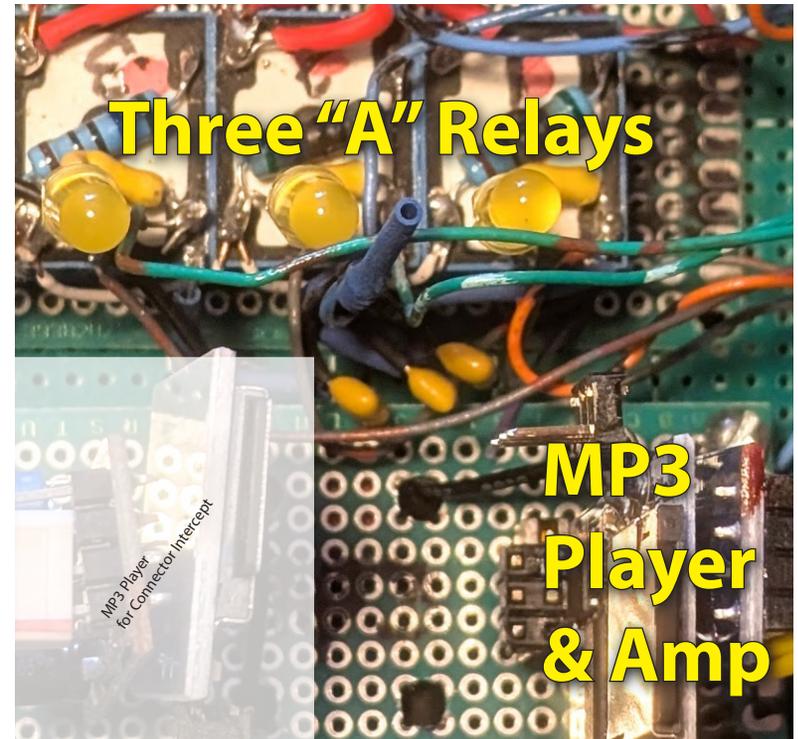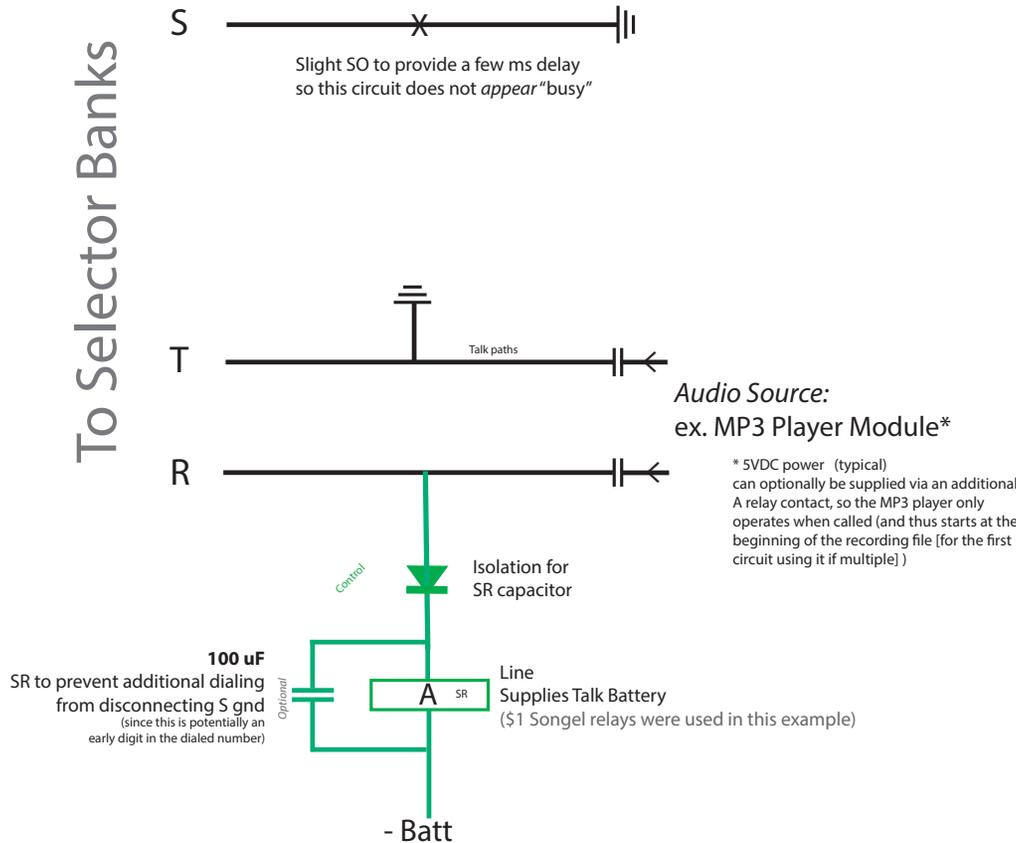# SIMPLE SELECTOR-LEVEL "INTERCEPT" CIRCUIT
(Vacant Level or Reserved Number)

SUMMARY: This shows a simplified circuit for playing an intercept recording ("I'm sorry the number...") in the context of SxS Dial PBXs used by museums, hobbyists or collectors. Although not replicating exactly how historic Central Offices operated, this gives the resulting effect for demonstration purposes.

This page shows the circuit needed for responding to a Selector's (first) digit (for example) dialed that is not implemented, not-a-number, or otherewise not in service. Multiple circuits are needed for multiple simultaneous usages (different bank rotary positions, etc.) since once this is seized, other Selectors would find this rotary position busy due to the ground on S. The next page shows a similar circuit for the context of a Connector.

Unrelated to Intercepts, any audio could be played: tones, weather, time&temp, music, etc.

To Selector Banks

S

Slight SO to provide a few ms delay
so this circuit does not *appear* "busy"

T

Talk paths

R

Isolation for
SR capacitor

Control

100 uF
SR to prevent additional dialing
from disconnecting S gnd
(since this is potentially an
early digit in the dialed number)

Optional

A SR

Line
Supplies Talk Battery
($1 Songel relays were used in this example)

- Batt

Audio Source:
ex. MP3 Player Module*

* 5VDC power (typical)
can optionally be supplied via an additional
A relay contact, so the MP3 player only
operates when called (and thus starts at the
beginning of the recording file [for the first
circuit using it if multiple])

Three "A" Relays

MP3 Player & Amp

MP3 Player for Connector Intercept

An LM386 amplifier module provides a 1 W output.
This inexpensive module was used to isolate the more sensitive
MP3 player module. SxS switch spikes occasionally blew these.
The edge connector was re soldered to be rotated for conve-
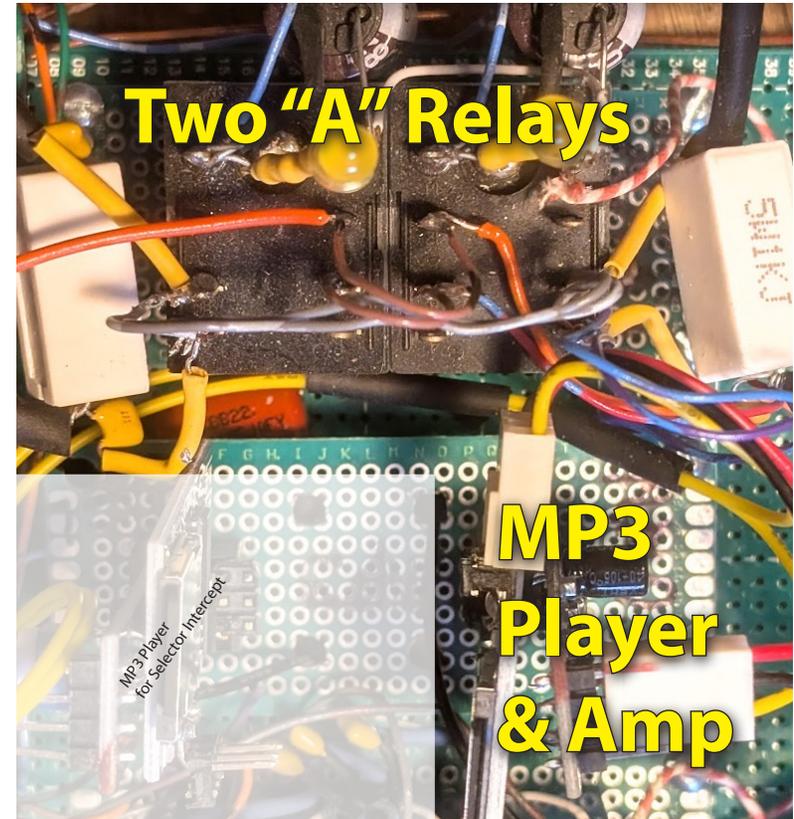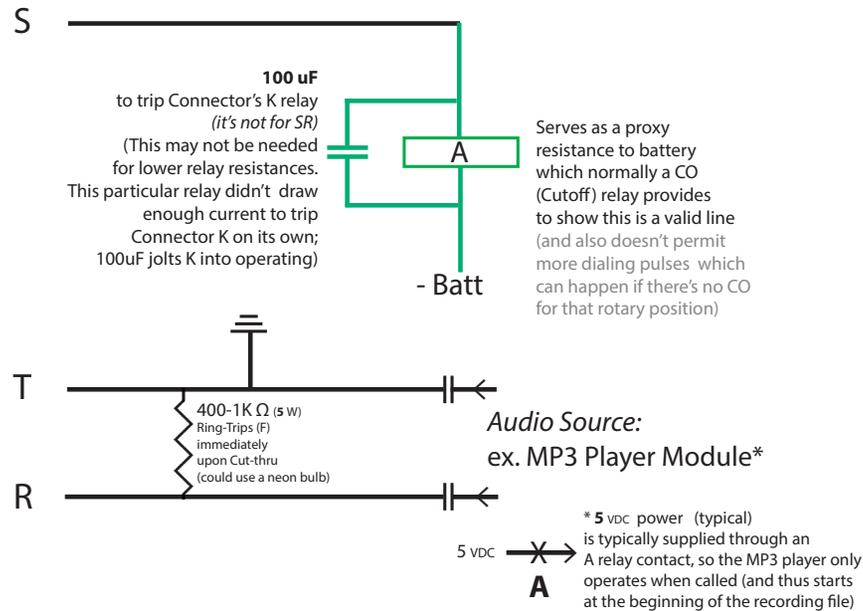nient (space-saving) vertical mounting.

Demonstration schematic above only considers one concurrent usage.
(Replicate the circuit for multiple instantiations.)

*Picture shows three circuits (relays) all using **one** MP3 player which just*
repeats continuously. The three circuits can be used for one "number" (level) with
rotary-hunt availability searching, or completely different numbers (Selector bank levels).

SIMPLE **CONNECTOR-LEVEL "INTERCEPT" CIRCUIT**
(Vacant, Changed, or Reserved Number)

To Connector Banks

S

100 uF
to trip Connector's K relay
(it's not for SR)
(This may not be needed
for lower relay resistances.
This particular relay didn't draw
enough current to trip
Connector K on its own;
100uF jolts K into operating)

A

- Batt

Serves as a proxy
resistance to battery
which normally a CO
(Cutoff) relay provides
to show this is a valid line
(and also doesn't permit
more dialing pulses which
can happen if there's no CO
for that rotary position)

T

400-1K Ω (**5 W**)
Ring-Trips (F)
immediately
upon Cut-thru
(could use a neon bulb)

R

Audio Source:
ex. MP3 Player Module*

5 VDC ——✕✕—— **A**

* **5** VDC power (typical)
is typically supplied through an
A relay contact, so the MP3 player only
operates when called (and thus starts
at the beginning of the recording file)

Two "A" Relays

MP3 Player & Amp

MP3 Player
for Selector Intercept

An LM386 amplifier module provides a 1 W output.
This inexpensive module was used to isolate the more sensitive
MP3 player module. SxS switch spikes occasionally blew these.
The edge connector was re soldered to be rotated for conve-
nient (space-saving) vertical mounting.

Demonstration circuit above only considers one concurrent usage.

*Picture shows two circuits (relays) all using **one** player which starts when one
of the relays is operated. The two circuits are for different numbers.
Once operated, this line (number) will be busy if other callers call it.*