



MOVE Enhancements

Bob Haines



Agenda



- **Discuss MOVE enhancements.**
 - **1.6.4 Software Release (available for implementation 3/1/11)**
 - **Keypad Auto Login (New Feature)**
 - **VoIP 30 Second Keep Alive (New Feature)**
 - **Trouble Ticket Fixes**
 - **2.0.0 Software Release (available for implementation 8/22/11)**
 - **Voice Activity Indicator (New Feature)**
 - **Trouble Ticket Fixes**
 - **New Keypads**
 - **Type F keypad**
 - **Type B keypad**



KEYSET AUTO LOGIN



Keyset Auto Login



- **Background**

- This enhancement is a result of a JPL Change Request (CR).
- JPL's DSN sites primarily use Type E Keysets. Type E Keysets require the LSA operator to log them in.
- LSA operators are not staffed 24X7 at DSN sites
- A disruption in service (including power outages, disconnection of power, or loss of keyset T1 or VoIP connection) would cause a Type E Keyset to log out. If the LSA operator wasn't available, the Keyset couldn't be logged back in.



Keypad Auto Login (Cont.)



- **New Feature**

- **When returning from a disruption in service (including power outages, disconnection of power, or loss of keypad T1 or VoIP connection) all type A, B, D, E and F keysets previously enabled for Auto login will return to the keypad's prior operational state.**
 - **line key conference/POTS selected**
 - **line key mode (Talk, Monitor, or TLM) and state information (Idle, Monitor, Talk)**
 - **RTC Talk allowance per RTC conference line key**
 - **line key volume and audio distribution (headset, loudspeaker, or both) settings**
 - **active page number**
 - **discrete mode page memory information**
 - **keyset volume settings and enable states**
 - **keyset user**
- **These settings are updated as the user makes changes to the keypad.**
- **The Auto login feature can be enabled or disabled on a keypad basis via LSA configuration setting. The default setting is "disabled"**
- **Auto login will not occur as a result of the keypad user logging out or the LSA operator remotely logging the keypad out.**
- **Auto login is based on the physical Keypad port not the User ID.**



Keypad Auto Login (Cont.)



- **Keypad parameters that will not be saved:**
 - **POTS calls (incoming calls, active calls, and calls on hold, as well as key states on POTS line keys)**
 - **Dialed digits as key text on POTS line keys**
 - **MCS signaling (either visual or audible)**
 - **RCA dial-process state, if not finished (key state, dialed digits, etc.)**
 - **Conference merge information (conference information will be recalculated as part of the reconnection process, see below)**
 - **Function key states (Multi TL, POTS, Monitor mute)**
 - **Any user modified line key layout (add/delete conference line key) if connection is lost before these changes are incorporated in the LSA Conferencer (~30 seconds)**



Keyset Auto Login (Cont.)



- **When keyset connection is lost:**
 - the user will be automatically logged out from the MOVE system
 - all POTS calls and conference connections associated with the keyset are terminated
 - the keyset user is free to login to another keyset if desired (though without the stored Auto Login parameters provided at the new keyset).
- **Once keyset connection is restored:**
 - the KSIF will determine if the keyset user is available to be Auto Logged into the keyset, if not, the stored data will be deleted. If so:
 - the KSIF will download the stored setting to the keyset; and,
 - full functionality will be restored in approximately 30 seconds.
- **Auto Login will not occur when the keyset is manually logged out (either locally by keyset user or remotely by LSA Operator), or when the keyset user logs in to another keyset during a loss of connection of the original keyset.**
- **If, during keyset interruption, the conference state changed (deactivated, merged), the conference flags changed (signaling type) or the LSA defined user rights changed (RTC rights, multi TL, conference access), the keyset user may not be able to successfully re-establish connection to the conference.**



VOIP 30 SECOND KEEP ALIVE



VoIP 30 Second Keep Alive



- **Background**

- **This is a JPL Change Request**

- **The original timeout for VoIP Keysets was set to two seconds.**
 - **JPL determined that this setting was too short. Network hits would cause the Keysets to lose connection with the Keyset interface card which in turn cause the Keyset to log off.**
 - **Applies to all VoIP connected Keysets with the exception of a Type C Keysets (SW application on a PC/MAC platform)**



VoIP 30 Second Keep Alive (Cont.)



- **“VoIP service suspended” will be displayed in the advisory area and touch screen functionality will be disabled.**
 - This prevents the keyset user from making state and mode changes to the keyset and also providing a tactile feedback for the loss of service.
 - Keyset will attempt to re-establish VoIP connection with the MOVE system.
- **If VoIP service is resumed within 30 seconds, the keyset will:**
 - Receive, process, and update any changes in audio states,
 - Resume touch screen functionality, and
 - Display a “VoIP service resumed” notification in the advisory area for three seconds.
- **If VoIP service is not resumed within 30 seconds, the keyset will:**
 - Logout and switch to the login screen and
 - Show a disconnected VoIP interface.



TROUBLE TICKET FIXES, 1.6.4 SW RELEASE



Trouble Ticket Fixes, 1.6.4 SW Release



- **Corrects problems identified in the following Trouble Tickets**
 - **Disabling T1-DS0s. (WFF, MT0102)**
 - **PTT Release Delay/Flutter on Outbound DS0. (JSC & WFF MT0120)**
 - **KIF lockup when a POTS key is on multiple pages in Contiguous paging mode. (GSFC, MT0159 & MT0160)**
 - **Microphone settings are not correctly mapped between Configurator and Keypad. (JSC, MT0170)**
 - **MCS Ring not Working after Signaling Change. (JSC, MT0205)**
 - **Monitor T1 GPIF Errors after Removing Main Power A Fuse. (JSC, MT0140)**
 - **Data Entry is Cumbersome in the Levels and Curves Tab for a Keypad. (JSC, MT0170)**
 - **Combined POTS and Conference Audio when POTS Call is Answered on a Trunk Group Line Key. (GSFC, MT0185)**
 - **Keypad Buzzer Error. (1.5.6 SW test, TDR263)**
 - **Type C Windows Pick List Error. (1.6.0 SW test, TDR264)**
 - **Type C/D RTC Enable Volume Change. (1.6.0 SW test, TDR265)**



VOICE ACTIVITY INDICATION DISPLAY



Voice Activity Indication Display



- **Background**

- This is a KSC Change Request
- Current active line keys show PTT activity not voice activity.
- Voice activity is defined as audio levels representing human speech (or test tones) that are louder than the ambient background audio levels.
- Current keysets only show PTT activity on active line keys.
- The Change Request added:
 - An option to display either PTT activity or Voice activity
 - An option to display voice activity for all line keys (i.e., line keys in any state) or only active line keys (Default Setting).



Voice Activity Indication Display (Cont.)



- Keyset B, C, D, & F line key states
 - The keyset generates a unique VAI in Not-Active, as shown below.

STATE MODE	Not-Active	VAI in Not-Active	Monitor	VAI in Monitor	Talk/Listen	VAI in Talk/Listen	PTT
Talk-Listen/Monitor (TLM)	 M TL ConfMCS3 ConfMCS3 ConfMCS3						
Talk-Listen (TL)	 TL ConfMCS2 ConfMCS2 ConfMCS2	 TL ConfMCS2 ConfMCS2 ConfMCS2			 TL ConfMCS2 ConfMCS2 ConfMCS2	 TL ConfMCS2 ConfMCS2 ConfMCS2	 TL ConfMCS2 ConfMCS2 ConfMCS2
Monitor (M)	 M ConfMCS2 ConfMCS2 ConfMCS2	 M ConfMCS2 ConfMCS2 ConfMCS2	 M ConfMCS2 ConfMCS2 ConfMCS2	 M ConfMCS2 ConfMCS2 ConfMCS2			



Voice Activity Indication Display (Cont.)



- **Keypad E – LED states**

Conference Key LED indication

Idle			
Monitor			
Talk/Listen			
MCS Ring			
Squelch			
PTT			
RTC PTT			
RTC monitoring			
RTC Talk/Listen			

There will be no unique Indication between Squelch and VAI

← Blinking LED
 ← Flashing LED

POTS Key LED indication

Active			
Out of Service			
Line Busy			
Ringing			
HOLD			
Line Held			

Volume Control LED indication

--	--	--



TROUBLE TICKET FIXES, SW RELEASE 2.0.0



Trouble Ticket Fixes, SW Release 2.0.0



- **Corrects problems identified in the following Trouble Tickets**
 - **Audio popping when logging out of a keyset when internal loudspeaker is disabled. (JSC, MT0152)**
 - **Correct system setting values in the configurator for keysets. (JSC, MT0170)**
 - **Other trouble tickets may be added to this list**



TYPE F KEYSSET



Type F Keyset



- **Overview**

- The design intent of the Type F keyset is to provide Type D keyset functionality in a Type E keyset form factor.
- Type F keyset will use the same processing electronics as all other keyset variants.

- **Input and Display types**

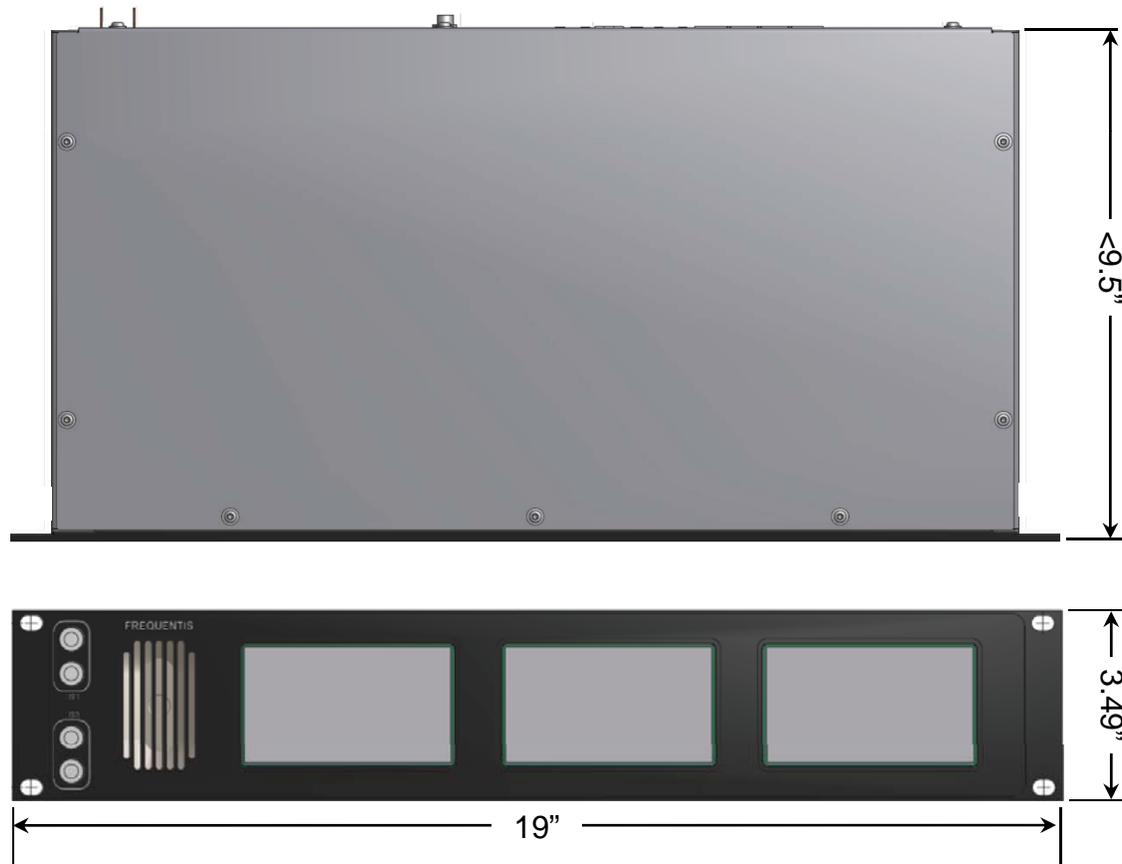
- *Type D*
Input: Touch screen
Display: 800x600 color LCD x1
4:3 aspect ratio, 33.9 in²
- *Type F*
Input: Touch screen
Display: 480x272 color LCD x3
Total 1,440x272
48:9 aspect ratio, 23.8 in²



Type F Keyset (Cont.)



- Type F Keyset – 2U Rack Mount

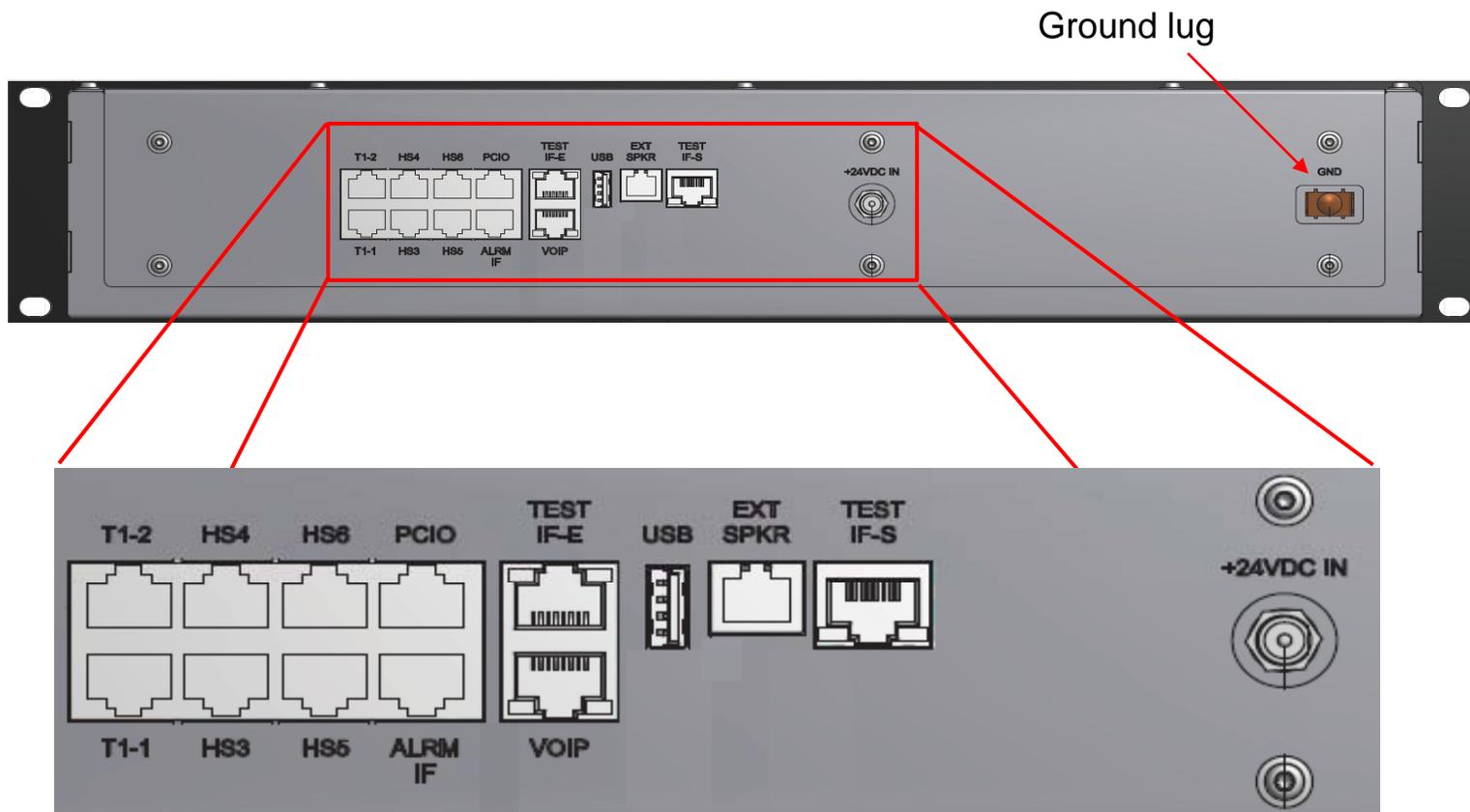




Type F Keyset (Cont.)



- Type F Rackmount – Connectors





Type F Keypad (Cont.)



- Login page
 - User types in user ID and password via keyboard, using QWERTY keyboard





Type F Keypad (Cont.)



- Line Key Display

The diagram illustrates the layout of a Type F keypad, divided into three main sections:

- 12 Line Keys:** The left section contains 24 line keys arranged in two rows of six. Each key features a speaker icon, a small 'M' or 'TL' indicator, and a label such as 'Confre01' through 'Confre24' with the alphanumeric string 'Abcdefgh' and '12345678' below it.
- 12 Line Keys:** The middle section contains 12 line keys in two rows of six. The top row includes keys for 'Confre13', 'ConfMCS2', 'De1 Conf', 'Pick Conf', 'Close', and 'e17 fgh 678'. The bottom row contains keys for 'Confre19' through 'Confre24'.
- Menu Buttons:** The right section contains a grid of menu buttons: 'Switch Menu >>', 'Go to Page...', 'Dial', 'Hold', 'prev', 'next', 'Settings', 'MCS Ring', 'POTS', 'Release TLM', and 'MultiTL'.

At the bottom of the keypad, there are two distinct areas:

- Advisory Area:** Displays the text 'User already logged on.'
- Information Area:** Displays system information including 'Keypadname/System Page 3' and 'Username(16Char) Pagename(16Char)'.

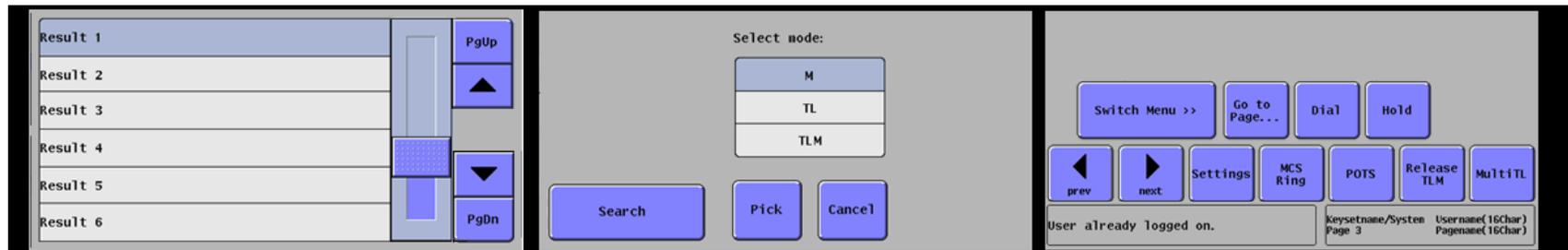
- All Type D keypad functionality is maintained with this layout.



Type F Keypad (Cont.)



- Pick conference
 - Scroll list of available conferences, select mode and assign to line key.

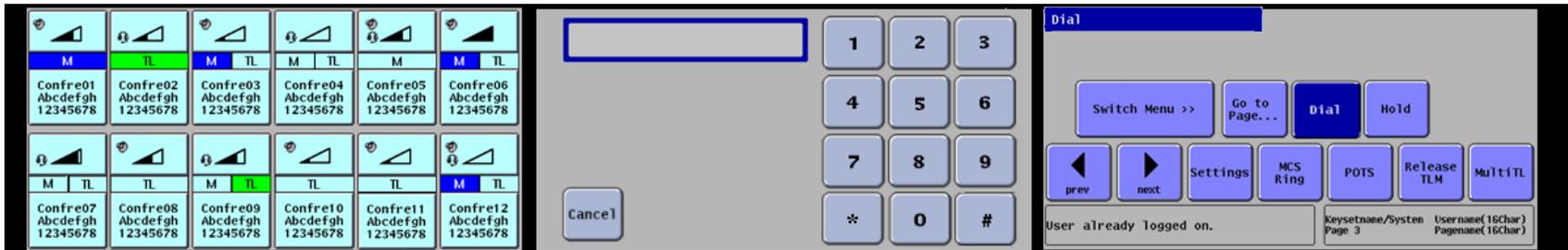




Type F Keypad (Cont.)



- Dial pad
 - Selecting a POTS linekey opens dial pad automatically.
 - Open dial pad to manually generate DTMF-tones.





TYPE B KEYSSET



Type B Keypad



- **Overview**

- **The Type B keypad is designed for outdoor use in a hazardous environment (Class 1 Division 2 to include Atmosphere Groups A, B, C, & D).**
- **Mechanically fit within and mate with KSC Mounting Assembly 80K56070.**
- **Withstand following conditions**
 - **Vibrations of 0.02” double amplitude for frequencies between 5Hz and 50Hz for 10 minutes. Both individually and when mounted to KSC Mounting Assembly 80K56070.**
 - **UV resistance & solar loading per MIL-STD-810F Method 505.4**
 - **60 MPH wind-driven rain per MIL-STD-810F Method 506.4, Procedures I & III**
 - **Humidity conditions per MIL-STD-810F Method 507.4**
 - **Susceptibility to fungal growth per MIL-STD-810F Method 508.5**
 - **High salt concentrations per MIL-STD-810F Method 509.4**
 - **Sand & dust conditions per MIL-STD-810F Method 510.4, Procedures I & II**



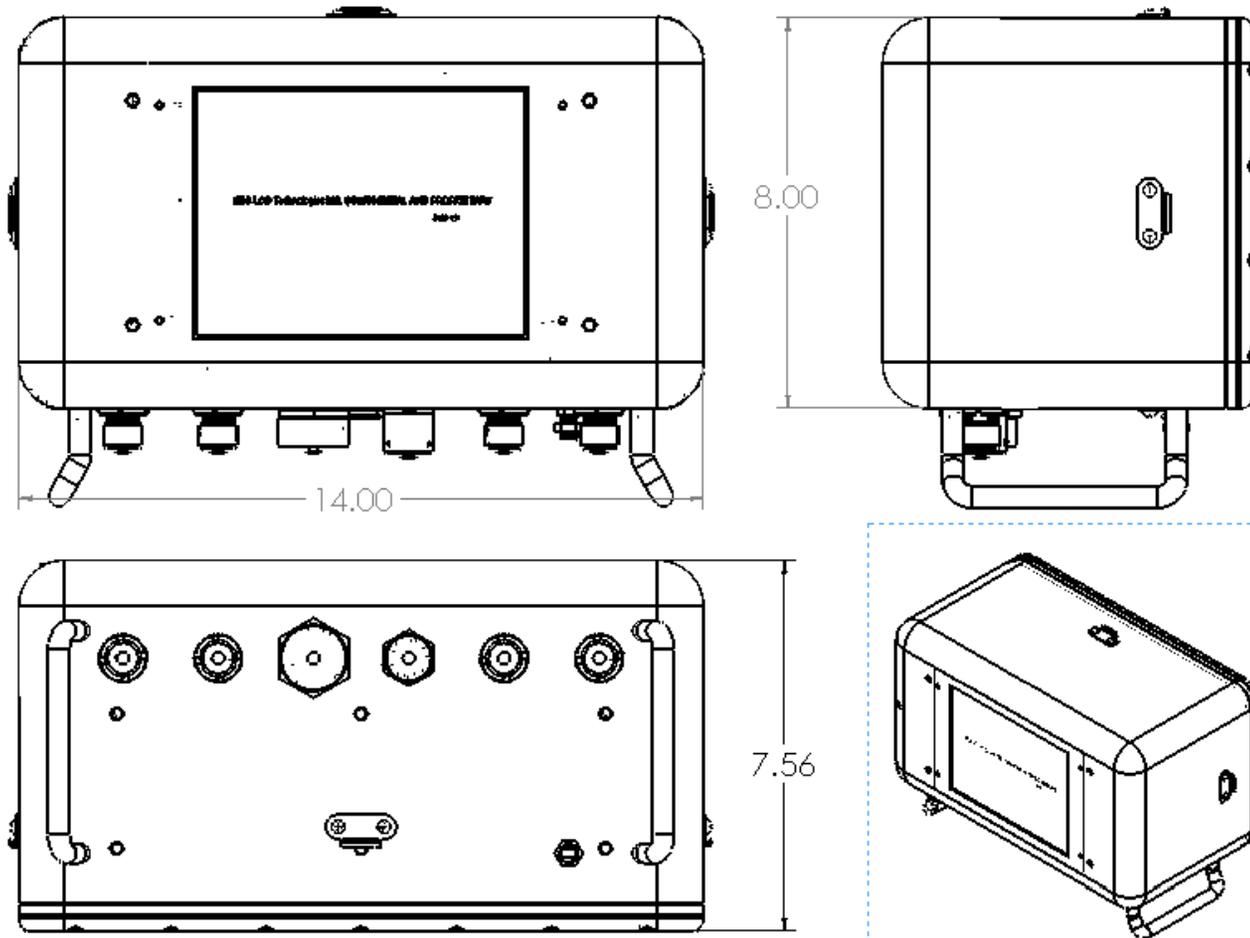
Type B Keypad (Cont.)



- **Internals will utilize same electronics.**
- **All connections will go through a custom made interface board for intrinsic safety.**
- **Unique ruggedized connectors to be located on the bottom of the keypad and will be provided for:**
 - **Single copper interface (local/remote) to the switch**
 - Capable of maintaining Class 1 Division 2 rated compliance during connection and disconnect from keypad.
 - Capable of receiving T1, VoIP and power (48VDC) in one circular 14-pin MIL spec connector w/ protective cap
 - **U/183 connector receptacle w/protective caps x4 for headsets/handsets**
 - Provide waterproof seal when engaged
 - Headset/handset shall be capable of maintaining Class 1 Division 2 compliance during connection and disconnection from the keypad.
 - **Circular 4 pin bayonet connector w/protective cap**
 - Used to connect USB pigtail cable.
- **Control interface will consist of:**
 - **Resistive Touch screen display with 800x600 resolution**
 - **Backlit display with sunlight readability**

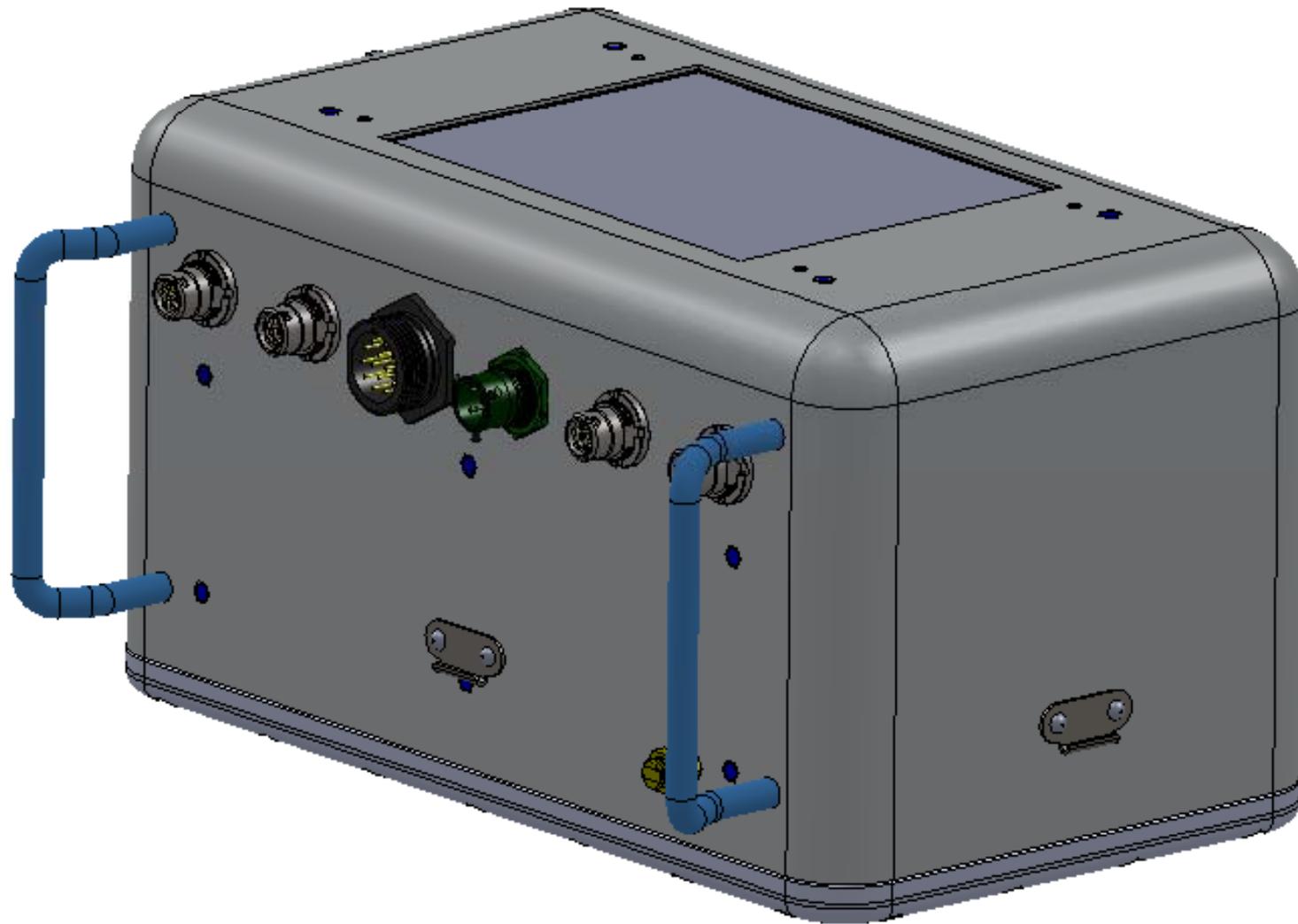


Type B Keyset (Cont.)





Type B Keyset (Cont.)





Type B Keyset (Cont.)



- **Discrete**

- The Type B Keyset breaks a 24 line key page into three 8 line key “sub-pages”.
- Each sub-page functions as an individual logical page.
- Only currently selected sub-page can maintain active calls/line keys.
- Can only have one conference with the same mode on a sub-page at a time.

- **Contiguous**

- All physical sub-pages function as a single logical page.
- Active calls/line keys can be present on any page.
- Can only have one conference with the same mode on a sub-page at a time.



Type B Keypad (Cont.)



- User types in user ID and password via keyboard, with basic keys ...

Login to Keypad (Name/ID displayed)

User ID: Current mode: T1

Password:

Advisories

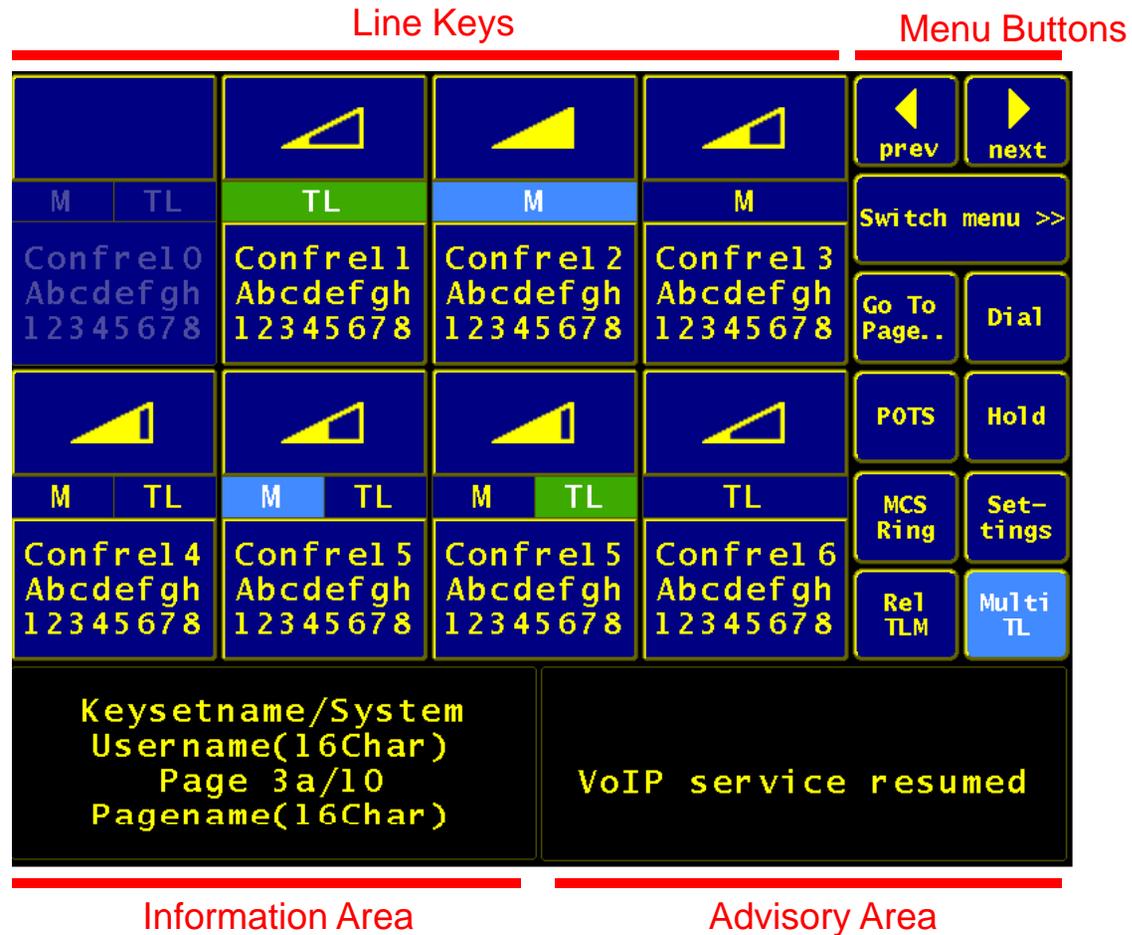
1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	
Z	X	C	V	B	N	M	Bk Sp		



Type B Keypad (Cont.)



- General Layout





Type B Keypad (Cont.)



- Line key states

STATE MODE	Not Active	VAI in Not Active	Monitor	VAI in Monitor	Talk/Listen	VAI in Talk/Listen	PTT
Talk-Listen/Monitor (TLM)	 M TL Confre10 Abcdefgh 12345678						
Talk-Listen (TL)	 TL Confre10 Abcdefgh 12345678	 TL Confre10 Abcdefgh 12345678			 TL Confre10 Abcdefgh 12345678	 TL Confre10 Abcdefgh 12345678	 TL Confre10 Abcdefgh 12345678
Monitor (M)	 M Confre10 Abcdefgh 12345678	 M Confre10 Abcdefgh 12345678	 M Confre10 Abcdefgh 12345678	 M Confre10 Abcdefgh 12345678			



Type B Keypad (Cont.)



- Line key states – RTC behavior

STATE MODE	Not Active	VAI in Not Active	Monitor	VAI in Monitor	Talk/Listen	VAI in Talk/Listen	PTT
Talk-Listen/ Monitor (TLM) RTC Disabled							
Talk-Listen/ Monitor (TLM) RTC Enabled							
Talk-Listen (TL) RTC Disabled							
Talk-Listen (TL) RTC Enabled							
Monitor (M)							

Triangular split denotes blinking