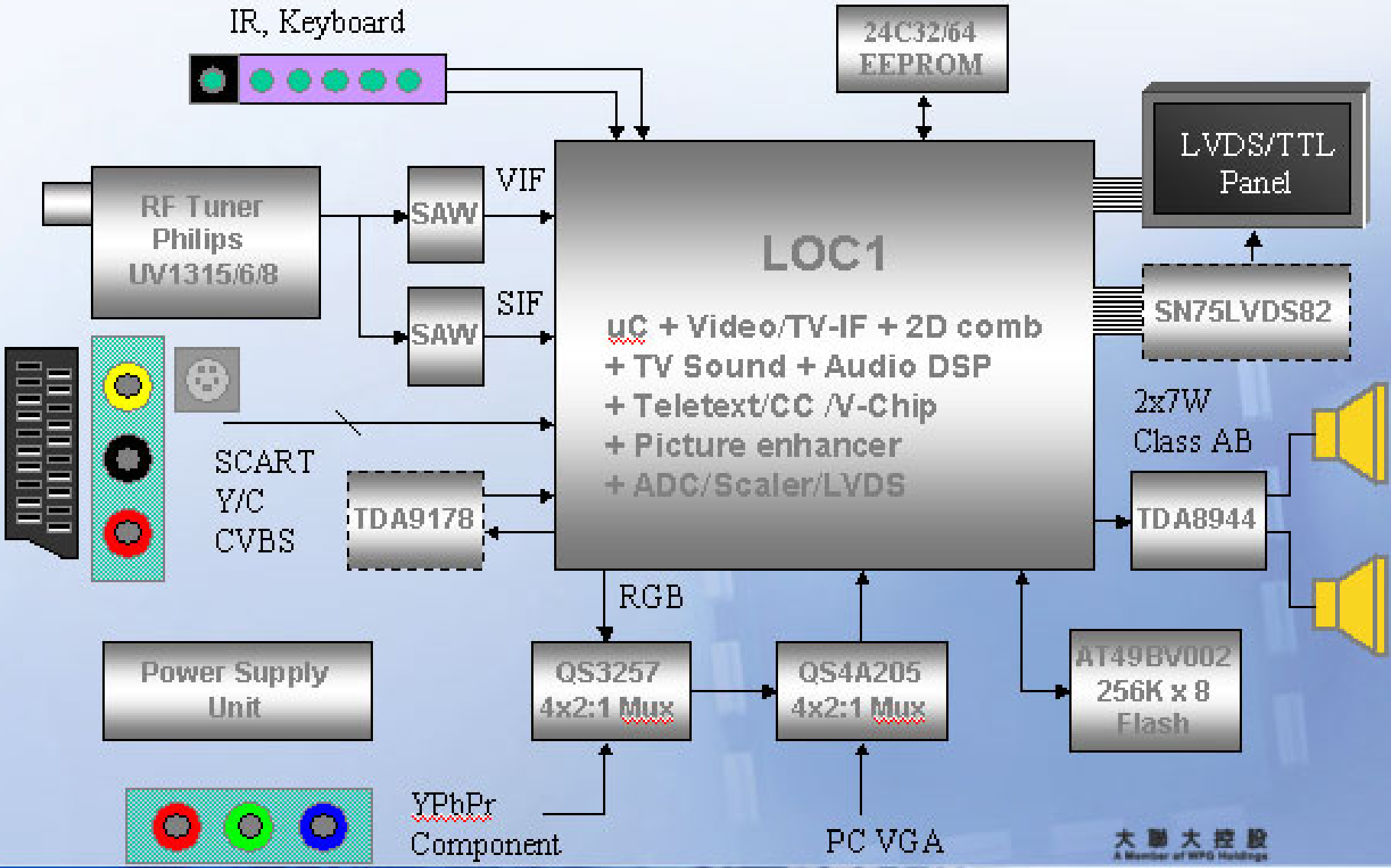
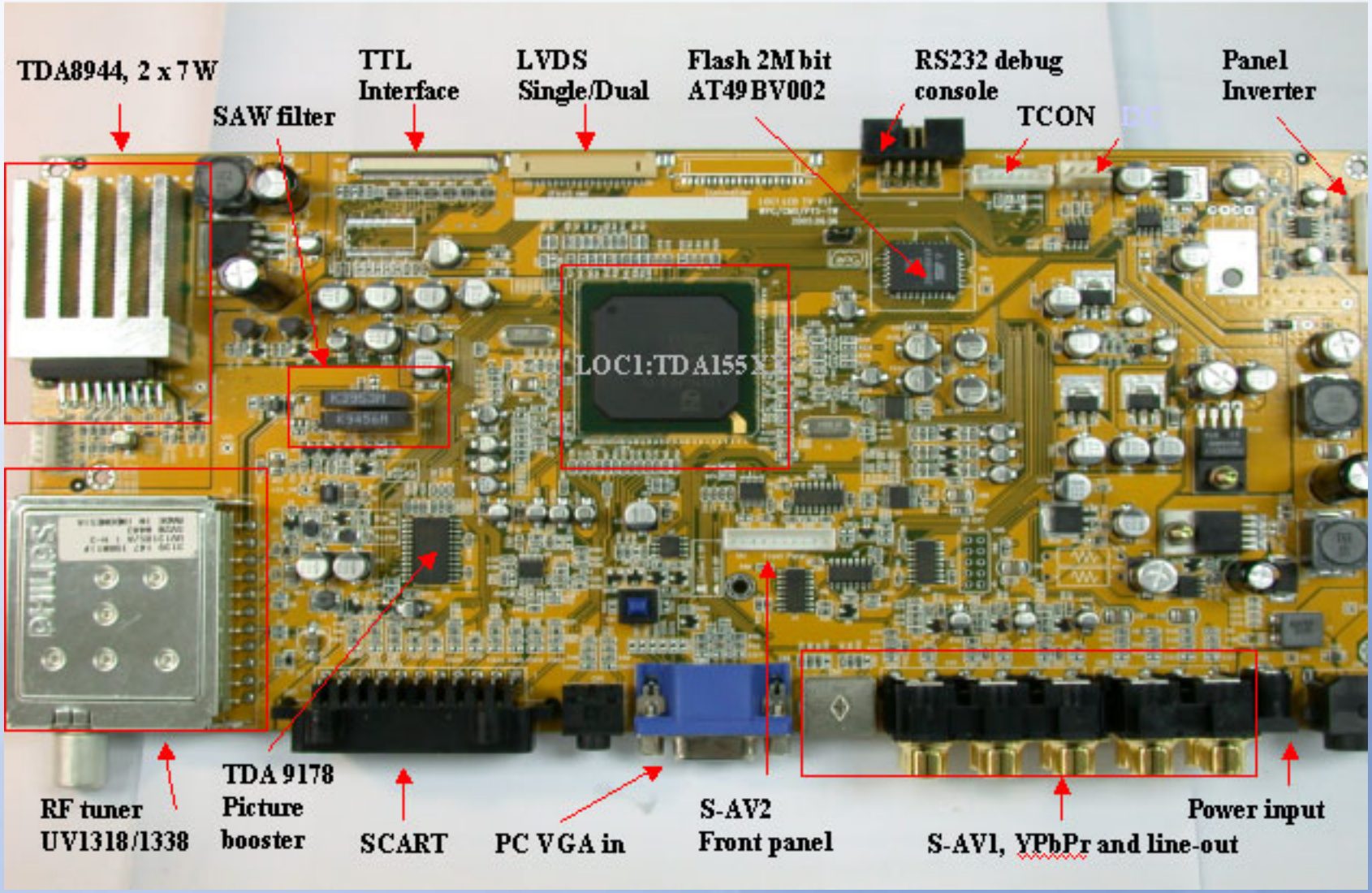
WPI LOC1 Solution Overview

- LOC1 system block diagram
- WPI LOC1 Reference Platform
- Platform functions and features
- S/W Tooling for LOC1 development

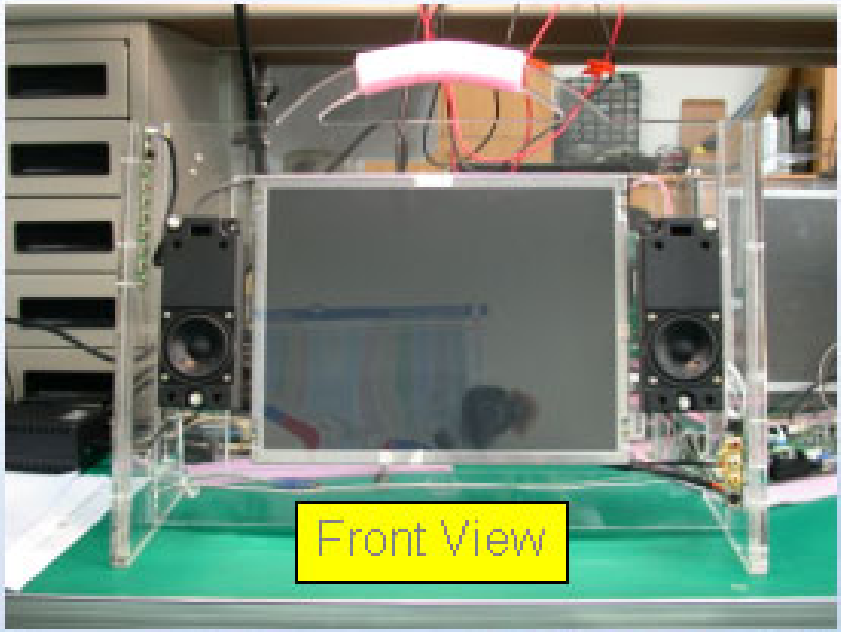
LOC1 system block diagram

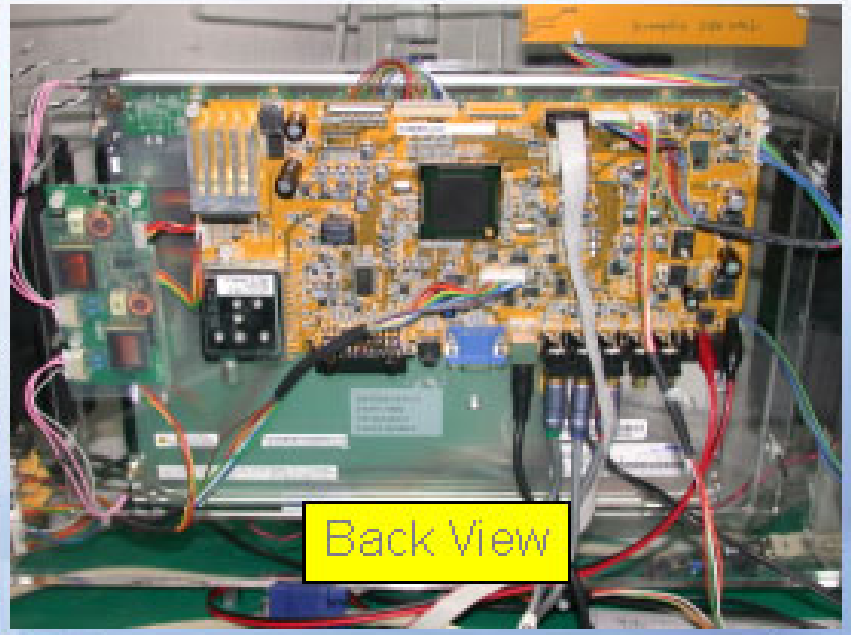


WPI LOC1 Reference Platform



WPI LOC1 Demo Set



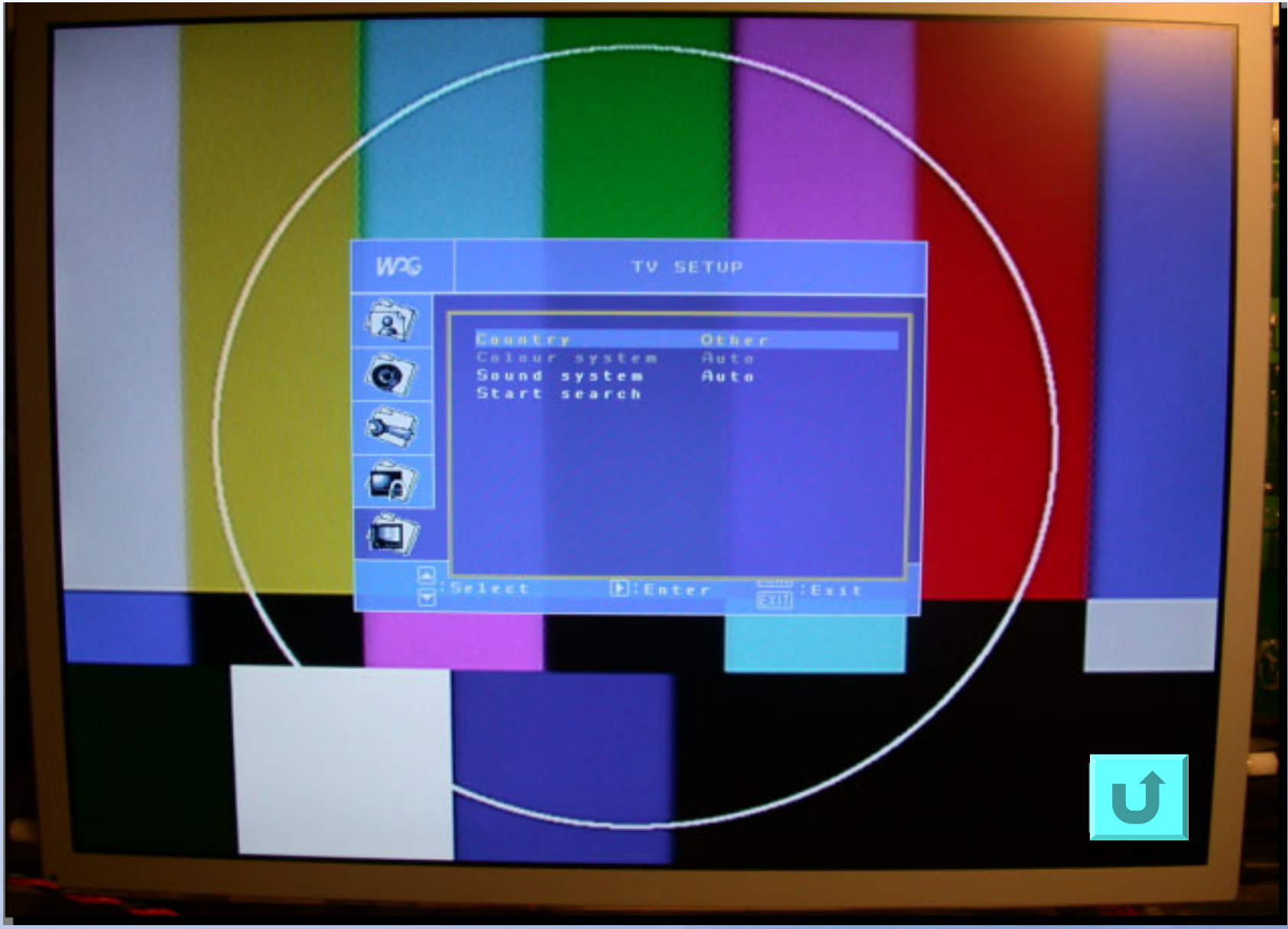


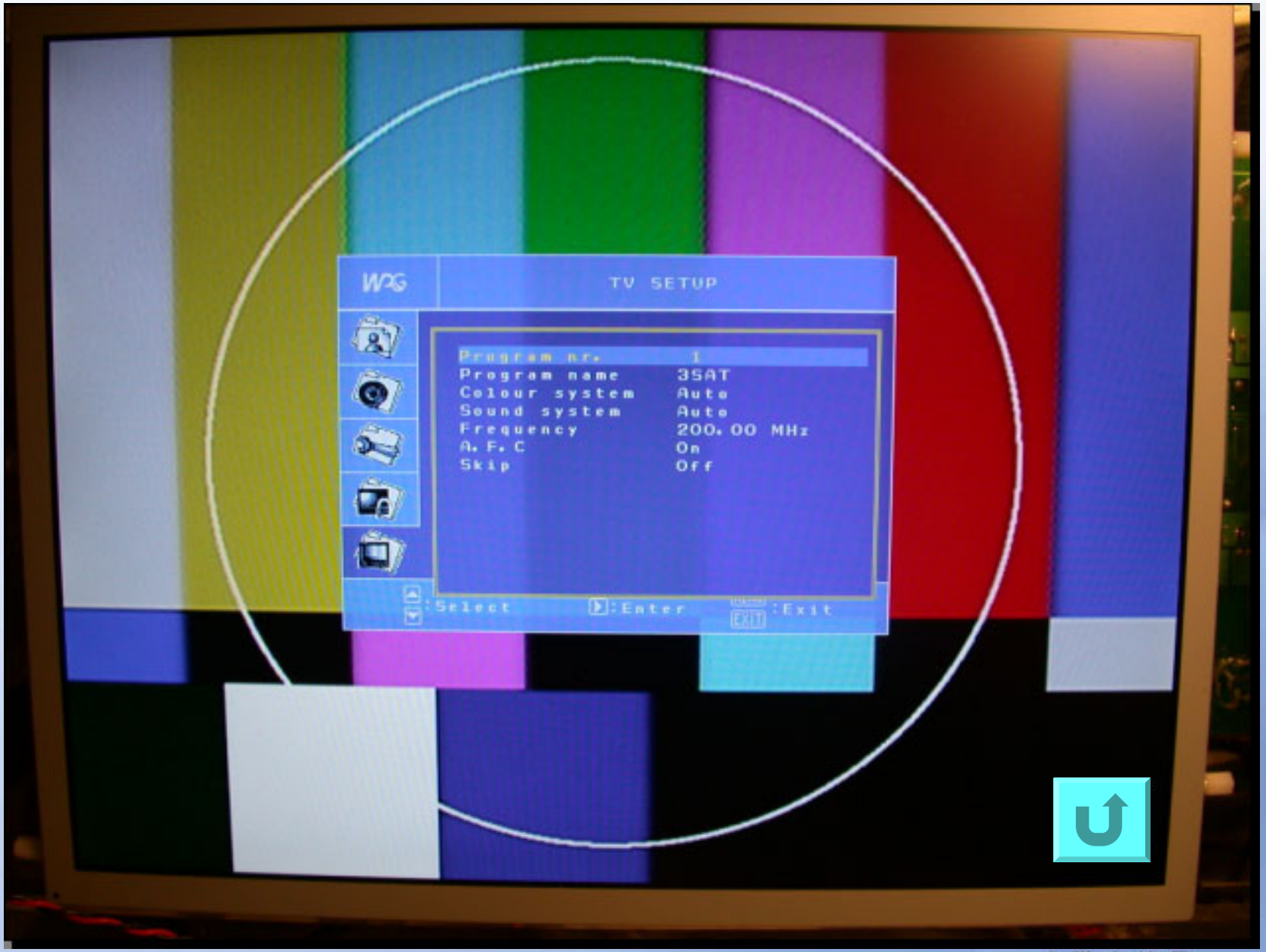
Platform Functions and Features

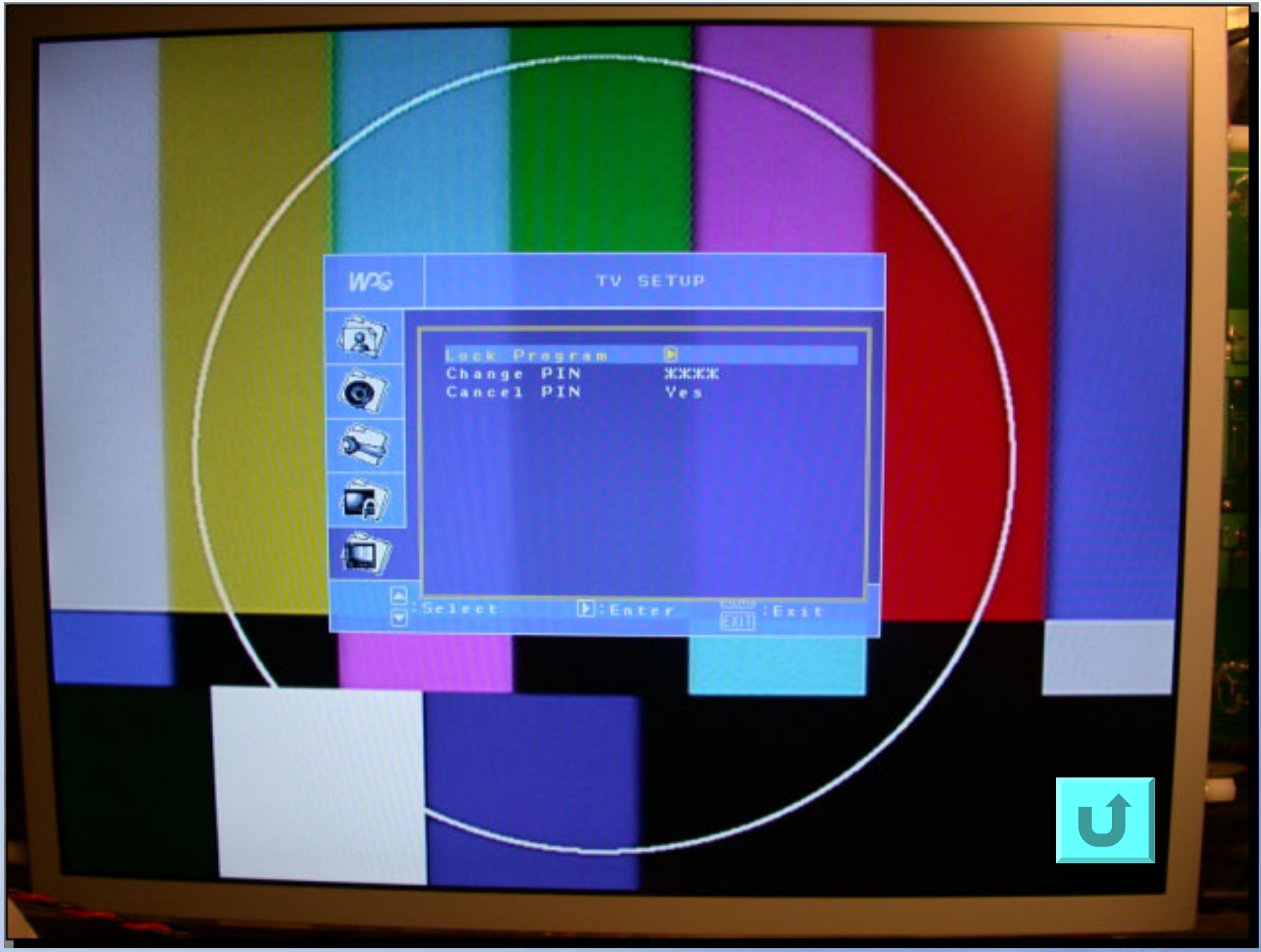
- Europe TV function specification
- Video function
- Audio function
- PC mode Features
- Panel Interface
- Power
- Other platform features

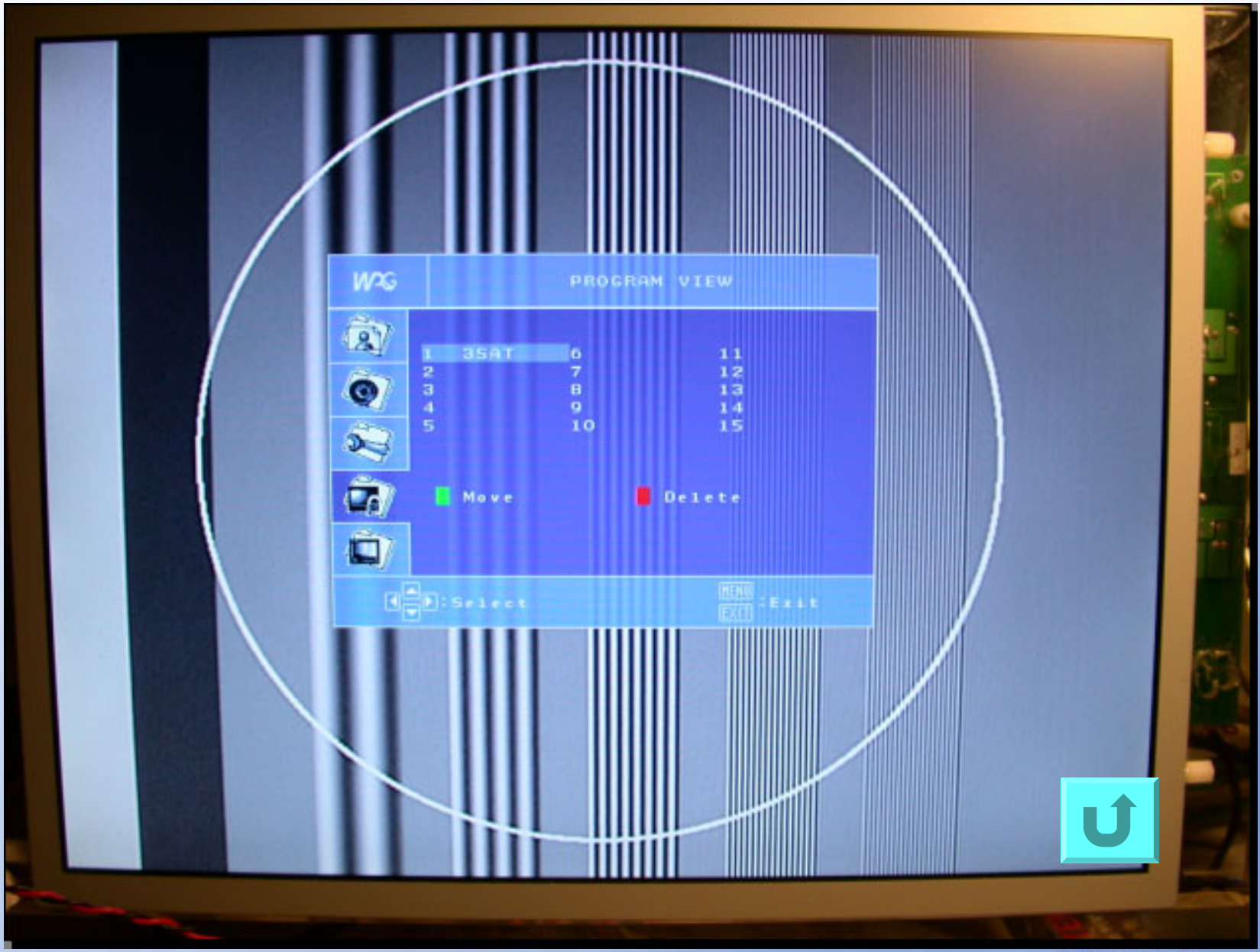
Europe TV function specification

- Tuner frequency range: 44MHz to 863MHz
- Tuner type: Philips UV1318A / UV1316 RF tuner
- Color standard: PAL/SECAM/AUTO
- Sound standard: B/G, D/K, I, L/L' and AUTO mode
  - automatic A2/NICAM sound detection and switch
  - Independent sound mode for each program
- Country base auto program search
- Manual program search with AFC function
- Support ATS/ACI functions
- Easy-to-use program editor
- Support Child lock function
- Support program sort/move/delete/skip function


WPG
TV SETUP
Country Other
Colour system Auto
Sound system Auto
Start search
:Select
:Enter
:Exit


WPG
TV SETUP
Program nr. 1
Program name 3SAT
Colour system Auto
Sound system Auto
Frequency 200.00 MHz
A.F.C On
Skip Off
:Select
:Enter
EXIT
:Exit


WPG
TV SETUP
Lock Program
Change PIN
Cancel PIN
Yes
:Select
:Enter
EXIT
:Exit

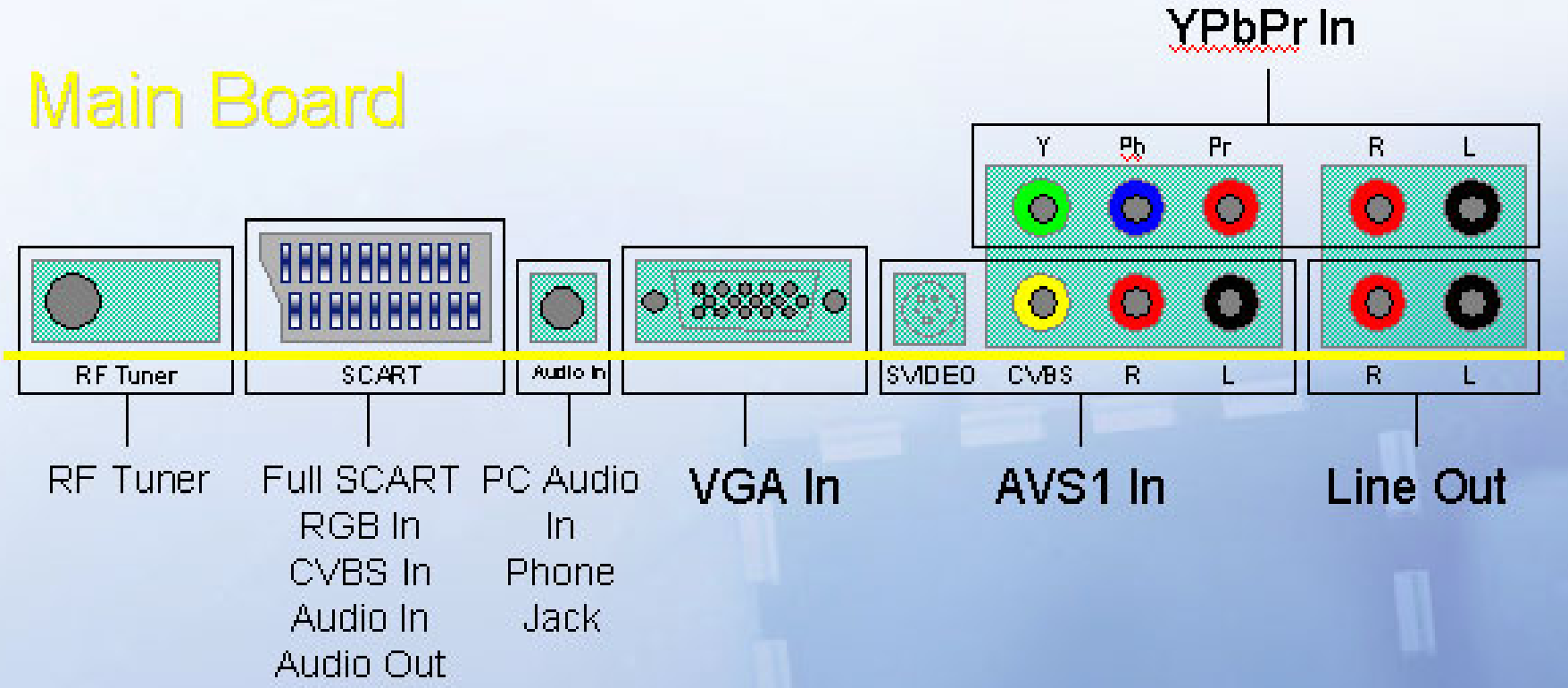

WPG
PROGRAM VIEW
1 3SAT
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Move
Delete
:Select
MENU
EXIT
:Exit

Video Functions

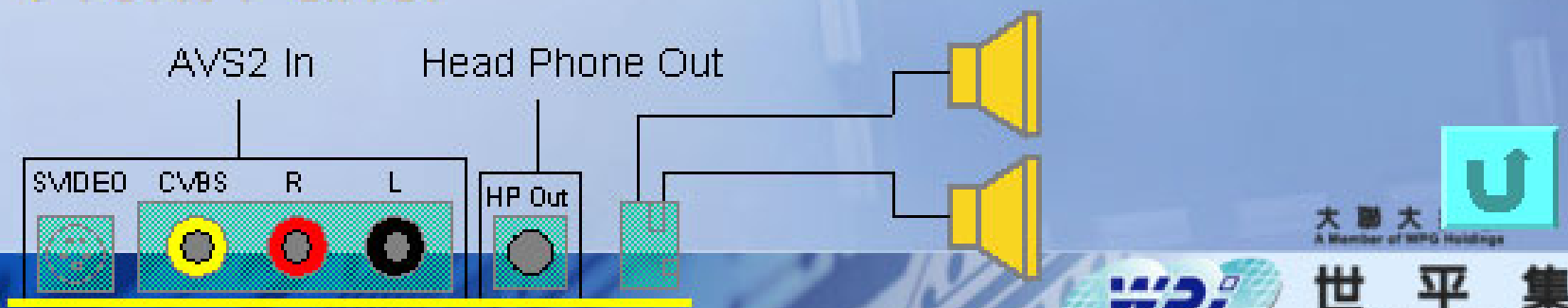
- One full SCART(RGB/CVBS) input with CANEL+ function support
- Two S-Video/AV inputs with automatic priority
- One YPbPr component input with 480i/576i/480P/576P/720P/1080i format support
- Multi-color system support for S-Video/AV input,
  - NTSC : NTSC-M, NTSC4.43
  - PAL: PAL-BGDKIN(Nc), PAL-M
  - SECAM: SECAM BGDK, L/L’
- 10-page Teletext at level 1.5, four teletext languages/character set support (West/East/Greek/Cyrillic)
- 4 video preset modes (Personal/Movie/Sport/Game)
- Video Brightness, Contrast, Hue, Sharpness, Backlight control
- Three white-tone adjustments (Cool/Neutral/Warn)
- Three zoom mode support (Normal/Compress/Expand)

WPI LOC1 PCB Input/Output

Main Board



Front Panel



Audio Functions

- Baseband audio control: Volume/Balance/Treble/Bass/EQ
- 4 audio preset mode support:
  Personal/Voice/Music/Theater
- 5 audio listening mode, selectable in Personal Preset mode
  Normal/Incredible mono/Incredible stereo/SRS-3D/Surround
- 2 x 7W class AB BTL power amplifier, plop noise free

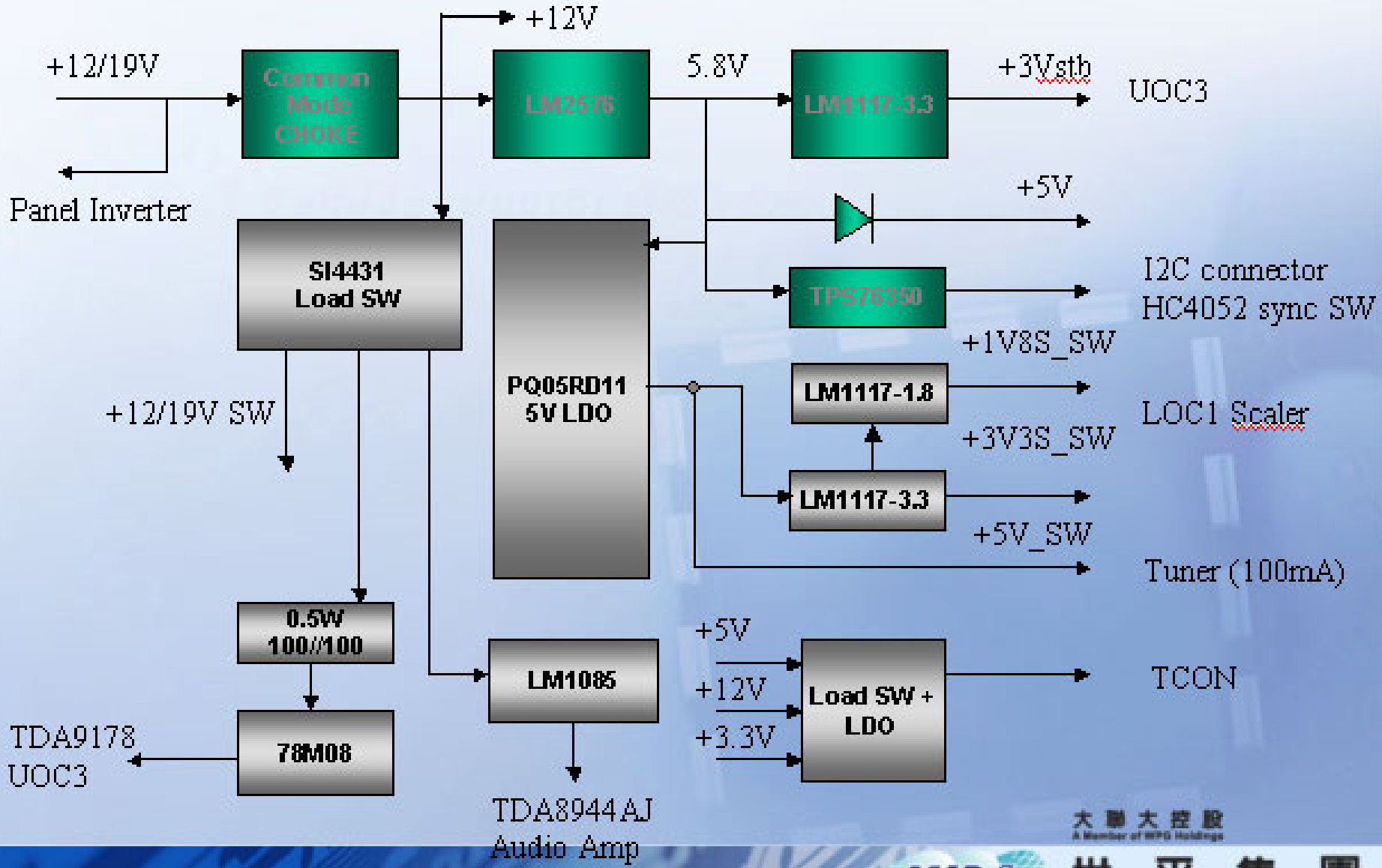
Panel Interface

- Display modes up to SXGA(1280x1024) and WXGA supported
- Single/dual pixel LVDS output
- Programmable LVDS signal and polarity
- TTL panel is supported by using TI SN75LVDS82 IC

PC mode Features

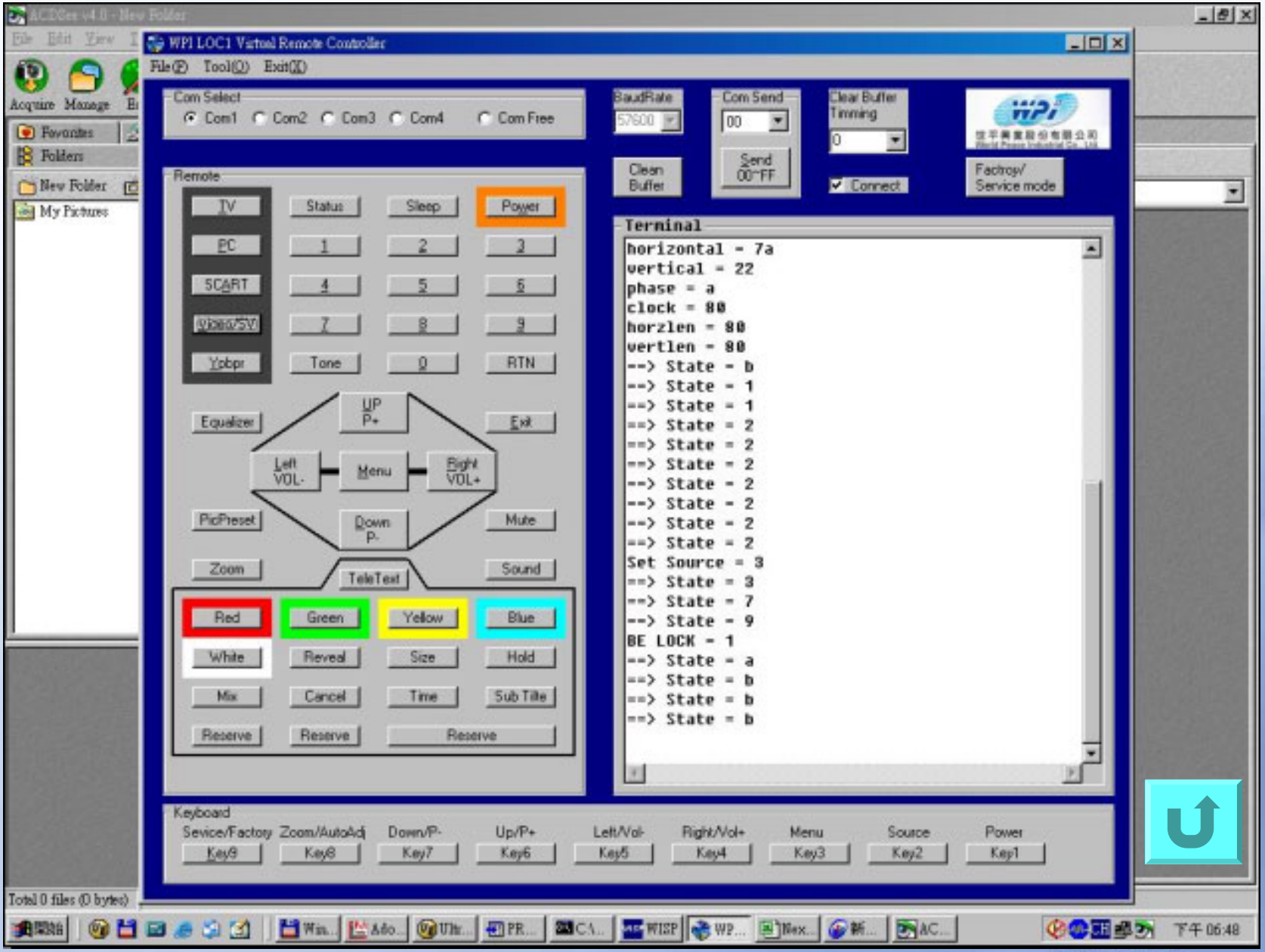
- Maximum supported input resolution: UXGA , 1600 x 1200
- Support most standard VESA timings
- Auto-Adjust function supported
- Adjustable PC standby timer (1 – 30 seconds)
- Low standby power, under 0.6W
- Standby wakeup by H/V sync detection mechanism
- SOG sync detection
- Memory function for 10 most recent PC timings
- 7 color temperatures supported: user/5500K/6500K/7300K/8500K/9300K/11000K
- Independent backlight control

LOC1 system power distribution



Other platform features

- Multilingual OSD menu
- Remote Control format: NEC-R, RC5
- Source switch hotkey design
- Two-channel ADC keyboard, good noise immunity
  special compound-key supported for system maintenance
- RS-232 console interface design, support up to 57600bps,
  no ICE is needed, save development cost
- S/W ISP function through VGA connector (UOCIII and Scaler)
- Universal SAW switch circuit design



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S/W Tooling for LOC1 development

- Keil-C compiler V7.2 : 80C51 C-compiler
- GNU maker : Simulate UNIX environment on MicroSoft windows
- Philips ROM tool : combine banked hex and font files to target hex
- FlaMe V1.03 : Lithium-C scaler ISP tool
- WISP V2.6.2 : UOCIII ISP tool
- WIC32 V1.2.0 : UOCIII I2C register debugger
- DDS V4.2 : OSD font tool
- LibCoMa : Library Configuration Manager
- ScaTE V1.10 : panel timing and scaler configuration/debug tool
- GTV 3.4.1 : GTV software for LOC1