CB24 FXS Message Waiting Specification

1.0 Overview

The Rhino FXS channel banks provide local battery and ringing to FXS channels, with a -48VDC for on hook idle battery and -75VAC ringing. This specification is intended to address the modifications required to both the hardware and the firmware to accommodate Message Waiting Indication (MWI) for older hotel phone sets that utilize a neon bulb in series with a nominal resistor.

2.0 Hardware Changes

The feedback resistor to the VBATHI power supply need to be changed from 143K to 201K ohms. This will increase the ring voltage to -96V. No other changes are required.

3.0 Firmware Changes

The CB24 firmware is currently at revision 1.17, with 1.18a in beta test. This is intended to be instructions for modification to version 1.18a.

The only signaling protocol to handle the MWI cleanly is LOOP. In LOOP, the IDLE condition is ABCD = 1111. Since all non-idle conditions must force the A bit to a 0, it is proposed that when the A bit is a 1, that is IDLE, then the B bit will signify if MWI is to be generated. A B=0 will signify that the CB24 is to generate a slowly sweeping 0 to 95V pulse, at the rate of 250ms duty cycle, with 60ms of off time. This means that the neon bulb will glow for 190ms four times a second.

Proposed changes to **LOOP** signaling

Condition

	A	B	C	D	
RING	0	0	0	0	
NO RING	0	1	0	1	
REV POL	0	1	0	0	
MWI On	1	0	1	0	(note: this is the only state change!)

In MWI mode, the Tx line of the LCD display will show a “M” in the DS0 slot position.

Also note that in MWI mode there is NO audio transmitted, since the channel is in a mock ring condition, and no audio can pass from T1 to FXS channel.

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