

# THINKWARE

KG S&C-AUDIO Product Description:

Product name : Smart Audio

Model : H1RU



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## Product Overview

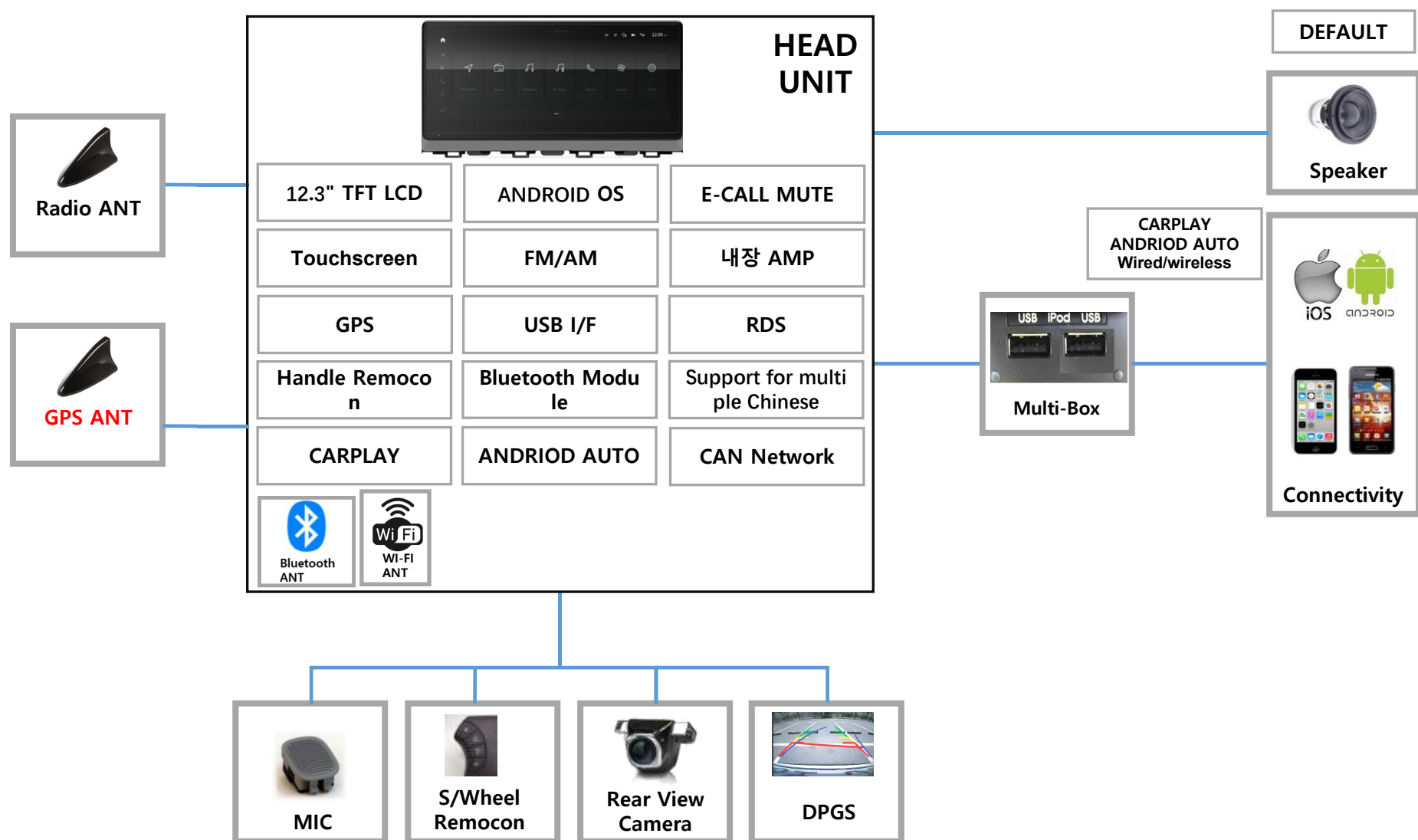


- Production type : LCD integrated type
  - LCD : 12.3" (1920 × 720) TFT LCD
  - Silver Box : 1 DIN
  - Touch type : Touchscreen
  - Radio : AM/FM/RDS
  - Function : USB(USB 2.0) 1CH, Bluetooth 4.2 , **WI-FI, GPS**
  - AMP Type : Internal 4CH AMP
  - RVC : HD级 (LVDS)
  - Phone Connectivity : CarPlay (Wired/wireless), Android Auto(Wired)
  - KEY : Full Touch KEY
  - Accessory : S/Wheel Remote Control, Antenna (Radio), MIC (0dB)
- ❖ RVC : Rear View Camera

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## KG S&amp;C Low cost S-AUDIO

## Product function composition diagram



ST\_REMOCON\_IN : ADC Input

FUNCTION	电阻值 (ohm)	OUTPUT VOLTAGE RANGE(V)
VOL-	100	0
VOL+	649	0.4
MODE	1.5K	0.8
SEEK UP	2.67K	1.2
SEEK DOWN	4.42K	1.6
BT ON/OFF	7.32K	2.0
MUTE	12.4K	2.4
VOICE	26.1K	2.8

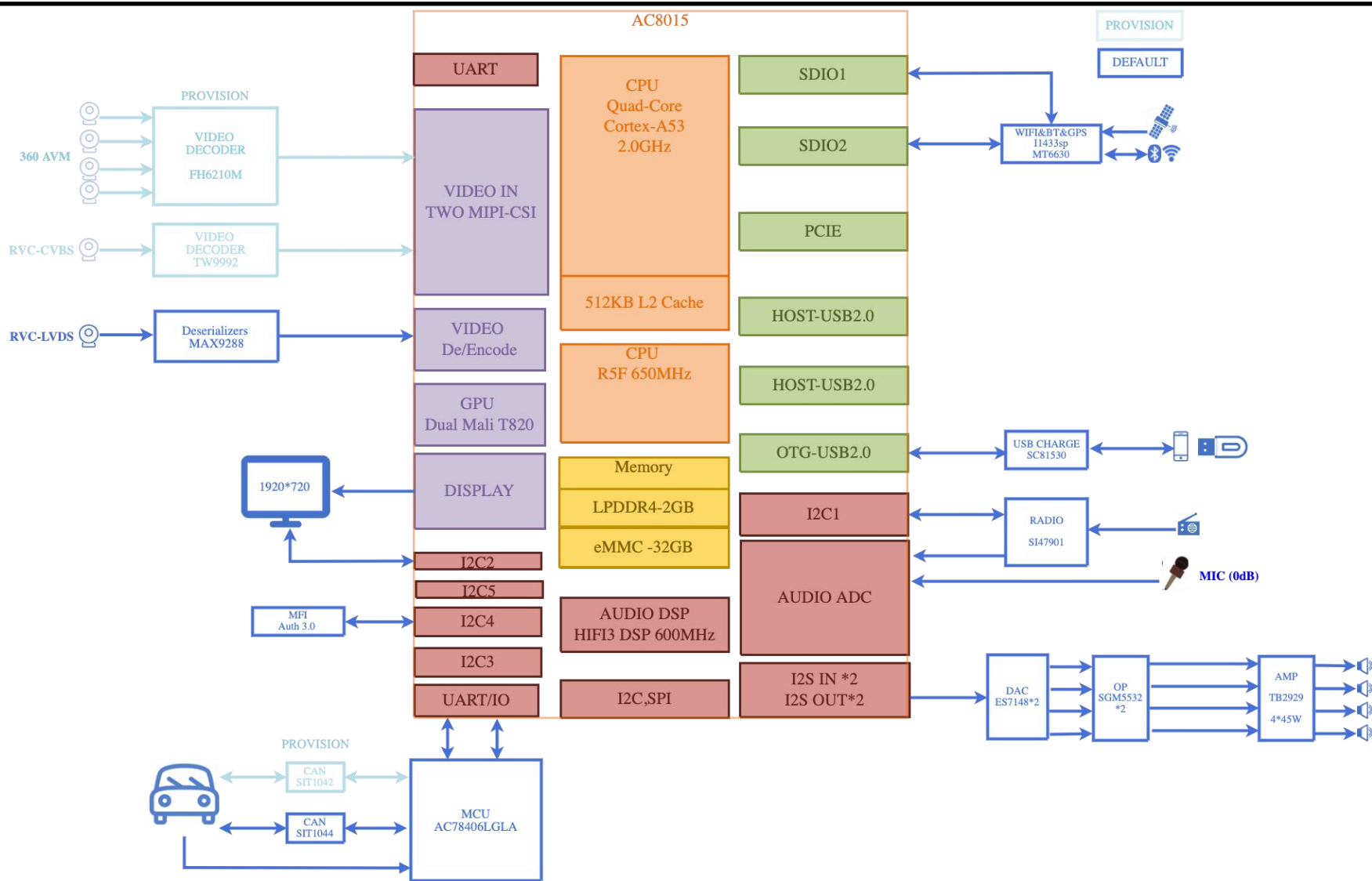
## Product Design Specifications

ITEM	S-AUDIO output	备注
All-in-one display	●	12.3 inch LCD (1920 X 720)
OS	Android	
CPU	Cortex-A53 Quad Core	AC8015
RAM	2GB	LPDDR4
ROM	32GB	eMMC
Touch type	Capacitive(G-G)	12.3 inch AIR GAP Type (ESD spec AIR 15KV)
Wi-Fi	●	
CarPlay	●	
Android Auto	●	
USB	● (1Port)	Connected Multi-BOX, USB 2.0 以上 support
CARBIT	X	PHONE Connectivity
Bluetooth	●	BT4.2以上, Support Blue phone call, Phone book and Bluetooth music.
DPGS	●	
Rear View Camera	●	LVDS CAMERA
Audio AMP	Built	
CAN Network	●	Reverse、speed pulse
GPS	●	
RDS	●	RADIO RDS
Clock	●	Manual
KEY	●	Full Touch KEY
E-CALL MUTE	●	Hardwire Sound Mute Only
National certification	overseas	Basic (CE, FCC), Brazil (ANATEL), Chile (SUBTEL) : Subsequent additions to the country are communicated separately
Language	●	12 countries: English, French, Italian, German, Spanish, Dutch, Russian, Turkish, Portuguese, Chinese

## HW Design Specifications

Name of Parameter	Spec	Remarks
Rated operational voltage	12V	
Operating Voltage range	10V ~ 16V	
Max current	$\leq 10A$	
Max Power out put	4 x 25 W	Load R : 4x4 $\Omega$
Operating Temperature	-20°C ~ 70 °C	
Storage Temperature	-30°C ~ 80 °C	
Relative humidity	$\leq 90\%$	
Deep standby static current	$\leq 1mA$	
Start Time	$\leq 15S$	
Camera Response Time	$\leq 2S$	

## HW Design Specification: Product System Block Diagram



## HW Design Specifications : Main components

NO.	IC/Module	Part Number	AEC-Q100	Manufacturer	Country	Operation Temperature	Storage Temperature
1	SOC	AC8015	YES	AutoChips	China	-40℃ ~ 85℃	-40℃~125℃
2	MCU	RH850	YES	RS	China	-40℃~125℃	-55℃~150℃
3	LPDDR4	FLXC2002G-N2/2GB	NO	Longsys	China	-25℃ ~ 85℃	-55℃ ~ 125℃
4	eMMC	KLMBG2JETD-B041/32GB	NO	SAMSUNG	Korea	-25℃ ~ 85℃	-40℃ ~ 85℃
5	DC TO DC	MP9447GL-Z	NO	MPS	U.S.A	-40℃ ~ 125℃	-55℃~150℃
6	DC TO DC	MPQ8633	NO	MPS	U.S.A	-40℃ ~ 125℃	-55℃~150℃
7	DC TO DC	MPQ2143	YES	MPS	U.S.A	-40℃ ~ 125℃	-55℃~150℃
8	USB CHARGE	MPQ4228	YES	MPS	China	-40℃ ~ 105℃	-40℃~150℃
9	RESET IC	SGM829-3.0XN5G	NO	SGM	China	-40℃ ~ 125℃	-40℃ ~ 125℃
10	AMP	TB2929HQ	NO	Toshiba	Japan	-40℃ ~ 85℃	-55℃~150℃
11	DAC	ES7148	NO	EVEREST	China	-40℃ ~ 85℃	-65℃~150℃
12	MFI	MFI343S00177	NO	APPLE	U.S.A	-40℃ ~ 85℃	-55℃~125℃
13	CAN	SIT1044QTK3	YES	SIT	China	-40℃ ~ 125℃	-55℃~150℃
14	RADIO	SI47901	YES	SILICONLABS	U.S.A	-40℃ ~ 85℃	-55℃~150℃
15	BT / WIFI	I1433sp	NO	IVT	China	-40℃ ~ 80℃	-40℃~105℃
16	Deserializers	MAX9288	NO	MAXIM	U.S.A	-40℃ ~ 85℃	-40℃~125℃
17	Touch Panel	BR11756R-123	NO	Touchtronic	China	-30℃ ~ 85℃	-30℃ ~ 85℃
18	LCD	HSD123JPW3	NO	HSD	China	-30℃ ~ 85℃	-40℃ ~ 85℃

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## KG S&C Low cost S-AUDIO

Software Design Specifications : Several representative GUI drafts



Home



Application



Radio



CarPlay

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

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RF warning for Mobile device:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

*THANK YOU !*