STAC VIP
CONTROL SURFACE

Product Manual

COMREX

INTRODUCTION

The Comrex **STAC VIP Control Surface** (CS) is an accessory to the STAC VIP mainframe hardware. The control surface provides a series of push-buttons that echo the line control functions of the VIP **Web Interface**. It also provides a handset that can be used to screen calls.

The CS acts like a Voice-over-IP (VoIP) phone extension, connecting to the mainframe in the same way the mainframe connects to its VoIP services. Because the CS connects to the mainframe over an Ethernet-based IP connection, the CS can be located anywhere that can be reached by the LAN (Local Area Network) to which the mainframe is attached.

HOOKUP

The STAC VIP CS is primarily powered by Power-over-Ethernet (PoE) technology. If your network already supports PoE, it can be plugged into a PoE-supporting network port directly. Otherwise, a power supply is provided that provides PoE power to the CS. The power adapter is attached to the network using an Ethernet cable on the port labeled **Network** and to the control surface using an Ethernet cable on the port labeled **control surface**. The power supply accepts universal AC mains input via an IEC power cord.

Do not install the power adapter in-line with any other devices, whether PoE capable or not. Please do not use the included PoE power adapter for other PoE devices, as it may not conform completely to PoE requirements of other devices. The PoE adapter must sit between a network switch and the control surface — no other routers or switches may be placed between the adapter and the control surface.

For environments where PoE operation is not desired or allowed, Comrex can provide a power adapter that does not utilize PoE. Contact Comrex support for details.
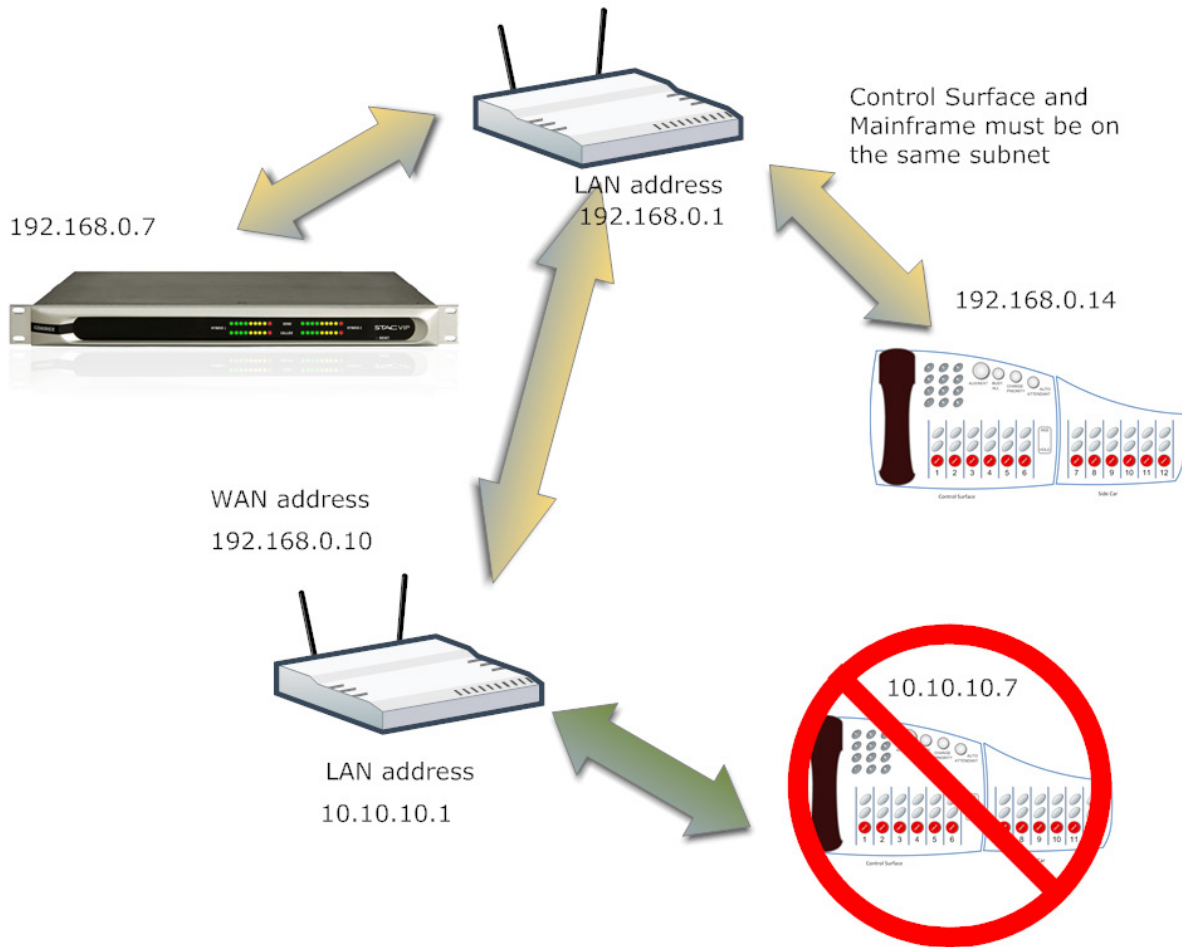
FIGURE 1 STAC VIP CONTROL SURFACE NETWORKING

As shown in Figure 1, the **control surface** can only be associated with one STAC VIP mainframe, and must be located on the same IP subnet as the mainframe. This means that no routers can exist between the mainframe and the CS. The IP address used by the CS must be within the **subnet mask** of the IP settings of the mainframe.

CONFIGURATION

Once a CS and mainframe are connected on the same LAN, there is no additional configuration to be done to the CS. The CS is shipped set for DHCP operation, and as such will obtain IP credentials from a network automatically. Most installations will use DHCP for the control surfaces.

In situations where static IP assignment of a CS is desired, you can use the Comrex Device Manager to assign the address. Device Manager is a Windows utility that can be obtained for free from the Comrex web site, www. comrex.com. Instructions on how to set devices for static IP are contained in the **Help** menu of the software.

While no configuration of the CS itself is required, you must associate a STAC VIP mainframe with a control surface. This is done via the web configuration page on the STAC VIP mainframe. See the STAC VIP manual (page 29) for information on how to access this page using a web browser.
Once the Configuration page is open, navigate to **control surfaces** and you will see an option to associate up to four control surfaces with the mainframe. Any entries that already have an association will be displayed in blue.

When you click an unused entry, the mainframe will scan your local LAN and display a list of all control surfaces detected. These will be displayed by Ethernet MAC address. The MAC address of a control surface can be found on a label at the bottom of the unit.

Choose a control surface here and it will become associated with that mainframe.
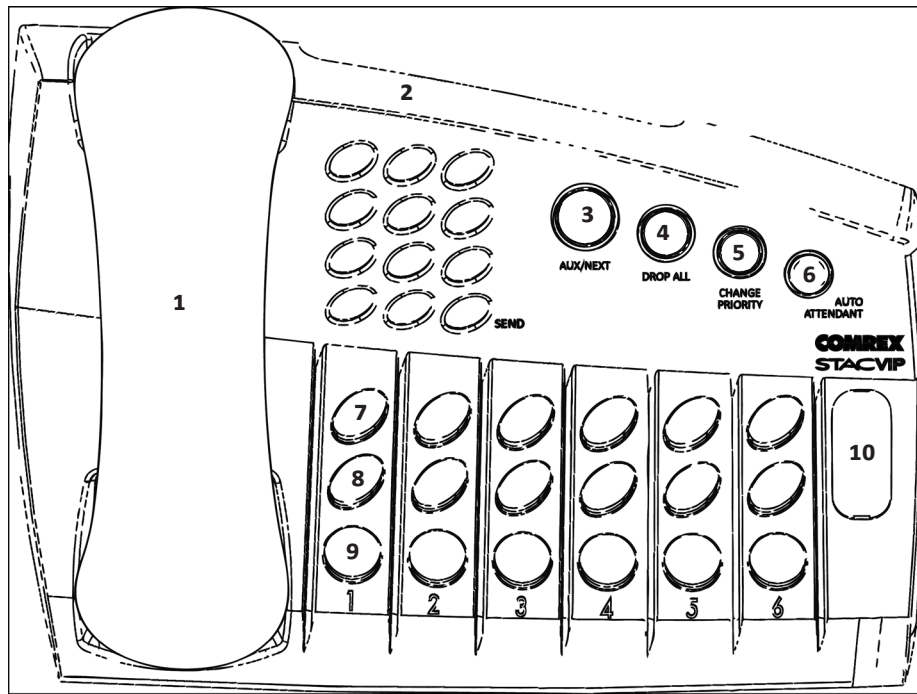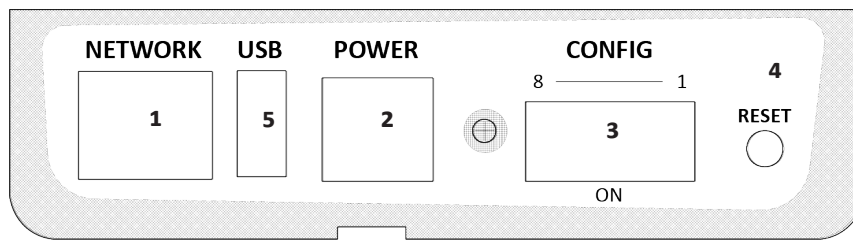
STAC VIP CONTROL SURFACE

CONTROL SURFACE BUTTONS AND SWITCHES

Figure 2 shows the top controls on a six-line control surface (12-line control surfaces also available)

1 **Handset** - Used to answer and screen calls.

2 **Dial Pad** - Used to dial outgoing calls.

3 **Next Button** - Used to put the next call in screened queue **On-Air.**

4 **Drop All** - Useful for contests, this button will drop all current calls, and prevent new calls until pressed again.

5 **Change Priority** - This button allows you to choose a new call to be indicated as "Next" in the calling queue.

6 **Auto-Attendant** - This button enables/disables the Auto-Attendant function and is used during Auto Attendant setup.

7 **Top Row Buttons** - These buttons are used to move calls to the handset. Depending on configuration, they may also be used to put calls **On-Hold**.

8 **Middle Row Buttons** - Depending on configuration, these buttons are either used to put calls **On-Hold** (*SCREENER* mode) or **On-Air** (*STUDIO* mode).

9 **Drop Button** - Drop the existing call on this channel entirely.

10 **Button Legend** - This adjustable label describes the configuration of the top two rows of buttons.

CONTROL SURFACE REAR PANEL

Figure 3 shows the back panel of the control surface Chassis

1. **Ethernet Jack** - For connection to a network. PoE capable

2. **Power Jack** - For attachment of an external power supply in non PoE environments

3. **Dip Switches** - Used to configure CS for different modes

4. **Reset Switch**

5. **USB Port** - For future use

DIP SWITCH CONFIGURATION OPTIONS

The rear panel DIP switch allows configuration of several modes of the CS.

Note that the DIP switch is mounted upside-down, and that the "ON" position (as shown in the legend) is actually toward the bottom of the chassis.

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1. **Factory Reset** - In order to clear all programmed settings from the CS, turn this switch *ON* then press the **Reset** Button. Put the switch back to the *OFF* position and press the **Reset** button again. The CS will revert to factory settings in 30 seconds.

2, 3 **Reserved**

4. Boosts volume to the earpiece when turned **ON** (down position). To change this on the fly with a powered-on control surface, first change the DIP switch setting, then tap the **Reset** button.

5. If *OFF*, a *SCREENER* surface can drop **On-Air** calls (using the **DROP** button). If *ON*, a *SCREENER* surface has no control over calls that are **On-Air**.

6. If *ON*, lifting the handset will answer the incoming call that has been ringing longest.

7. If *ON*, the handset hookswitch is ignored. All calls are routed to the handset only when a button is pressed.

8. *OFF* = *STUDIO* Mode; *ON* = *SCREENER* Mode.

ABOUT STUDIO VS. SCREENER MODES

The control surface can be set for two major modes of operation: *STUDIO* and *SCREENER*. Note that the legend to the right side of the buttons can be removed and flipped to show the current mode. The differences:

1   In *STUDIO* Mode, the CS can put calls **On-Air**. In *SCREENER* Mode, it can't.

2   In *STUDIO* Mode, the top row of buttons has a dual function. If the handset is picked up, the top button will route the call to the handset. After the call is on the handset, the same button is used to place the call **On-Hold**.

In *SCREENER* Mode, the top row is only for handset, and the second row is for **On-Hold**.

If you only have one CS, *STUDIO* mode is the best choice.

CONTROL SURFACE OPERATION

The control surface buttons are color coded to represent each line's status:

WHILE THE SYSTEM IS BOOTING

TOP BUTTON	BOTTOM BUTTON	MEANING
Line 1 Blink Red	Line 1 Blink Red	System is booting
Line 1 Red/White	Line 1 Red/White	Waiting for Network Connection
Line 2 Red/White	Line 2 Red/White	Waiting for mainframe Connection
Line 3 Red/White	Line 3 Red/White	Waiting for Internal Sip Engine init
Line 4 Red/White	Line 4 Red/White	Waiting for SIP connection to mainframe

LINES RINGING / OUTGOING / ANSWERING

TOP BUTTON	BOTTOM BUTTON	MEANING
STUTTER White		Line is ringing
PULSE White/Green		Line answered by auto-attendant
PULSE Green/Cyan (fast)		Dialing outgoing call on this control surface
PULSE Green/Cyan (slow)		Line answered on handset of this control surface
ON Green		Line answered on other control surface
PULSE Red		Busy or other error on outgoing call

TOP BUTTON	BOTTOM BUTTON	MEANING
ON Yellow		Line on unscreened **On-Hold**
PULSE Yellow (fast)		Line on **Screened Hold**, highest priority call
PULSE Yellow (slow)		Line on **Screened Hold**, not top priority
	PULSE Red	Line **On-Air** but unlocked, **Hybrid 1**
	ON Red	Line locked **On-Air**, **Hybrid 1**
	PULSE Blue	Line **On-Air** but unlocked, **Hybrid 2**
	ON Blue	Line locked **On-Air**, **Hybrid 2**

CHANGE PRIORITY/DROP ALL

TOP BUTTON	BOTTOM BUTTON	MEANING
ON White	ON White	Priority change mode; line is not priority
PULSE White	PULSE White	Priority change mode; line is priority
ON Orange	ON Orange	System/line is in "Drop All" mode

ANSWERING AND PLACING CALLS

Incoming calls are answered (and outgoing calls are dialed) using the top row of buttons on the control surface. By lifting the handset, you are instructing the system to route the next call you select (via the top row) to the handset. If no calls are incoming, the selected line will be presented for an outgoing call. The system will present a dial tone on the line to indicate it is ready to dial. A provider must be configured for outgoing calls in the mainframe configuration menu in order to allow outgoing calls.

Outgoing calls are made via the numeric keypad on the control surface. One important aspect of outgoing calls is:

> *The # key (Send) must be pressed after the last digit is dialed. No call is actually placed by the system until after the # key is pressed.*

The reason for this is that in a VoIP system, no information is exchanged with the network until after the last digit is dialed. Since STAC VIP is designed to be used in environments where special outbound dial prefixes (Dial '9' first) are required, as well as international environments with varying dial string lengths, it has no idea exactly how many digits you intend to send. For this reason, it must accept a "send" command much like a mobile phone.

PLACING CALLS ON-HOLD AND SCREENED HOLD

STAC VIP has three distinct ways of displaying calls **On-Hold**

1 **On-Hold** - A call has been answered and placed **On-Hold** (either by an operator or the **Auto-Attendant**) but no screener has interfaced with the caller yet.

2 **Screened Hold** - A call has been screened and is ready to go **On-Air**.

3 **Priority Hold** - A call has been screened and has been on **Screened Hold** longer than any other call. Pressing the **Next** button will put this call **On-Air**.

As shown in the Button Color table above, these **On-Hold** states are shown by differing cadence of yellow on the lit button.

Calls that have been put **On-Hold** can be changed to **Screened Hold** mode by pressing the relevant **Hold** button a second time. The line will toggle between **On-Hold** and **Screened Hold** mode on subsequent button presses.

The button used to place calls **On-Hold** varies with the setting of **Dip Switch #8**, which chooses whether the CS is set for *STUDIO* or *SCREENER* mode. In *STUDIO* Mode, the top row of buttons is used for all **On-Hold** functions (this is shared with the "to Handset" function). In *SCREENER* mode, the second row of buttons is used for the **On-Hold** function exclusively.

CHANGING PRIORITY

In some instances, the screener may wish to change the call considered to be the "Priority" call, or the next call to go **On-Air**. This can be done by pressing the **Change Priority** button on the CS. When this button is pressed, the CS will enter a special **Priority Select** mode where all lines on **Screened Hold** glow white. The current priority call will be flashing white. Choose the new priority call via the top row of buttons. The CS will exit the special mode and return to normal operation with the new priority call indicated correctly. **Priority Select** mode may be canceled by pressing the **Change Priority** button again.

PUTTING CALLS ON-AIR

Calls can only be put **On-Air** by control surfaces set for *STUDIO* mode.

Calls put to **On-Air** state can be either "locked" or "unlocked". All calls are "unlocked" the first time the **On-Air** button (second row of buttons) is pressed. The CS indicates this by a blinking indicator. If the **On-Air** button is pressed a second time, the call is "locked" and the button glows solid.

If a call is "unlocked", putting an additional call **On-Air** will cause that call to be dropped. In order to have multiple calls **On-Air** simultaneously, all calls must be "locked" before a new call in put **On-Air**.

As described in the STAC-VIP mainframe manual, the system can be configured to put specific calls on either one of two "hybrids"*. The order in which calls are routed to each hybrid is specified in the configuration setup of the mainframe. If only one call is **On-Air** at a time, it will always be routed to **Hybrid 1**.

The control surface gives an indication of whether an **On-Air** call has been routed to **Hybrid 1** (Red) or **Hybrid 2** (Blue).

DROPPING CALLS

Most calls in the **On-Hold** or **On-Air** state that are ended by the caller will automatically revert to "idle" state. Calls can be terminated in any state locally by pressing the **Drop** button for that line. Depending on the setting of **Dip Switch #5**, a *SCREENER* CS may or may not have the ability to drop calls currently **On-Air**.

DROP ALL MODE

Drop All mode is designed for studios that need to clear all lines in advance of a contest or promotion. The button is a toggle. On the first press, all lines are cleared and further incoming calls are disabled. During this time all buttons will glow Orange. Pressing **Drop All** a second time will put the system back to normal, ready to take calls.

On the mainframe Configuration page, it's possible to change the **Drop All** function to exclude calls that have been "locked" **On-Air**. This can be useful in an environment where you wish to maintain a "VIP" caller during a contest.

AUTO-ATTENDANT

Auto Attendant mode (AA) is designed for studios with busy or no screeners. It will handle the first stage of call answering and screening for you. When enabled, incoming calls will be answered, a pre-recorded message will play out to the caller, and the call will be put in **On-Hold** state. It can be enabled either by the mainframe web control interface, or via any control surface connected to the system.

AA mode is enabled on the CS by pressing the **Auto Attendant** button once. It will glow red to indicate AA mode is active. It can be disabled by pressing the button again.

Configuration of AA is done via the control surface via voice prompts. To enter AA config mode, lift the handset and hold the **Auto Attendant** button for 5 seconds, then release it. The button will start to flash and voice prompts will be heard on the handset.

During the AA configuration sequence, you can record up to two separate outgoing messages to be played to callers (e.g. thanks for calling, turn your radio down etc). You can also play these messages back for evaluation and choose which message is active. Pressing AA again ends AA configuration mode.