Bexel/ASG Evaluation Report on the Telex KP32-CLD

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Facts:
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Our perspective:

Bexel/ASG is an engineering and technical support entity within our industry. Our propose is to supplement and provide complete equipment complements for TV broadcast and production environments which are primarily temporary and often are one-time use situations.

This requires us to set-up and re-package systems sometimes on a daily basis. This is not a one-time fixed facility or even a mobile production facility situation: we design and install intercom systems every day. Having equipment that is efficient to install and configure is paramount to our work flow.

My exposure to the KP32-CLD is as follows:

A Over the course of several months I worked at the NBC *Tonight Show* facility interfacing the ADAM intercom system to the wireless intercom equipment among other duties. I spent much time using the CLD along with the installation crew and production crew.

B Recent test-bench evaluation using an Audio Precision System-One analyzer.

C Discussion from others in our industry which have done independent evaluations.

D Bexel/ASG, for which I am Chief Engineer, own two KP32 CLD units in our rental inventory.

The items listed below are not in any particular order of importance.

1 The internal power supply is a very strong feature which will save many hours and much frustration in our applications.

2 The USB connector used for saving configurations is a much anticipated feature

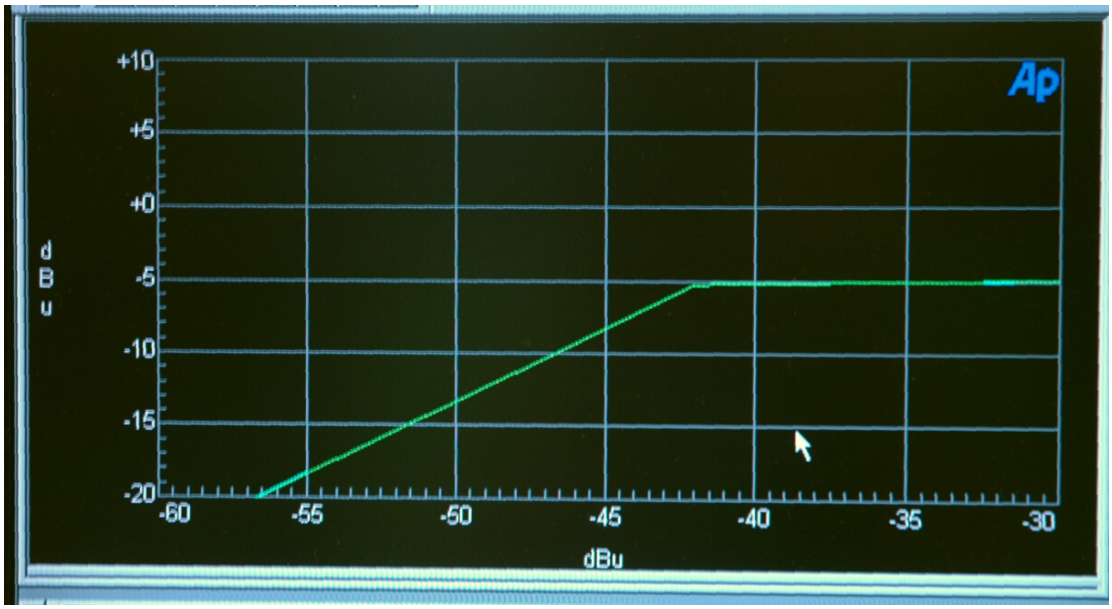
3 Designing the front-face of the chassis to have minimum thrust past the front of the rack-rail is much appreciated. The classic (non-CLD) KP32 was prone to damage since the front thrust beyond the rack-rail by nearly 1.24". This was extremely painful.

4 The over-all width, behind the rack-rails is approx .125 wider than the KP32. This additional width has made it difficult to fit the CLD into equipment racks. Further exasperating the problem is the #6 screws which fix the rack ears to the chassis are not flush with the rack ears. Additional countersinking or a smaller head design on the #6 screw is needed.

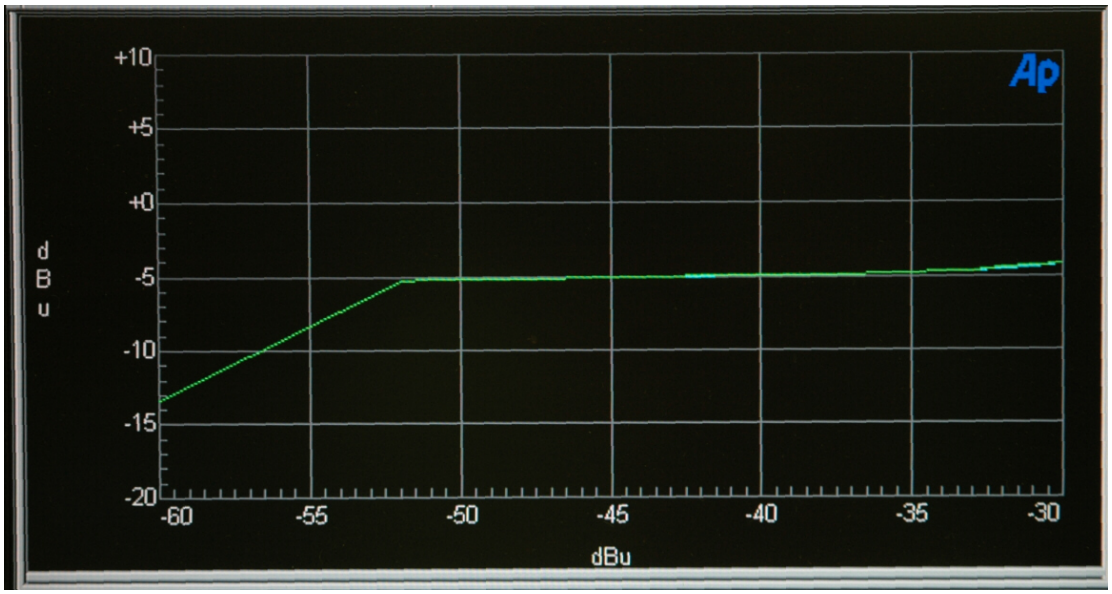
5 There is a definite time-based anomaly in the audio path in the CLD. I assume that there is digital audio processing in the audio paths which cause the audible latency.

6 There is a gain-limiting function in the front-panel headset microphone circuit. However, the limiting circuit is downstream of the Key-panel firmware MIC GAIN adjustment. This topology restricts the MIC GAIN to function as an adjustment of REALIZED increase of level *only* if the limiting threshold has not yet been reached. If it has been reached, the MIC GAIN will simply increase the compression function. See figure #1 and #2 for details. As shown in the two data plots, the audio level never exceeded -5dB even with 10dB of additional gain.

To increase loudness of a talker to the intercom matrix, the use of the LEVEL TO MATRIX adjustment is a solution but only if the level is not set at maximum. The other method is to use AZedit to increase the Matrix Analog Input level.



MIC GAIN set at 0dB as shown on the front panel display. Limiting occurs at -43dBu.



MIC GAIN set at 10dB as shown on the front panel display. Limiting occurs at -55dBu.

7 The *MAIN VOLUME* rotary encoder on the front panel features a function that allows the controlled output to be selected by "tapping" on the knob. The force-pressure to activate the selection function is way too light. It was chronic that a user would reach for the knob and unknowingly select a different output prior to altering the volume of the desired output.

8 Color Display:

A: The color design for the unit under test is prone to confusion. The "LISTEN" function, being only a small change in the border color, is insufficient to indicate the state and is also not intuitive to new users as to what the change in border color indicates.

B: The IFB, party-lines, PtP functions have unique colors. This is not a feature that most users have an easy time with. Historically, the label decides the function, not the color. While this might be handy for permanent installations where the users have developed history, it is meaningless to a one-time use application. It only serves to confuse because the user has no reference to what pink or green or red might mean to them. Further, if the System Administrator on a remote truck uses a different color plan than another, the free-lance users will struggle further.

C: The contrast ratio is affected by viewing angle. This is widely understood as a limitation of TFT displays. Therefore, the color scheme should be designed to maximize the view angle. Highest contrast and clear, un-ambiguous indications are preferred.

The underlying point of contention is that the Key-Label is not a distinct entity from the Switch Activation Status. In the KP32-classic, the rectangular LED indicators showed the switch status, the display only described the function available. Likewise, other manufactures have maintained displaying the information using unique indicators. (Note that other manufactures have even worse methods of indicating switch status, but that is a discussion for another day)

In combining the Switch Status and Label into one display, Telex has brought about a set of concerns never seen before. This requires Telex to listen carefully to a wide range of user's input to contend with these issues in a useful way.

In conclusion:

I believe the CLD represents the right direction, but is still immature. Much input is necessary to make it really great.

Clobbering the poor, unsuspecting user with too many "cool new capabilities" is unfair and counter-productive. A particular add campaign for a water faucet manufacturer once said "*Get more out of your faucet than just water*". That is a pretty scary thought when all you want is water. The users don't care about the intercom; it is intended to support their primary task and should never become the center of their world.

Thank you for your time,

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