



# **Videophone Development Platform Quick Start Reference Guide**

**Version 1.37**

**Wintech Digital Systems Technology Corporation**

<http://www.wintechdigital.com>

# 1 Overview

The videophone development platform (VDP) for videophone applications integrates full duplex audio and videophone functions and offers an embedded software framework, along with a hardware demonstration and an application development platform.

The software is a modularized package of audio and video processing functions, VoIP call control protocols, and network protocols integrated by TI Reference Framework 5 (RF5) and runs on a single TMS320DM643 processor. Video processing is designed to support industry leading video technologies with H.263 and H.264 based solutions capable of full-motion video up-to 30fps at CIF resolution. The voice processing supports narrow-band voice G.711 and G.723.1.

The hardware is a full-featured, flexible reference platform based on the TMS320DM643™ digital signal processor from Texas Instruments. It is available in a usable format with an alphanumeric keypad, an on-board camera and a 5" LCD display, in addition to Ethernet, video, audio and JTAG interface.

The application specific interface (API) and overall modular architecture intend to support redesigns of the user interface as well as a wide range of video and voice standards to meet varying application needs. The ready-to-use application software with the fully integrated hardware and software solution enables the quick time to market.

You can access the most current Wintech documents on the World Wide Web at the following site:

<http://www.wintechdigital.com>

## VDP Package Contents

**The following components are contained in the VDP package:**

- ✧ Main board (see Figure 1)
- ✧ Camera/Screen panel (see Figure 2)
- ✧ Handset
- ✧ AC adapter
- ✧ 10/100M Switch
- ✧ Technical Reference Menu
- ✧ CD

## The top view

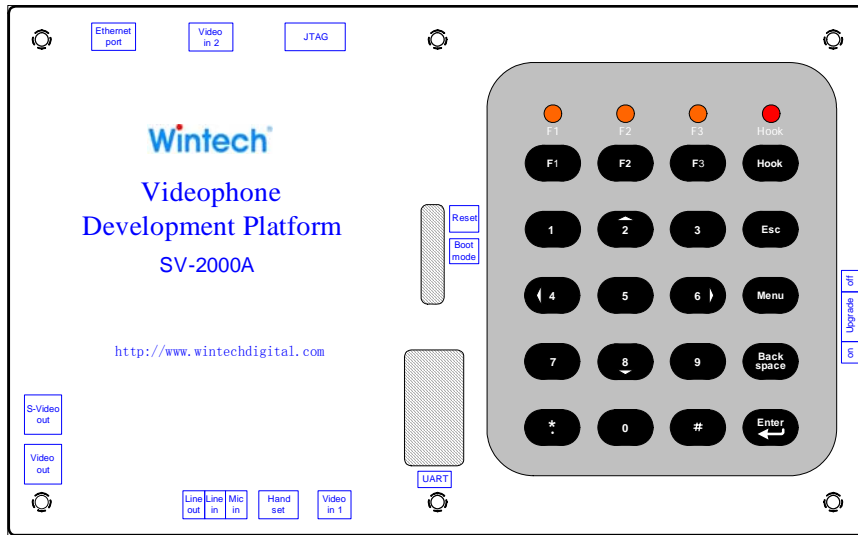


Figure 1. TMDSVDP64X-2 VDP Main Board



Figure 2. TMDSVDP64X-2 VDP Camera/Screen Panel

## 2 Installations

### ◆ Installation Requirements

- TMDSVDP64X-2 VDP main board
- TMDSVDP64X-2 VDP Camera/Screen panel
- Handset
- 12V DC power adapter with power cord
- Ethernet switch with power adapter

The required cables are:

- Video-in cable (Camera/Screen panel to main board)
- Video-out cable (main board to Camera/Screen panel)
- Auxiliary power cable (main board to Camera/Screen panel)
- 10/100 BASE-T category-5 Ethernet cable

### ◆ Installation Steps

1. Connect the signal cables (except the power cable) as shown in Figure 3
2. Connect the power cables as shown in Figure 4
  - Connect the auxiliary power cable from main board to Camera/Screen panel.
  - Connect the plug-end of the 12V DC power adapter cord into an electrical power outlet.

When the VDP units are properly connected and powered up, the four green activity LEDs on the main board should flash to indicate initialization.

For a few seconds, the initialization results will then be displayed on the screen and then the video loop back will be turned on.

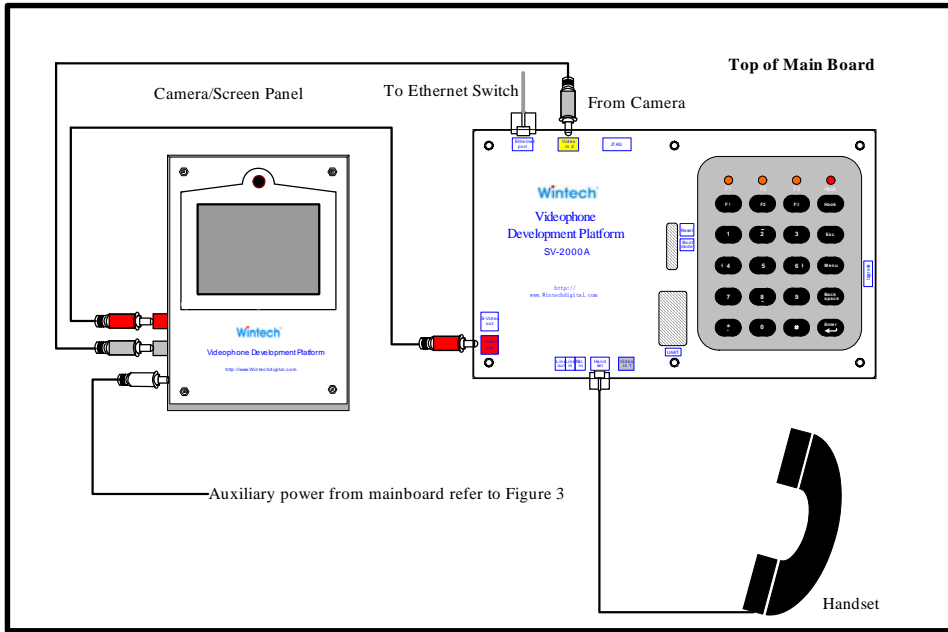


Figure 3. Signal cable connections

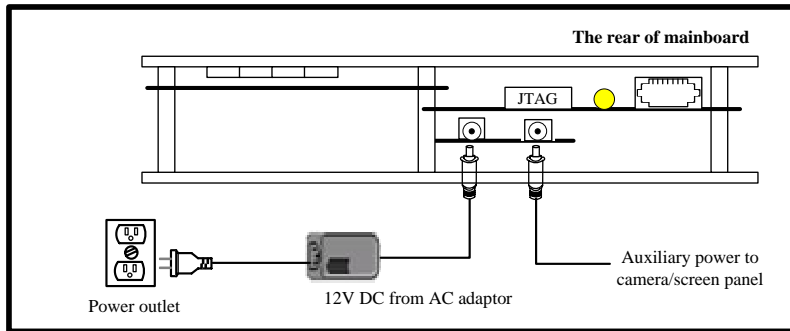


Figure 4. Power connections

### 3 Configurations

The VDP is configured on the keyboard. The user can configure the IP address (DHCP/Static IP/PPoE), GK mode (enable/disable/autoscan /GK-IP/phone number/username/password), voice (G723/G711u/G711a/G729), video (H263/H264),

video-quality (bit-rate/size/formats), and the FTP server(FTP/IP or URL/route/username/password).

The following steps help you to navigate the VDP configuration:

1. Press the Menu button, and the configuration main menu will be displayed on screen in a multiple-choice format as shown below.
2. Press the ▲ or ▼ button to move the cursor to the item you want to reconfigure.
3. Press the Enter button to confirm your choice. A menu with more detailed choices will appear on the screen.
4. Press the Esc button to go back to the previous menu or exit the configuration main menu.
5. Press the Backspace button to move the cursor back to the previous page and erase the input there.
6. Press the F1 button to check the configuration (all of the configuration parameters are displayed on screen).
7. Press F1 again to exit.

### **VDP Configuration**

**IP Setup**

**GK mode**

**Voice Codec**

**Video Codec**

**Video Quality**

**Options**

**FTP Server**

### **Keypad Definition**

The following is a list of frequently used keypad buttons and their definitions:

0~9	Numerical buttons
▲, ▼	Move cursor up or down
* .	Use instead of dot in IP address
#	N/A (to be defined in the future)

←	Enter
Esc	Exit from the current menu
Menu	Enter the configuration main menu
Backspace	Move the cursor back to previous space and erase the input there
Hook	Hook off / Hook on (depending on current status)
F1	Check configuration information
F2	Start/stop PPPoE
F3	Start/stop picture in picture

## 4 Making A Call

The caller must perform the following steps to make a call using the VDP.

1. Define one VDP unit as the Caller and another unit as the Callee.
2. Press the F1 button to check the Callee's IP address
3. Press the Hook button then lift the telephone receiver to hear dial tone. Dial the callee's IP address and press the Enter button. The phone will ring at the callee's location.
4. The callee will press the Hook button and lift the telephone receiver to simultaneously talk with and view the caller.
5. End the call any time by pressing the Hook button again.

**Note: If the GK is connected with the switch, you can configure the phone number and work in GK mode. In such a case, you are only required to dial the callee's phone numbers. For more information, please refer to VDP User's Manual.**