Model 55B

Page Buffer

Features

- Stores digital and analog pages from a paging terminal and forwards them to a transmitter when the paging channel is clear
- Eliminates need for costly zone sequencing or simulcasting equipment
- Allows remote control transmitters on shared channels
- Adds storage capability to older model paging terminals that cannot store pages
- Allows two paging terminals to share a remote transmitter
- Standard with 120 seconds of storage time, expandable up to 480 seconds

Introduction

The Model 55B is essentially a recording device for storing pages received from a paging terminal for later transmission.

Applications

Sequencing without zone addressing

When the coverage area of multiple remote transmitters overlap, interference can cause garbled or missed pages. Standard solutions to this problem include simulcasting and zone sequencing. Simulcasting requires expensive transmitters and control equipment. Sequencing is less costly, but some paging terminals are not capable of repeating pages with different zone addresses. By replaying pages from a remote link after transmission, the Model 55B provides a way to sequence overlapping transmitters without using zone addressing.

Remote control of shared channels

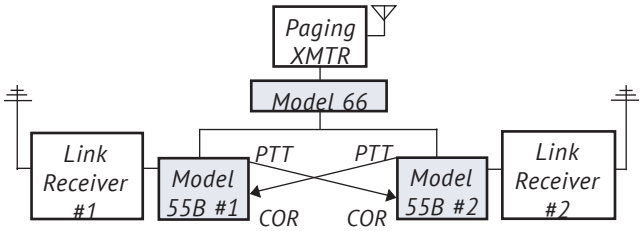
When the remote transmitter is being controlled via a simplex link such as RF or microwave, the remote site cannot notify the paging terminal when the channel is busy. This is a problem for shared paging frequencies, because the paging terminal might instruct a transmitter to key-up when the frequency is already in use. Because the Model 55B can monitor a receiver tuned to the paging frequency at the transmitter site, it can prevent transmission of pages when the channel is busy.

Paging terminals with no page storage

The Model 55B is an ideal add-on for a paging terminal with limited buffering capabilities. The Model 55B can store excess pages when the terminal or channel is already busy. This eliminates putting a caller on hold or sending a busy signal until the paging terminal or channel is free to receive new pages.

Paging terminals sharing remote transmitters

The Model 55B will allow two paging terminals to share one remote transmitter. By tying together two Model 55B Page Buffers at the transmitter site, each communicating with a different paging terminal, both terminals can page into one area without interfering with each other.



Analog paging channel repeater

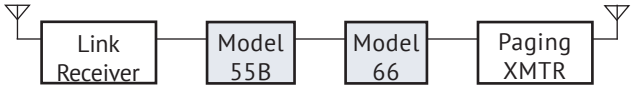
The Model 55B can also be used to buffer analog pages from a receiver listening to the paging channel itself (eliminating the need for any link equipment). The pages are then retransmitted when the channel is clear. Since all transmissions on the paging channel are repeated, this only works when the paging channel is not being shared with other applications.

If digital pages need to be recorded from the paging channel, the Zetron Model 55D can be used because it interprets POCSAG 512 and 1200 baud pages, and stores them as digital data for retransmission. Please see the Model 55D specification sheet for additional information.

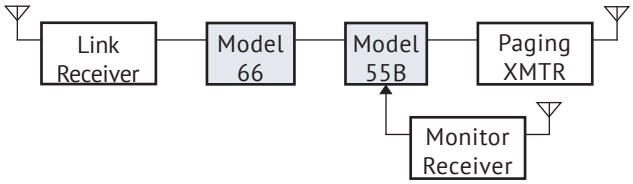
System Architectures

The Model 55B stores pages sent from a paging terminal and forwards them to the paging transmitter for transmission. The pages can be:

Analog and digital pages stored as audio control and modem tones from a link (RF, microwave, or wireline).



Analog pages stored as audio and digital pages stored as digital data from a transmitter controller (either a remote controller such as the Model 66 or the paging terminal itself).



Analog pages stored as audio directly from a receiver monitoring the paging channel.

If the paging channel is being shared with other users, a receiver at the remote site can monitor the paging channel so the Model 55B will only forward the paging information to the transmitter when the channel is free. If the transmitter is being shared with other equipment, the transmitter itself can be monitored by the Model 55B.

Analog and digital pages stored as audio

If digital pages are being stored as audio from a remote link, then a transmitter controller such as the Model 66 must be used to interpret the control and modem tones and generate the signals to the transmitter.

Digital pages stored as digital data

By attaching the Model 55B downstream of the Model 66, the Model 66 will interpret the control tones and filter any pages intended for other transmitters in a multi-site system. This ensures that the Model 55B will only store pages destined for the correct transmitter. However, where the control tones specify an alternate transmitter frequency, the Model 55B must store the pages as audio because it cannot "remember" the transmitter configuration when the page is forwarded.

Data Storage

The recorded data is placed in the Model 55B's memory buffer which can be read from and written to simultaneously. This enables the Page Buffer to send pages to the transmitter without missing new pages during transmission.

Audio Detector

The Model 55B is equipped with a software VOX detector for applications such as a wireline link, where there is no signal to activate storage of the audio data. This prevents the Model 55B from recording when there is no page data being received. This cannot be used if audio and digital data are being stored simultaneously.

Memory Expansion Option

In its standard configuration, the Model 55B is equipped with enough memory to store 120 seconds of audio. Since digital numeric pages typically last around one second each, 120 seconds of buffer should be enough for most applications. However, when more memory would be useful (high volume voice paging systems), additional memory upgrades can be purchased in 120 second increments up to a maximum of 480 seconds.

Specifications

Physical

Size:	1.75" H x 19" W x 2 6.75" D, Rack-mountable
Weight:	3 lb.
Temperature Range:	0 to +60 degrees C., 32 to +140 degrees F.
Power Input:	120 VAC, 50/60 Hz (10 W nominal) using optional modular transformer; 12 -14 VDC (600mA maximum). Internally fused at 2A
Frequency Response:	Flat +/- 1.75 dB, 300 Hz to 3400 Hz; jumper-selectable -6dB / octave decompensation

Radio Interface, To/From Paging Terminal

Dynamic Range:	-20 to +5 dBm
Audio:	Balanced or unbalanced (jumper selectable); 600 ohm or 7k ohm (jumper selectable)
PTT-REQ Input:	Relay closure to ground or HCMOS levels (jumper selectable); Optional 10k ohm pullup (jumper selectable); jumper selectable polarity
INHIBIT Output:	2 form C relay, 1A max. @ 28V. Active when buffer becomes full
VOX Detector:	Activates when signal > -23 dB
Sample Rate:	8,000 times per second audio 32,000 times per second digital

Radio Interface, To/From Transmitter

Audio:	+5 dBm into high impedance; +1 dBM into 600 ohm load; AC coupled (no offset); Balanced or single-ended (jumper-selectable)
PTT Output:	2 form C relay, 1A max. @ 28V
COR Input:	Relay closure to ground or HCMOS levels (jumper selectable); Optional 10k ohm pullup (jumper selectable); jumper selectable polarity

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