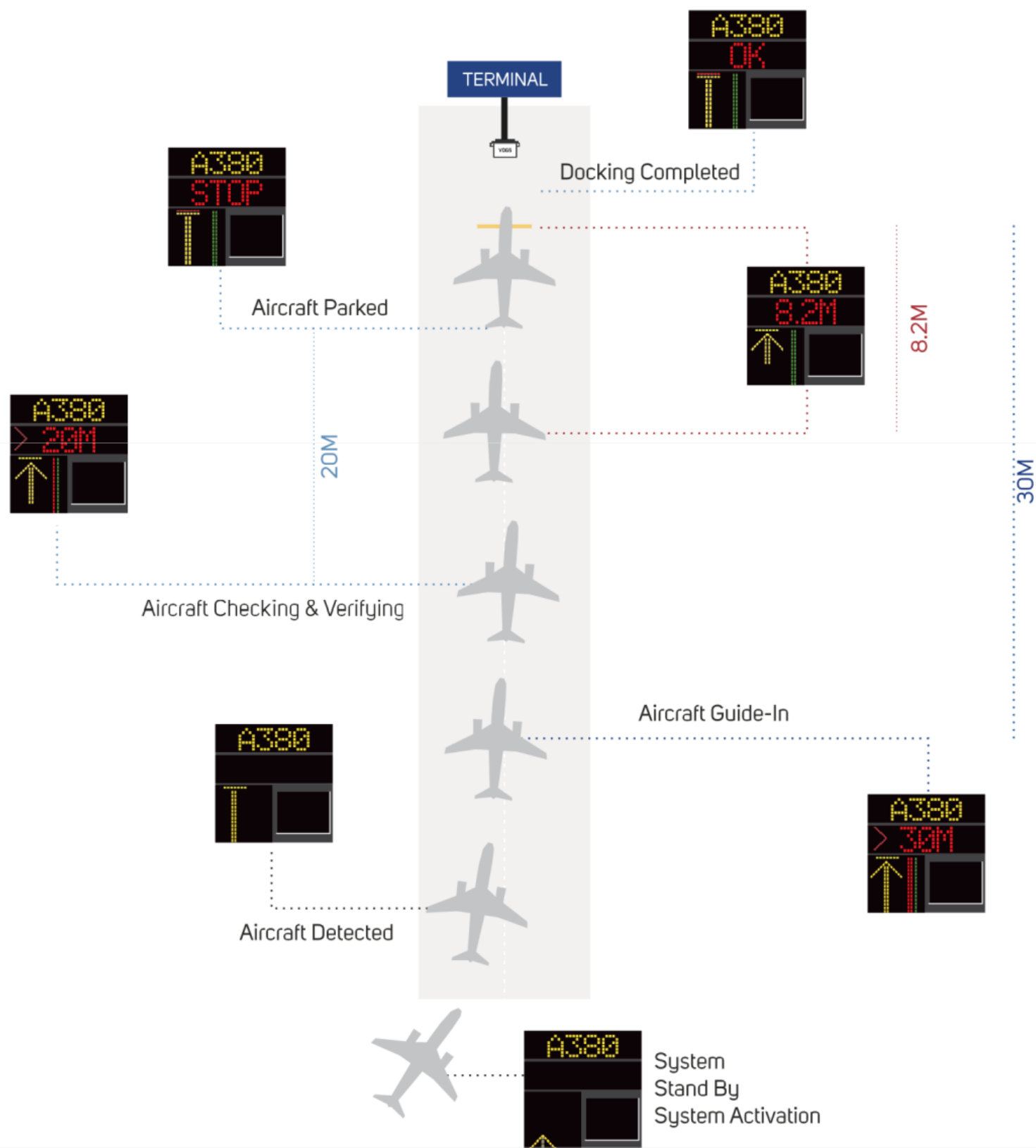

OUR COMPANY

RLG Docking Systems Corporation is a manufacturer of Advanced Visual Docking Guidance Systems for Airports and have more than 1000 installations at various airports worldwide. RLG Docking Systems introduced the first automated guide-in system in the World in year 1969. It utilizes cutting-edge laser technology to reduce error margins and enhance ease-of-use and installation. All RLG docking systems fully comply with ICAO Annex 14 recommendations. RLG guide-in system can accommodate all aircraft types without the error factors resulting from variations in aircraft height and gross weight. The docking can be accomplished by either the pilot or the co-pilot.

CONCEPT DESIGN OF AVDGS SYSTEM

- A stand guidance system is a system which gives information to a pilot attempting to park an aircraft at an airport stand, usually via visual methods, leading to the term Visual Docking Guidance System (VDGS) and also A-VDGS (the A standing for advanced) This allows them to remain clear of obstructions and ensures that passenger boarding bridge (PBB) can reach the aircraft.

- The RLG GIS 206- 2 Laser Guided Docking System safely guides the parking aircraft to the precise parking position at an airport terminal. The use of a 2 axis scanning range finder laser allows the RLG GIS 206-2 to present the parking information to both the pilot and the copilot simultaneously. Since the azimuth display is electronically controlled, the information gathered from the laser scanner is presented in a display console that can be easily read by either the pilot or the co pilot such that either can dock the aircraft.

- Further, the RLG GIS 206-2 compares the features of the aircraft that is approaching the gate to a stored database of various aircraft types. The system is able to alert the pilot, the copilot and the ground staff when the aircraft approachingthegateisphysicallyinconsistentwiththeselectedaircrafttype.

- The GIS 206-2 main display console is attached to the terminal building or other support fixtures that precisely lined up with, and perpendicular to, the extension of the aircraft J-line or center line as that line would approach the terminal building or support fixtures

- This aligns the laser portion of the RLG GIS 206-2 with the azimuth center of the parking aircraft. The height above the tarmac should be determined such that the 7 inch high alphanumeric display will be at a height for comfortable viewing by the pilot whether in the shortest or the tallest aircraft that will be parked.

- After the display console unit is physically secured, there is an electronics canning and setup procedure to ensure that the system will give the best possible performance. This results in the RLG GIS 206-2 guiding the aircraft to a precise parking position at the terminal building

OPERATION

A380
OK

Docking Completed

A380
STOP

Aircraft Parked

A380
8.2M

8.2M

A380
> 20M

20M

30M

Aircraft Checking & Verifying

Aircraft Guide-In

TERMINAL
VDGS

A380

Aircraft Detected

A380
> 30M

A380

System
Stand By
System Activation

A COMPLETE AND SUCCESSFUL
DOCKING PROCEDURE CONSISTS OF 6 STAGES.

a) System Standby

Turn ON the power from the Operator Panel, it will take less than 1 minute to complete the system boot-up. Upon completion, the system will go to Start-up screen and the system is ready for use.

b) System activation

Key-in the user password on the screen to log-on and access to the operation mode. Select require aircraft information on the screen and move to docking page. The selected aircraft type will appear on both the LED Display Console and Operator panel screen. The laser scanner is active now and the system is activated for aircraft docking.

c) Aircraft detected

When the aircraft approaching to the gate is detected, usually more than 40 meters from the stopping position, the azimuth green bar will display on the LED Display Console to alert the pilot.

d) Aircraft Guide-in

Aircraft guide-in information such as continuous closing distance and azimuth guidance will display on the LED Display when aircraft proceed slowly forward from the starting point of the centerline to the preprogrammed stopping position.

e) Aircraft checking & verification (OPTIONAL)

For Aircraft type ID verification features, When the aircraft slowly approaching to the stopping position, it must be identified and verified at least 12 meters before the correct stopping position. If this does not occur, the system will display "ID FAIL" followed by "STOP". At this point, the aircraft must be manually guided in by a mashaller.

f) Aircraft parked.

When the incoming aircraft reaches the preprogrammed stopping position, the LED Display will show „STOP" followed by „OK". If the aircraft has moved beyond the designated docking position and exceeded the pre-configured value, the LED Display will indicate „TOO FAR".

LIST OF SOME OF THE
GLOBAL REFERENCES

NO.	YEAR	LOCATION	UNIT SUPPLIED
1	2020	Krabi , Thailand	5
2	2019	Calicut, India	9
3	2018	Amritsar,India	10
4	2018	Varanasi,India	3
5	2018	Jaipur,India	6
6	2018	Srinagar,India	1
7	2018	Allahabad, India	2
8	2018	UBON, Thailand	1
9	2018	Bangalore, India	1
10	2017	Yangon	2
11	2016	Yangon	4
12	2014	C.K.S Taiwan	63
13	2012	Kuala Lumpur	80
14	2011	Taichung, Taiwan	5
15	2010	Saipan	6
16	2007	Phuket, Thailand	4
17	2004	Cusco, Peru	4
18	2004	Taipei, Taiwan	10
19	2004	Jakarta, Indonesia	24
20	2003	Changsha, China	10
21	2002	Belem, Brazil	5
22	2001	Batam, Indonesia	4
23	2001	Rio De Janero, Brazil	27
24	2000	Anchorage	1
25	2000	Beirut, Lebanon	5
26	1999	Taipei, Taiwan	2
27	1999	Manila, Philippines	7
28	1998	Ho Chi Min City, Vietnam	2
29	1998	Baku. Azerbaijan	2
30	1998	Denver	8
31	1997	Yichang, China	2
32	1997	Sao Luis, Brazil	3
33	1997	Hyderbad, India	4
34	1997	Haikou, China	4
35	1997	Calgary, Canada	4
36	1997	Beirut, Lebanon	5
37	1997	Taipei, Taiwan	10
38	1997	JFK, New York	11
39	1996	Quebec City, Canada	2
40	1996	Guilin, China	7
41	1996	Edmonton, Canada	1
42	1996	Los Angeles	5
43	1996	Saipan	4
44	1996	Xiamen, China	5
45	1996	Los Angeles	5
46	1996	Denver	7
47	1995	Vancouver, Canada	11
48	1995	Brisbane, Australia	8
49	1995	Shun San, Taiwan	8

NO.	YEAR	LOCATION	UNIT SUPPLIED
50	1995	Johannesburg, RSA	12
51	1995	Kaohsiung, Taiwan	12
52	1995	Calgary, Canada	1
53	1995	Colorado Springs	1
54	1995	San Francisco	4
55	1995	Xiamen, China	6
56	1995	Saipan	2
57	1995	Ubon, Thailand	2
58	1995	Fuzhou, China	7
59	1995	Penang, Malaysia	8
60	1995	Curitiba, Brazil	6
61	1995	Cebu, Philippines	1
62	1994	Wuhan, China	3
63	1994	Cebu, Philippines	2
64	1994	Nashville	1
65	1994	Chiang Rai, Thailand	1
66	1994	Edmonton, Canada	4
67	1994	Brazilia, Brazil	10
68	1994	Jin Mien, Taiwan	3
69	1994	Singapore	5
70	1994	Kwang-Ju, Korea	2
71	1993	Bangkok. Thailand	8
72	1993	Chiang Mai, Thailand	2
73	1993	Chicago	27
74	1993	Saipan	2
75	1993	Denver	13
76	1993	St. Petersburg, Russia	3
77	1993	San Francisco	1
78	1993	Johannesburg, RSA	1
79	1993	Singapore	17
80	1993	Calgary, Canada	2
81	1992	Adelaide, Australia	1
82	1992	Phuket, Thailand	1
83	1992	Saipan	2
84	1992	Honolulu	4
85	1992	Baku, Azerbaijan	2
86	1992	Wuhan, China	3
87	1992	Taipei, Taiwan	11
88	1991	Bali, Indonesia	4
89	1991	Shanghai, China	8
90	1991	Taipei, Taiwan	1
91	1991	Maui, Hawaii	18
92	1991	Nassau, Bahamas	6
93	1991	Phoenix	1
94	1991	Warsaw, Poland	8
95	1991	Lisbon, Portugal	6
96	1991	Montreal, Canada	1
97	1991	Seoul, Korea	2
98	1990	Saipan	2

LIST OF SOME OF THE
GLOBAL REFERENCES

NO.	YEAR	LOCATION	UNIT SUPPLIED
99	1990	Maui, Hawaii	1
100	1990	Kuala Lumpur	2
101	1990	Vancouver, Canada	2
102	1990	Montreal, Canada	1
103	1990	Guangzhou, China	4
104	1990	Phoenix	37
105	1990	Philadelphia	12
106	1989	Edmonton, Canada	1
107	1989	Phoenix	1
108	1989	San Francisco	5
109	1989	Toronto, Canada	18
110	1989	Las Vegas	1
111	1989	Phuket, Thailand	2
112	1989	Hat Yai, Thailand	2
113	1989	Xian, China	3
114	1989	Calgary, Canada	2
115	1988	Sao Paula, Brazil	35
116	1988	Vancouver, Canada	1
117	1988	Honolulu	4
118	1988	Calgary, Canada	1
119	1988	Taipei, Taiwan	8
120	1988	Guangzhou, China	3
121	1987	Miami	19
122	1987	Singapore	14
123	1986	Manaus, Brasil	5
124	1986	Bangkok, Thailand	25
125	1986	Omaha	1
126	1986	Salt lake City	5
127	1985	Sao Paula, Brazil	22
128	1985	Halifax, Canada	4
129	1985	Salt Lake City	4
130	1984	Los Angeles	2
131	1984	Philadelphia	1
132	1984	Los Angeles	11
133	1984	Taipei, Taiwan	2
134	1983	Denver	3
135	1983	Taipei, Taiwan	8
136	1982	Anchorage	8
137	1982	Kuala Lumpur	14
138	1980	Manila, Philippines	14
139	1980	Jeddah, Saudi Arabia	6
140	1980	Seoul, Korea	8
141	1980	New York	11
142	1980	Singapore	22
143	1980	Helsinki, Finland	5
144	1980	Guam	4
145	1979	Portland	2
146	1977	Penang, Malaysia	6
147	1976	Portland	2

NO.	YEAR	LOCATION	UNIT SUPPLIED
148	1976	Anchorage	2
149	1976	Juneau	1
150	1976	Boise	1
151	1976	San Francisco	2
152	1975	Vancouver, Canada	1
153	1975	San Francisco	9
154	1975	Seattle	2
155	1975	Los Angeles	2
156	1974	Calgary, Canada	1
157	1974	San Francisco	2
158	1974	Seattle	2
159	1974	Los Angeles	5
160	1974	Las Vegas	3
161	1974	Denver	3
162	1973	Minneapolis	3
163	1973	Denver	3
164	1973	Seattle	3
165	1973	Portland	2
166	1973	Ketchikan	2
167	1973	Fairbanks	1
168	1973	Seattle	1
169	1973	Anchorage	3
170	1973	Houston	6
171	1973	Dallas	4
172	1972	Kansas City	3
173	1972	Portland	2
174	1971	Seattle	3
175	1971	Honolulu	21
176	1968	Los Angeles	6

RLG GIS206-2 SPECIFICATIONS

Operator Panel Display Type	Color LCD Touch Panel
Operator Panel Interface	Serial Communication RS 422/485
PC connectivity for maintenance	TCP/IP 10/100/1000 Base T
Operator Panel IP level	IP 65
Operator Panel Operation Temperature	-25 º C~ +55 º C
Processor	IntelR Atom Processor N2600 1.6GHz(or greater)
SO-DIMM up to 2GB USB	4x USB
HDD	8GB Cfast
Display Type	8.4" TFT-LCD
Power Input	12~24V DC
Construction	Aluminum Front Bezel & SGCC
IP Rating	IP65 front bezel
Net Weight	2.3kgs
Certification	CE/FCC Class/UL
Operating System Support	Windows
Operator Panel Dimensions	"400 mm(W) x 300 mm(H) x 150 mm (D) (Inner box box)665mm(W) x 600mm(H) x460mm(D) (Carton and fixed with ear)"

ADVGS Display System GIS-206-2

System Power	AC Input: 85~240V, 50Hz~60Hz, Auto Select<210 Watts
Laser Category	FDA CDRH Class 1, Eye Safe, 905nm
Horizontal Scan	+ /-15 degrees
Vertical Scan	-5 (up) / +25 (down) degrees
Range	150 meters
Range Accuracy	0.2m at 150 meters; 0.1m at <50 meters
Azimuth Accuracy	0.2 degrees
Stop Position Accuracy	0.1 meters
Maximum Centerline supported	3
Display Character Height	202 mm
Display Visibility Distance	150 meters
Display Type	LED (3 colours)
Pilot Display Panel Material	Aluminum
Pilot Display Console WeightApp	70kg (including Laser Unit)
IP level	Ip54
System Operation Temperature	-25 º C~ +55 º C
System Operation Humidity	5% - 95% (non condensing)
RIDS Support	Yes(Optional)
Wireless Support	Yes, External USB Dongle, support 802.11n Wi-Fi
Included Accessories	"Q/G, Power Adapter, Power Cable, I/O Cable, CDROM(User Manual, Free Bundle NVR), Stand"
Standards	FCC Part15 SubpartB / CN EN5022 Class B, EN55024 / LVD / RoHS/EMC
Pilot Display Console	"1012mm(W)x1105mm(H)x650mm(D) (Carton and fixed with ear)940 mm(W)x1072 mm(H)x289 mm(D) (No housing)"
Surveillance Camera	1 Surveillance Camera Standard Equipped in GIS-206-2 Optional Dual Cameras Support Available

NOTE: WE RESERVE THE RIGHT TO CHANGE THE SPECIFICATION WITHOUT NOTICE.

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