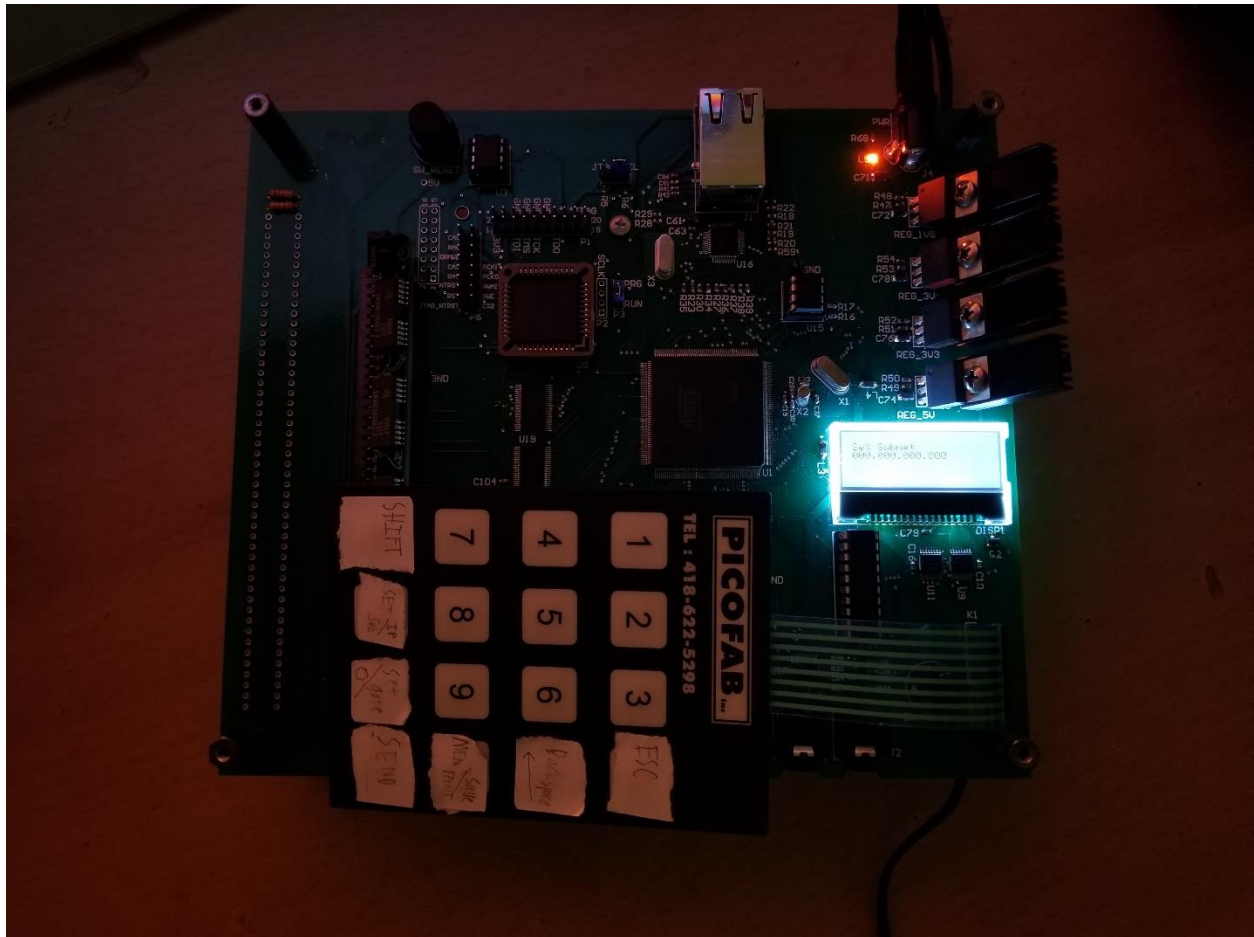


VoIP phone User Manual



The EE52 VoIP phone is a phone that can communicate with other EE52 VoIP phones. The user controls the phone by using a 128x32 display and a 4x4 keypad. There is a headphone and microphone jack that a headset can be plugged into, and there is a button for putting the phone “on-the-hook” to hangup the call.

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System Specifications

Processor	Atmel AT91RM9200
Input power	8V-12V DC 5.5mm barrel jack
Display	128x32
Headphone Jack	3.5mm mono audio jack
Microphone Jack	3.5mm
Keypad	4x4 button keypad

Startup

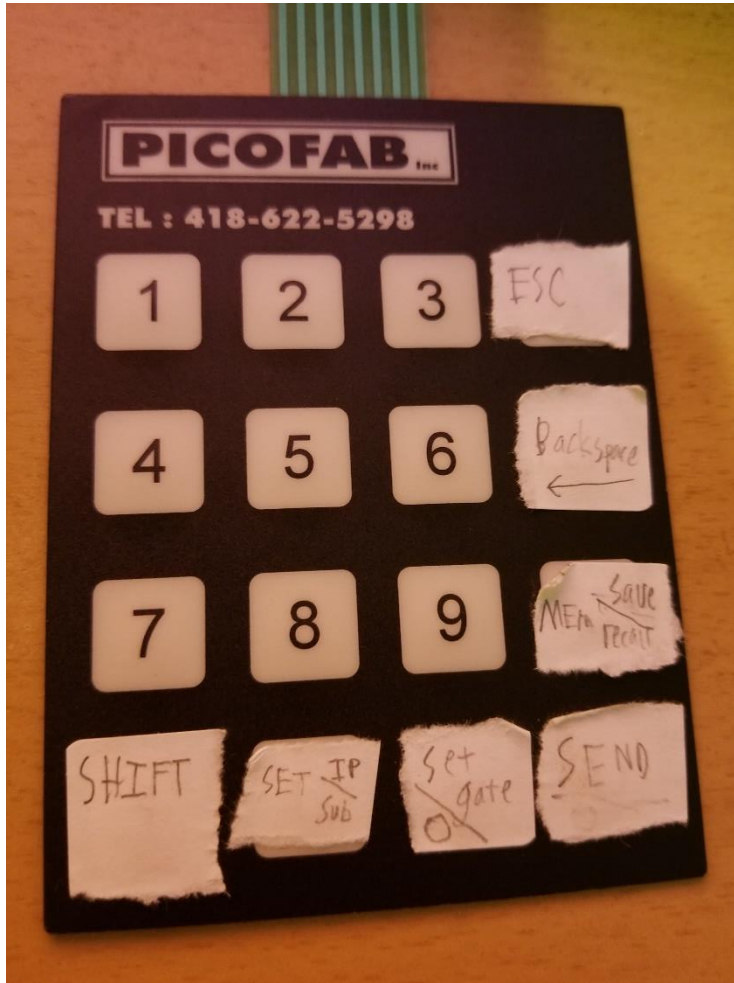
Plug the system into the wall with the provided 12V DC wall power supply. The system will initialize and run a full diagnostic test on the onboard memory. After the SRAM and DRAM have been thoroughly tested for errors, the display backlight will blink and then the status “Idle” will appear on the screen. The phone is now fully booted. Proceed to the next section “Interfacing with the phone”

Resetting the system

Should something go awry in the system, and a reset is needed, simply press the reset button located along the same side of the pcb as the ethernet jack. The system will reset, the display will blink once the memory check completes, and the system is then ready to go.

Interfacing with the phone

Keypad



The keypad is a 4x4 keypad. Some keys are multiplexed using a shift key at the bottom left of the keyboard. The shift key toggles the keyboard between shift mode and normal mode. Note, this is different than the way most keyboards operate due to a limitation in the ability to detect multiple key presses.

Pressing Set IP/Sub allows the user to set the IP address and subnet mask using the numerical keys.

Pressing Set gate allows the user to set the gateway IP address.

Pressing Mem Save/Recall allows the user to save the current address configuration to an address location, or recall the IP settings from a memory location.

Pressing Send should initiate a call.

Note, due to a bug in the LWIP library, it is not possible to set more than 3 address settings, otherwise the system will crash.

Display

The display is a 128x32 display, divided into 4 rows. Only the top two rows are used.

The top row displays the current menu the system is in, or the status of the system if a call is in progress.

State	1 st Row message
Idle	Idle
Phone off hook	Off Hook
Ringing remote user	Ringing
Connecting to remote user	Connecting
Connected to remote user	Connected
Setting IP address	Set IP
Setting subnet mask	Set Subnet
Setting gateway IP address	Set Gateway
Saving settings to memory	Memory Save
Recalling settings from memory	Memory Recall
Settings recalled from memory	Recalled Message
Error occurred in software	Illegal Message

The 2nd row displays auxiliary information for a menu, such as the IP address being set, the subnet mask, or the memory location for recall. The keyboard can be used to input data here, and save with the Send button.

Headset

Two 3.5mm audio jacks are mounted next to the keyboard. J2 is the microphone, and J3 is the headset connection. The software has volume set capability, but the code must be recompiled to change it, so it is recommended the user use an adjustable volume headset.

Ethernet

Ethernet is located on the same side of PCB as the power jack. The ethernet is designed to work in 10Mbps mode with RJ-45 connector-based cables. Currently, ethernet is not supported by this phone (what a great phone, I know).

