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Prepared By	Ivan Potter	Prepared For	iLED PTY LTD
Description	Apple Ipad as GUI for Speakercraft and Rako using Global Cache and Command fusion.		



iLED (PTY) Ltd  
Tel: +27 11 958 2529  
Fax: +27 11 958 2591  
Email: info@iled.co.za

41 Willow Brook Office Park  
BLOCK C Van Hoof Street  
Ruimsig

Roodepoort  
P.O. Box 3221  
Wilropark  
1731

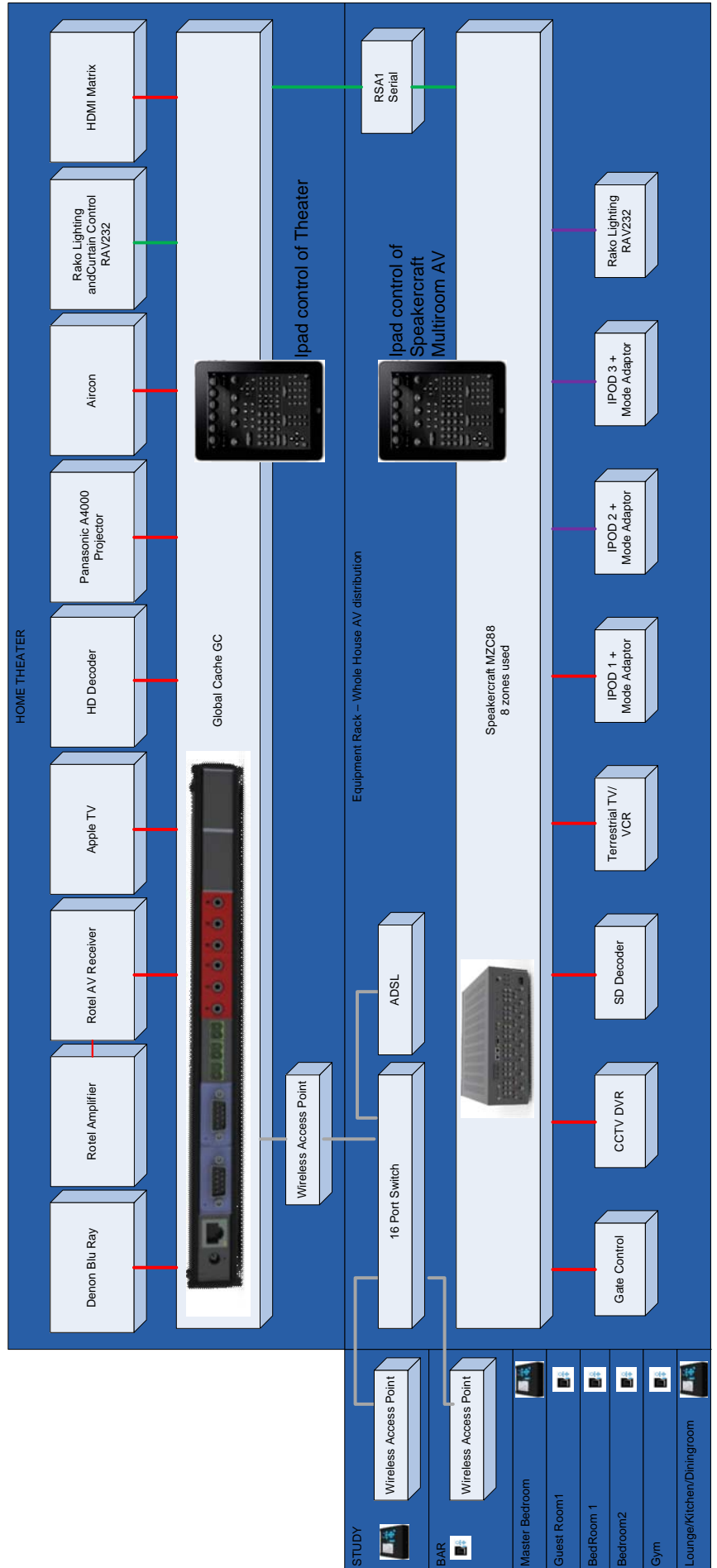
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*Description of project implementation of a distributed home AV system using speakercraft and integrated home theater using Global Cache. The entire system is operated using an IPAD running Command fusions iViewer.*

**System Architecture**



## General Description

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The system has the following basic parts

1. Speakercraft Distributed AV system
2. Home theatre system
3. Lighting System
4. Security System
5. Ipad and Itouch control

## Speakercraft Distributed AV system

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The system consists of a fully configured Speakercraft MZC88. All 8 zones and 6 sources are used. The zones are controlled using wall mounted mode keypads. 2 zones have mode free keypads. IPAD/ITOUCH control is available in all zones.

## Home theatre system

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A dedicated home theatre with Panasonic A4000 projector, Denon BluRay, Rotel AV processor and amplifiers, Speakercraft Tantra Sub woofers. An apple TV and HD decoder provide HDMI sources.

## Lighting system

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Rako lighting system controls all the interior and exterior lights as well sprinkler system

## Security System

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A 16 channel digital Video recorder interfaced to Speakercraft allow the CCTV images to be viewed from any display device in the house. Image selection and PTZ control is handled via IR commands from Speakercraft. Arm/disarm of the Intrusion Panel is done via contact closures on the GC100.

## Communications Layer

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The individual systems are glued together using a Global Cache GC100-12 configured as follows

1. Serial 1 – RS232 to speakercraft RSA1.0 at 57600baud
2. Serial 2 – RS232 to Rako RAV232 at 9600 baud
3. Relay1 – Volt Free contact Gate Control
4. Relay2 – Volt Free Arm/disarm of Perimeter
5. Relay3 – Volt Free Arm/disarm of House
6. IR 4/1 to 5/3 – IR control of theatre equipment
7. Speakercraft IR – control of house source devices

## User Interface Device

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The user interfaces are a mixture of Speakercraft mode keypads and mode free keypads in each of the 8 zones. An additional Ipad and Itouch have been added using Command Fusion as the GUI. The Ipad/Itouch (referred to as the Ipad interface) provides complete control of all the systems using the wireless network.

## Interfacing to Speakercraft

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Speakercraft provides an RS232 serial interface to communicate to the MZC controller. This protocol is HEX based which leads to difficult implementation. I have developed a code generator to simplify the engineering. By using the Speakercraft project print out, simply use the Code Gen to create the GUI command or XML output. More info is available on our website. Follow the links to the code gen manual. At this stage no Meta Data feedback has been implemented – I will shortly be releasing an RS232 interface to Speakercraft that will provide ASCII control and feedback using a simplified protocol.

## Interfacing to RAKO

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Rako provide a simple ASCII protocol to allow full control of the lighting. I have installed a RAV232 on both Global Cache and on the Speakercraft MZC to allow full control from any of the user interfaces. The interfaces are set to 9600 baud.

## Comments

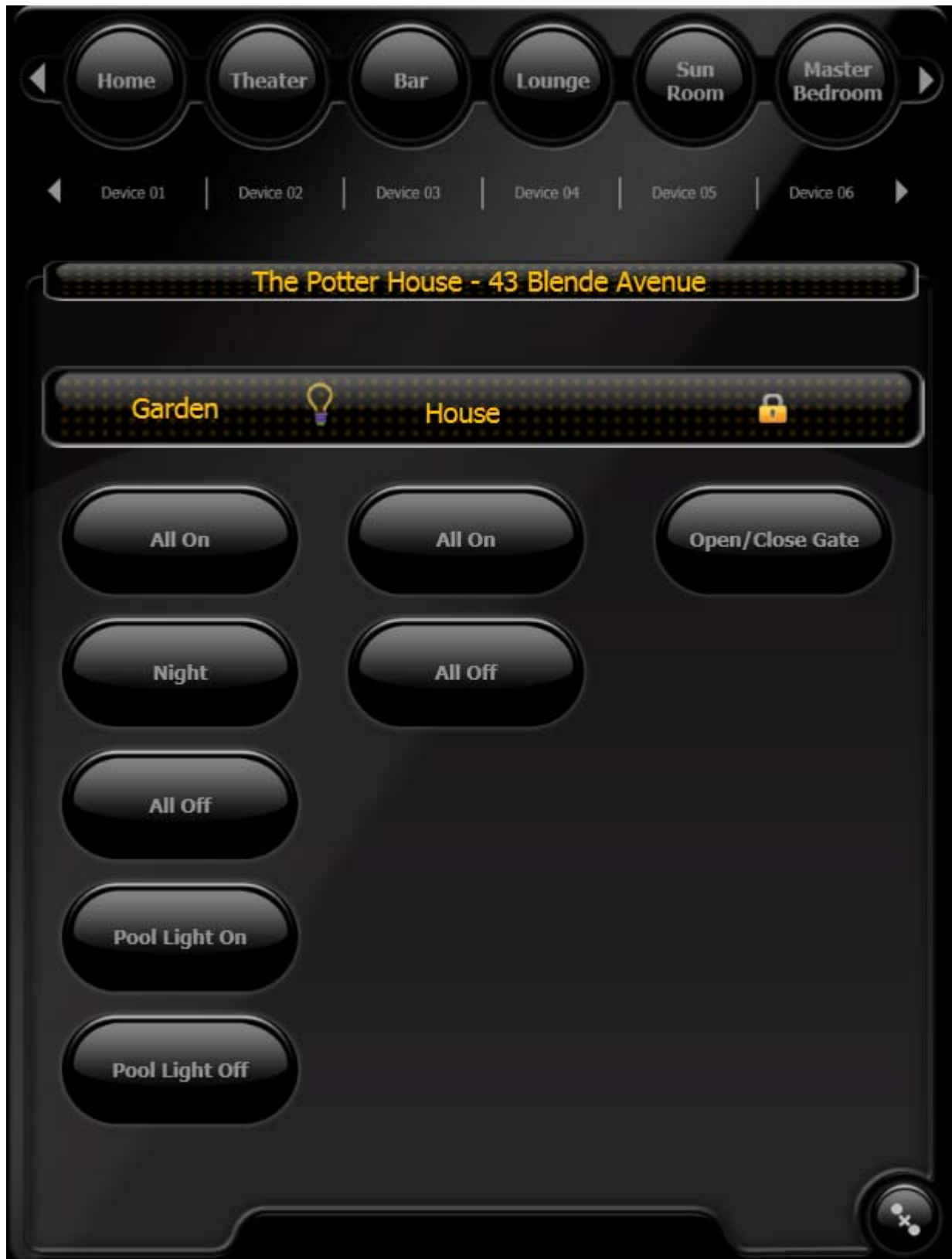
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Full meta data feedback is required to take this solution to the next level. I have finalised the design of a Speakercraft state machine interface (SSM). This will simply replace the RSA1.0 and act as a translator between third party systems requiring control and meta data feedback of a Speakercraft MZC. The iLED SSM will be released in the last quarter of 2010. The SSM will communicate to the MZC on the standard expansion port and build a state machine by interrogating the MZC continually. A simple ASCII protocol will provide access to the required information via an RS232 port. This will allow full control plus meta data feedback. Release 1 will incorporate the CommandFusion protocol.

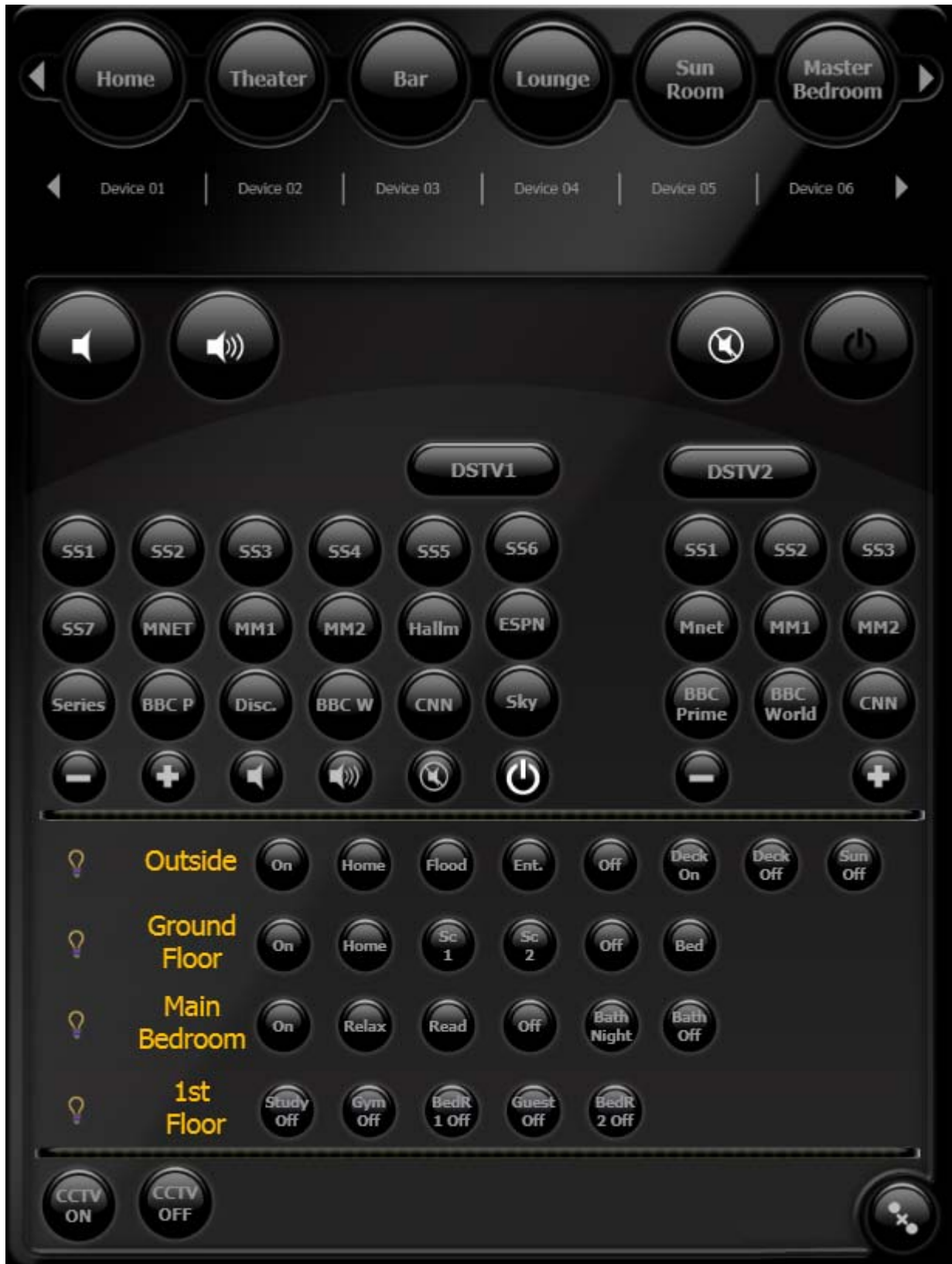
The SSM will open the door for full third party control and feedback .

GUI Designer Screen Dumps Portrait – IPAD

Start Screen



Master Bedroom



Home theatre

