GBPPR 'Zine − Issue #1

Welcome to **Green Bay Professional Packet Radio's (www.gbppr.org)** new magazine!

Unlike every other lame "hacker" magazine, we'll try not to be gay. No mindless drivel. No pointless group−think. No Communist Nazi terrorist sympathizers. No Wal−Mart bashing. No iPods. No fucking wardriving.

Editor : multiplx zine@gbppr.org

Distribution : http://zine.gbppr.org

Table of Contents

Local Loop Facility Tour

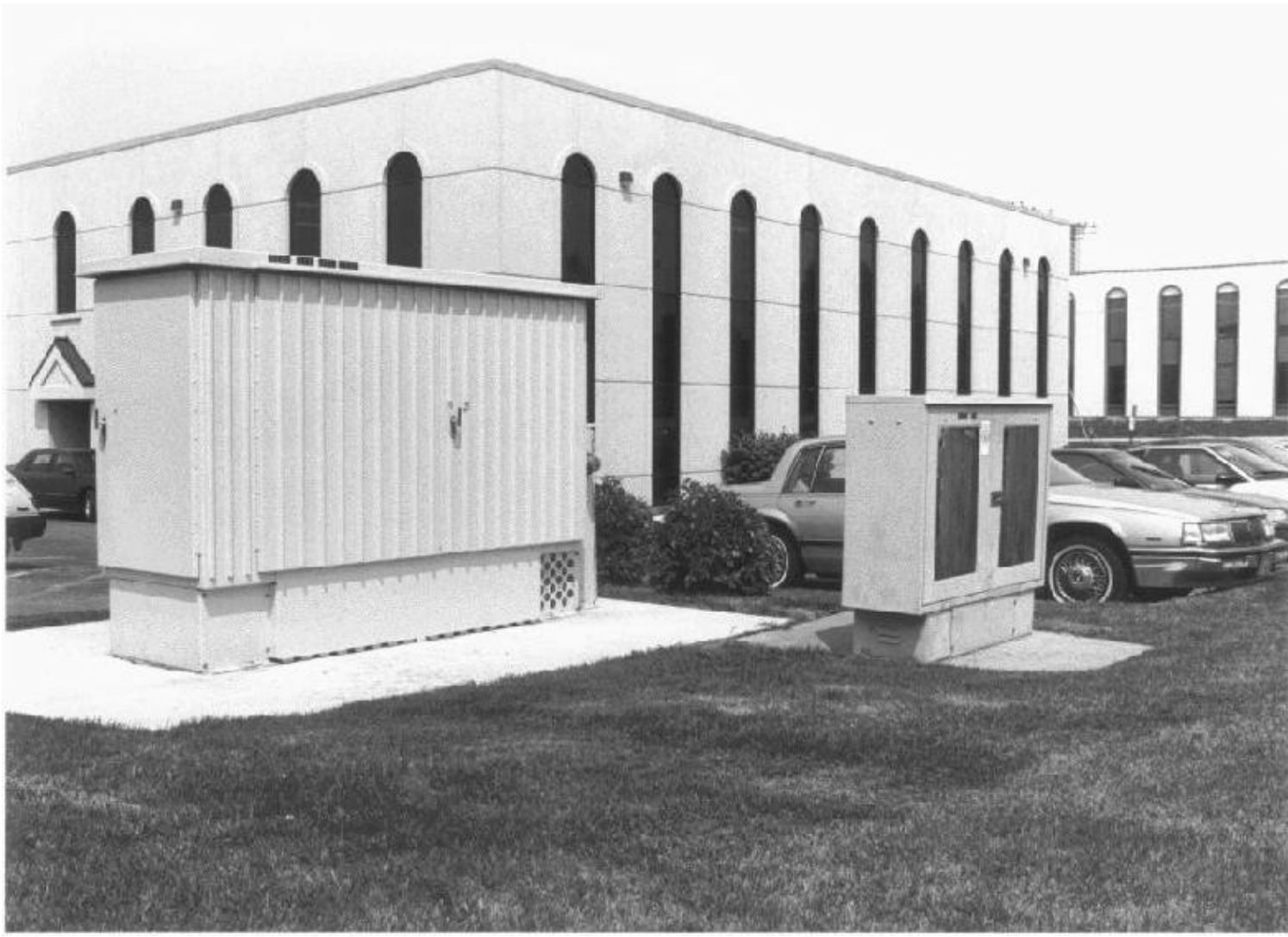
The local loop consists of feeder cables which are used to carry telephone traffic from the phone company's central office, which is also called a wire center, to various service areas established throughout the geographic territory served by that particular central office.

In most cases, local loops are copper (conventional twisted pair). Inside the central office, the local loop begins at the Main Distribution Frame (MDF). The MDF is a very large structure where the copper wires which make up a local loop are attached. Hundreds of these wires are bundled together into a single cable bundle serveral inches thick. This cable runs through the basement of the central office and out into the phone company's conduit system and then into a neighborhood. At some point, the cable will come out of the conduit system into an above−ground cabinet. In this cabinet, each of the individual wires will be attached to a particular location on a small panel. These individual wires are "cross−connected" at this point with wires running into nearby homes and businesses.

There are also other types of local loops. Sometime the feeder cables are equipped to act as Subscriber Loop Carrier (SLC) systems. In the case of copper cables, this is accomplished by installing subscriber digital loop carrier systems. Alternatively, fiber optic cables can be used to transmit the digital signals optically. The actual equipment used at the end of the feeder to provide the loop carrier system functionality is typically housed in special above−ground cabinets or in below−ground Controlled Environmental Vaults (CEVs). The area served by digital carrier feeder cable is classified as a carrier serving area.

Only about 5% of phone company's loops are subscriber digital loop carriers. The other 95% is still plain old copper. However, much of todays growth is being implemented through the placement of subscriber loop carrier systems.

Local Loop Facility Tour

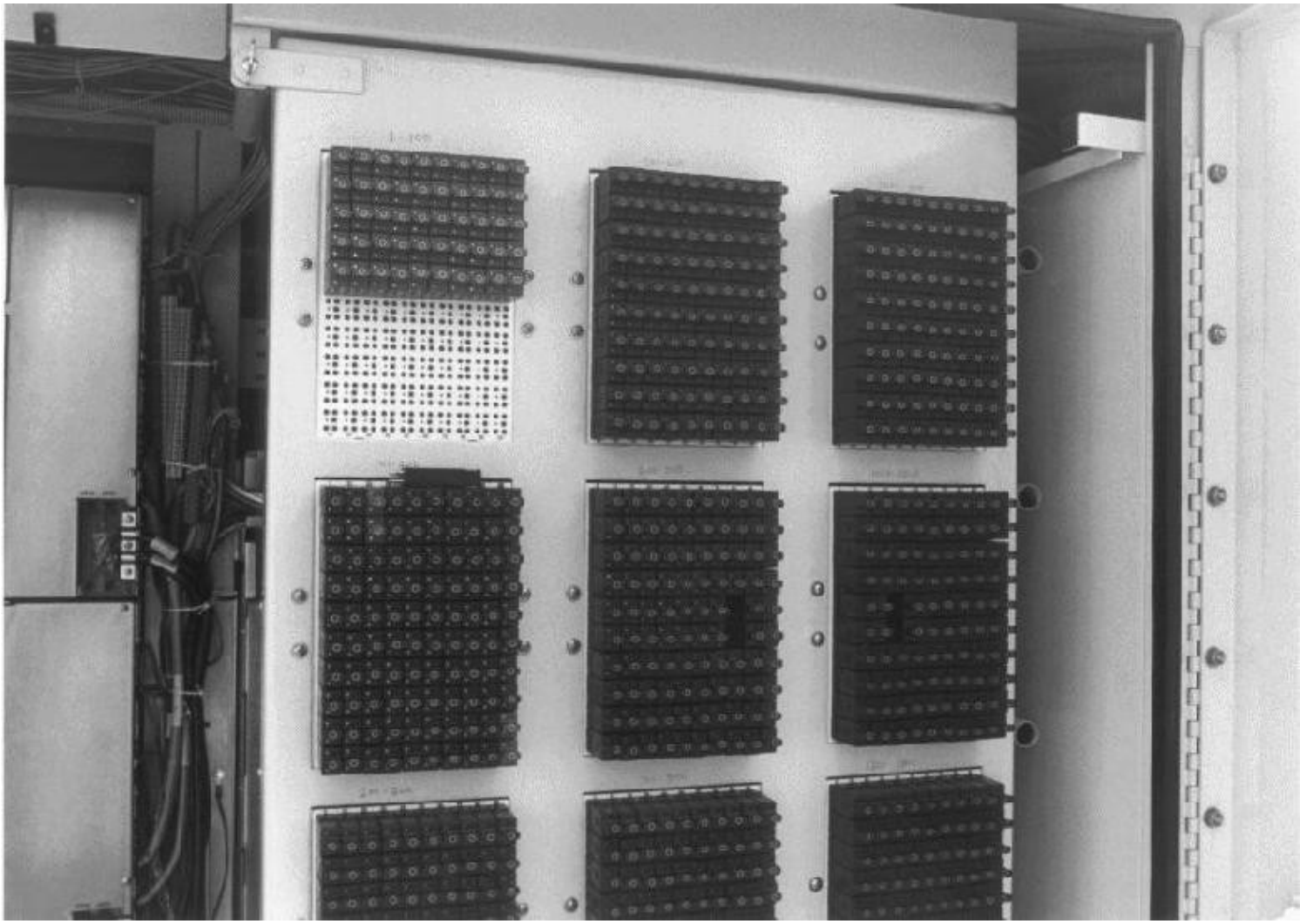


This is an external view of a Litespan 2000, model 2020. The smaller cabinet is a conventional cross−connect box and is described later. This cabinet is approximately 3 feet wide, 9 feet long and a little over 6 feet high. It rests on a 10 by 14 foot concrete pad. Prior to pouring the pads, four cable conduits were installed for telephone cable at one end and additonal conduits for commercial power were installed at the other end. This particular cabinet is designed to work with fiber optic transmission cables. At maximum capacity, this cabinet is capable of serving 2,016 lines. The base is designed to hold up to 40 12−volt batteries to maintain service in case of commercial power failure. These batteries can be recharged using a portable generator if the commerical outage is extensive.

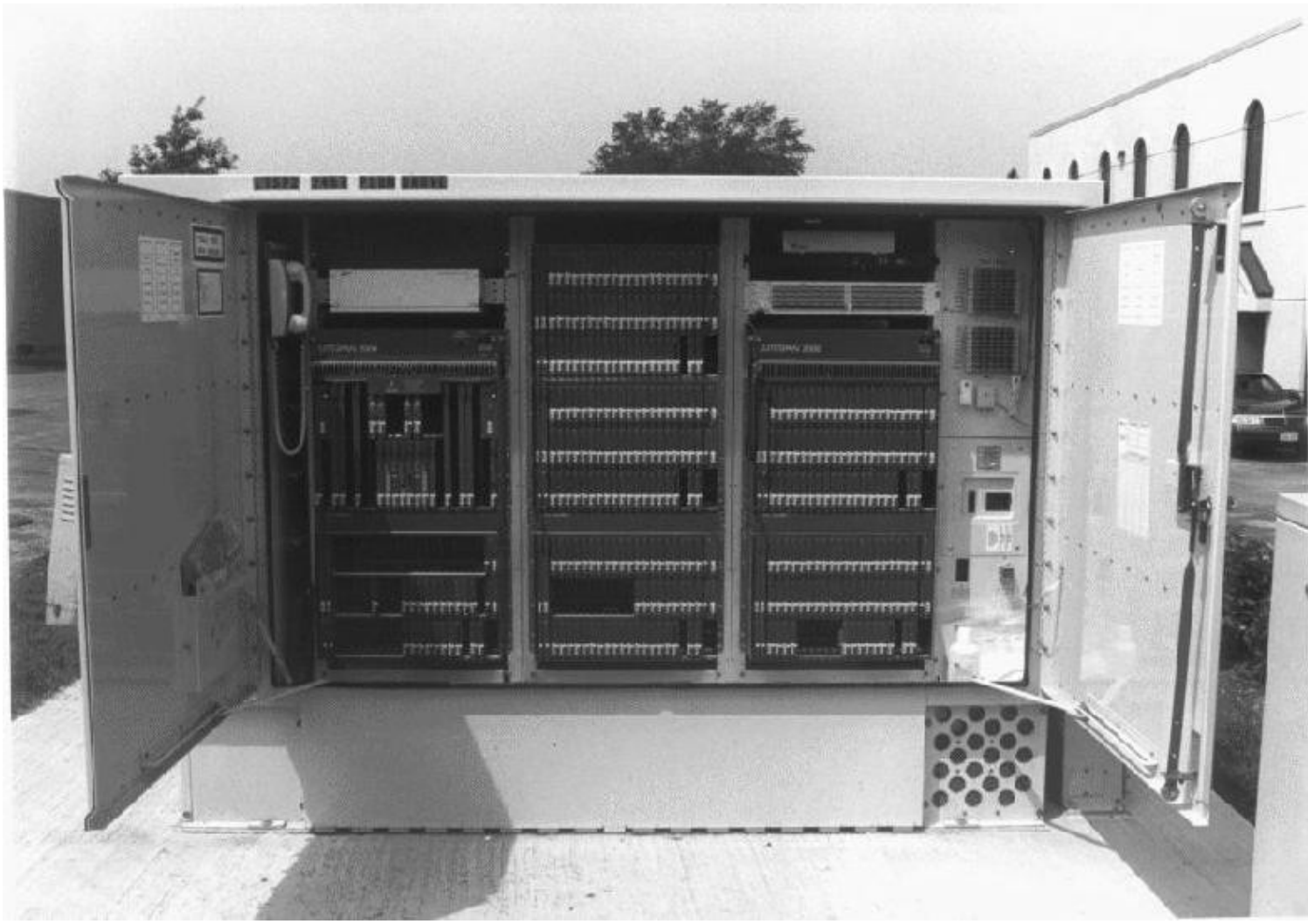
Local Loop Facility Tour

This shows the telephone cables entering the splice chamber. The small plastic devices attached to the individual wires are splices which connect the individual loops to the cabinet's internal electrical equipment. Before each line enters the electronic package it passes through protection equipment which safeguards the line from lightning surges and other over−voltage situations. Both sides of the cabinet open up to provide access to the loop electronics and protection circuitry.

Local Loop Facility Tour



Surge and over−voltage protection circuitry is shown in this photo. The protection circuitry also provides test access and circuit isolation functions.



Back of the cabinet with the doors open. This shows the actual Litespan 2000 circuit cards.

Local Loop Facility Tour

This shows the front side of the cabinet housing the commercial power interface and circuitry for converting AC power to the DC power used by the equipment and required to keep the batteries in a charged state. In addition, a telemetering system monitors power systems, access conditions, security, temperature and other vital functions and relays any abnormal conditions back to a monitoring center.

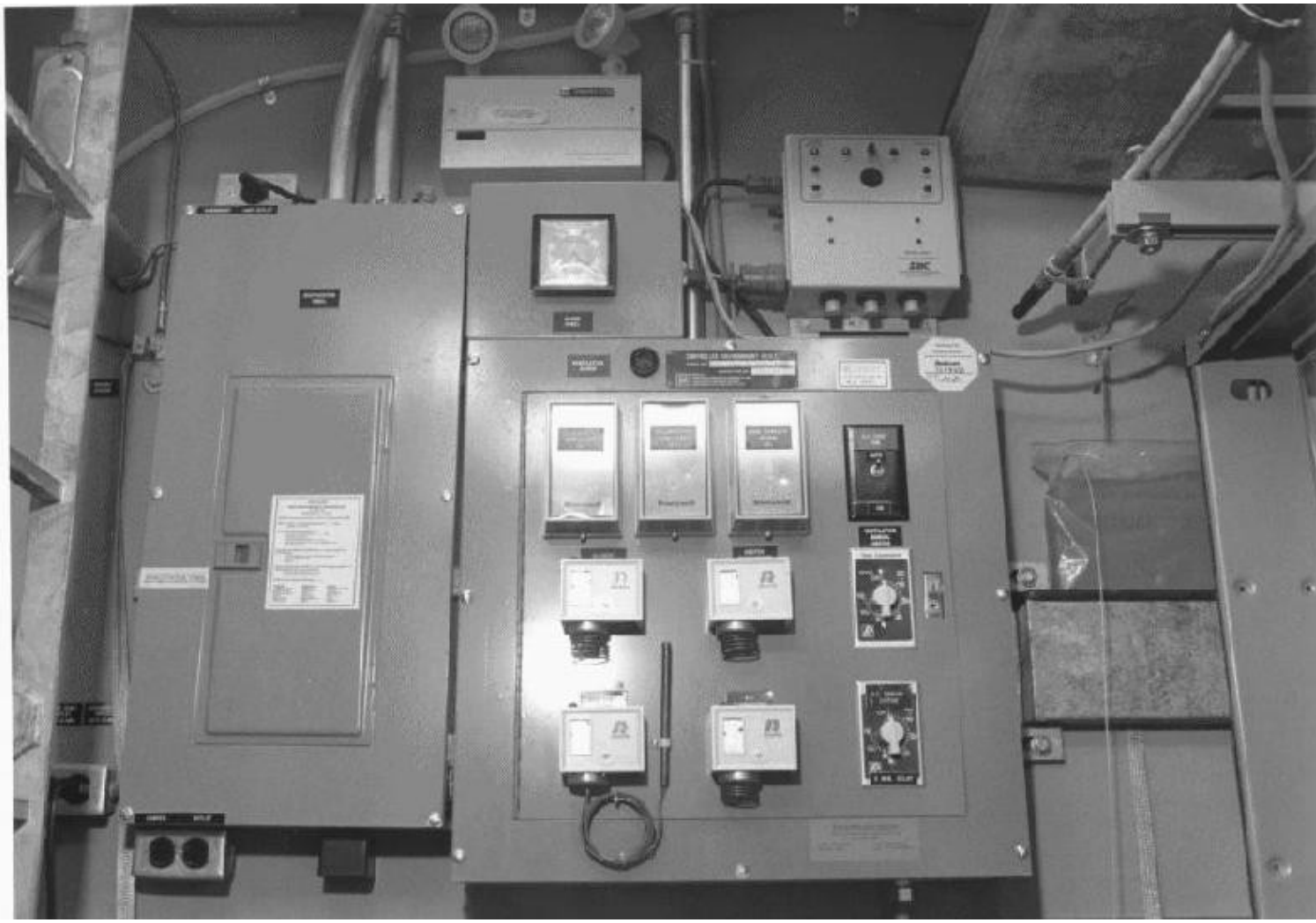
Local Loop Facility Tour

This shows the access hatch to a controlled environmental vault. CEVs are concrete enclosures buried below the ground. There are two sizes of CEVs, the smaller one has outside dimensions of 16 feet in length, 6 feet in width and 9 feet in height. A larger version is 24 feet in length with the same height and width dimensions. A 16 foot CEV can be used to serve up to 3,456 lines. The maximum capacity of the 24 foot CEV is 5,760 lines. CEVs are preassembled and shipped to the construction site. Telecommunication equipment is installed at the factory prior to shipment. The top and bottom sections are built separately and they are joined at the site. A crane with a 100 ton lifting capacity is required to lower the preassembled sections into the excavation.

Local Loop Facility Tour

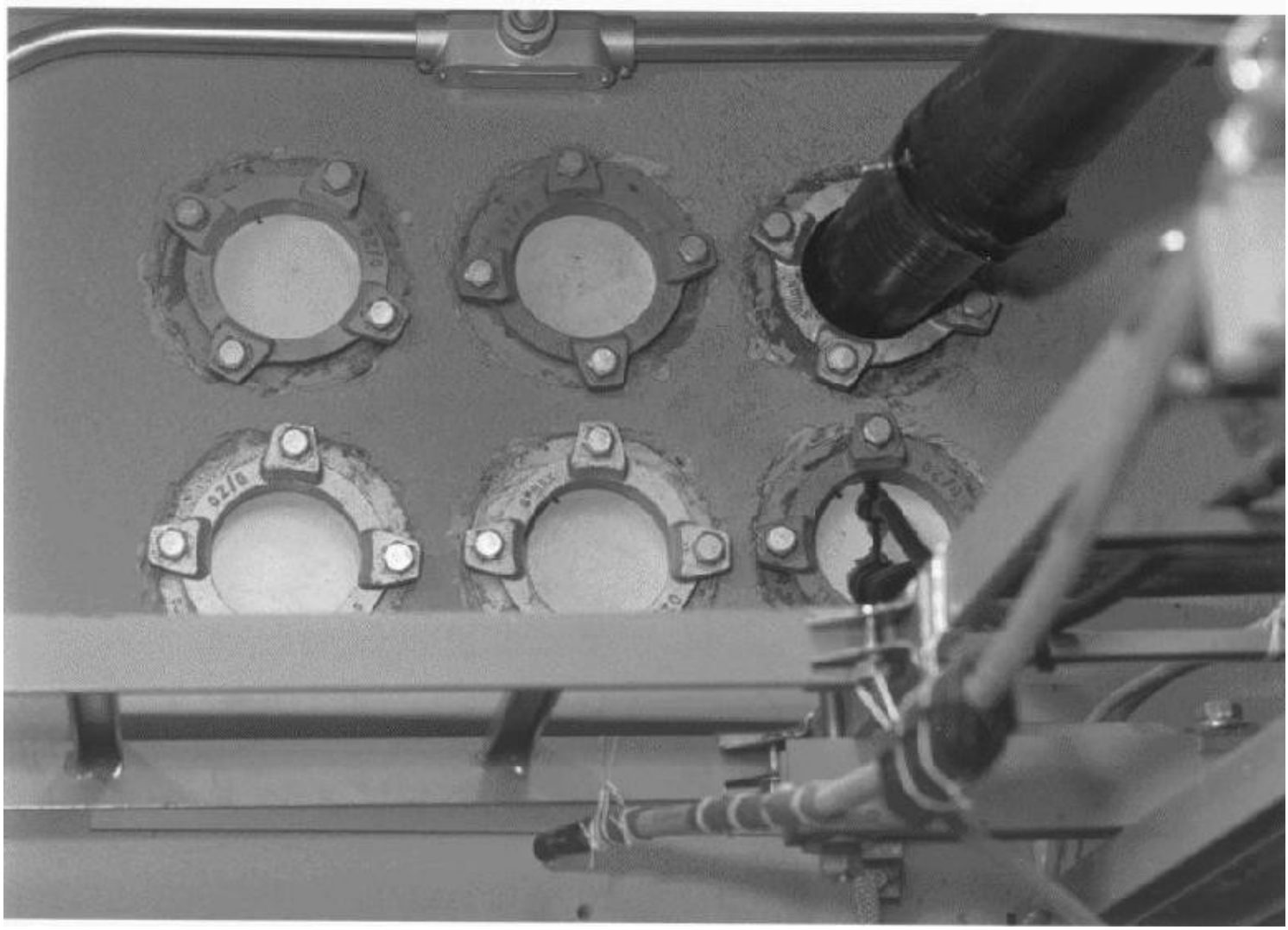
A coded door lock (Simplex) secures the hatch. Opening the access hatch activates an intrusion alarm which results in the monitoring center being notified via telemetering equipment that the hatch has been opened. A view of the status lights indicating when it is safe to descend and the ladder leading down to the interior of the CEV are shown in the picture. Employees must check these indicators before entering. Upon entering the vault, employees must call the monitoring center and provide appropriate identification and indicate the purpose of their entry.

Local Loop Facility Tour



This alarm panel detects smoke, explosive or toxic gases as well as monitoring temperature, humidity, ventilation, water level and power systems.

Local Loop Facility Tour



Telecommunication cables enter and leave the vault through conduit placed high on the back wall. This picture shows the six conduits installed in this vault. The vault is relatively new so only two are in use. Even if the vault was fully loaded, there would be at least one spare conduit reserved for emergency use. The large black cable emerging from the top right−hand corner is copper wire local distribution cable connecting to homes, businesses, schools and other locations in the neighborhood. The smaller black cable emerging from the lower right−hand conduit contains the fiber optic cable. All the conversations carried on the individual wires contained in the large black cable can be converted to pulses of light and transmitted to the central office over the fiber optic cable.

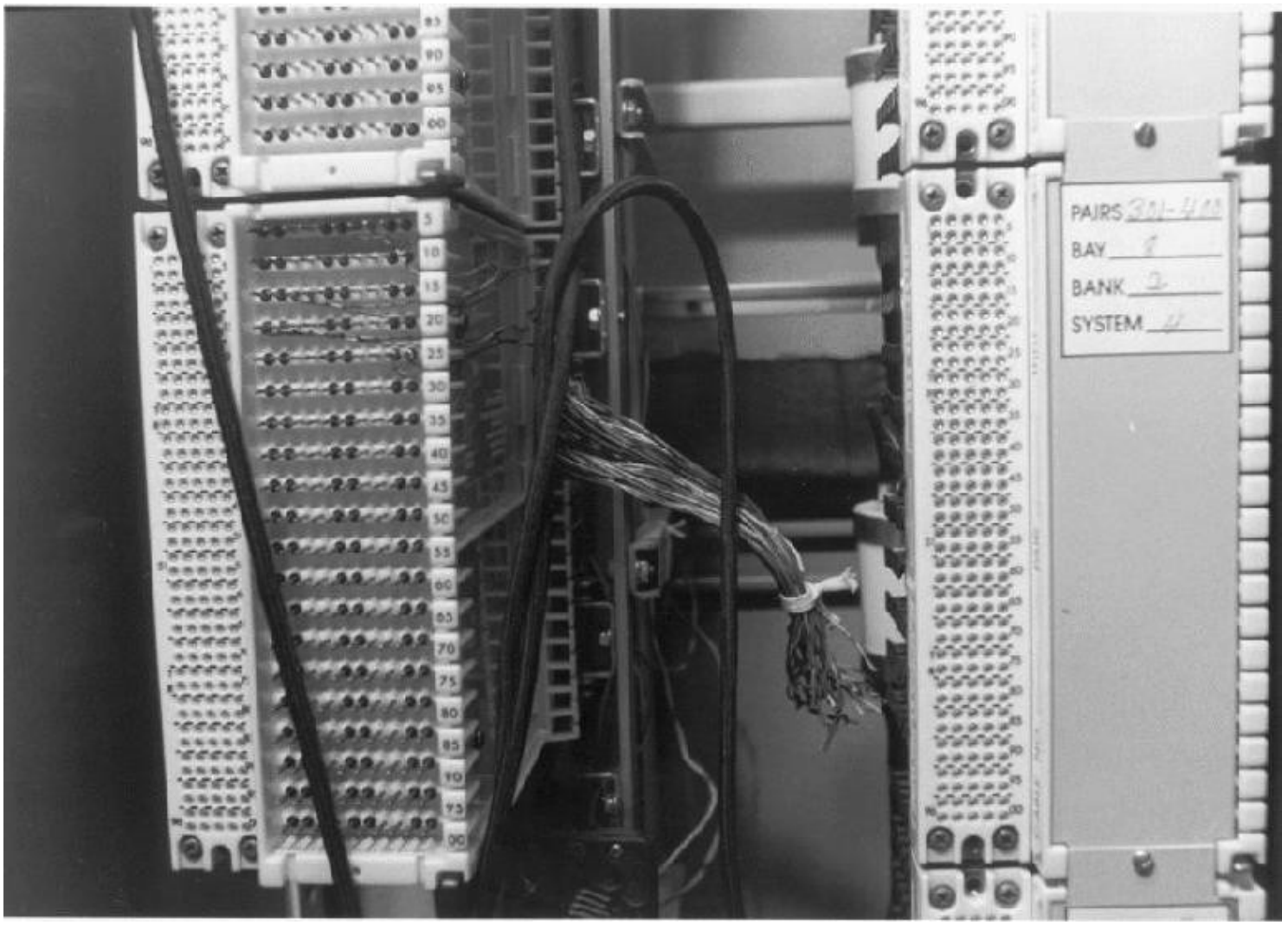
This shows the cable entering the splice chamber. The cover of the splice chamber has been removed for these pictures. This splice chamber is used to connect the copper cables coming into the vault to other equipment located inside the vault.

This is the top of the splice chamber. Note that although there are six conduit entrances into the vault there are only four black rubber "boots" on top of the splice chamber. This reflects the fact that conduits are held in reserve for emergency cable pulls in case of a fiber cut and are not expected to be used in part of the standard circuit configuration.

Local Loop Facility Tour

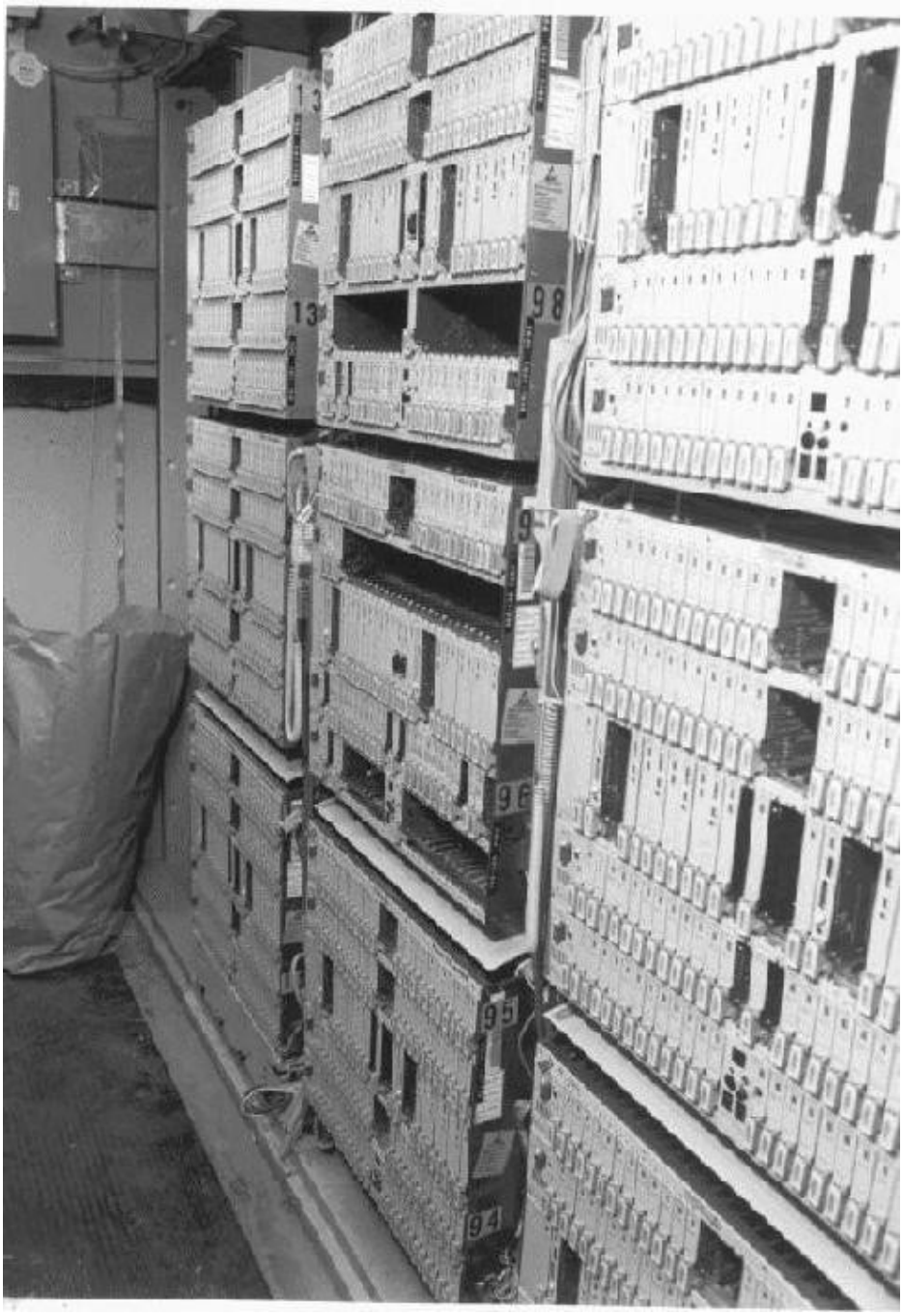
This is a closer view of the actual spliced connections. Each splice connects 50 pairs together.

Local Loop Facility Tour



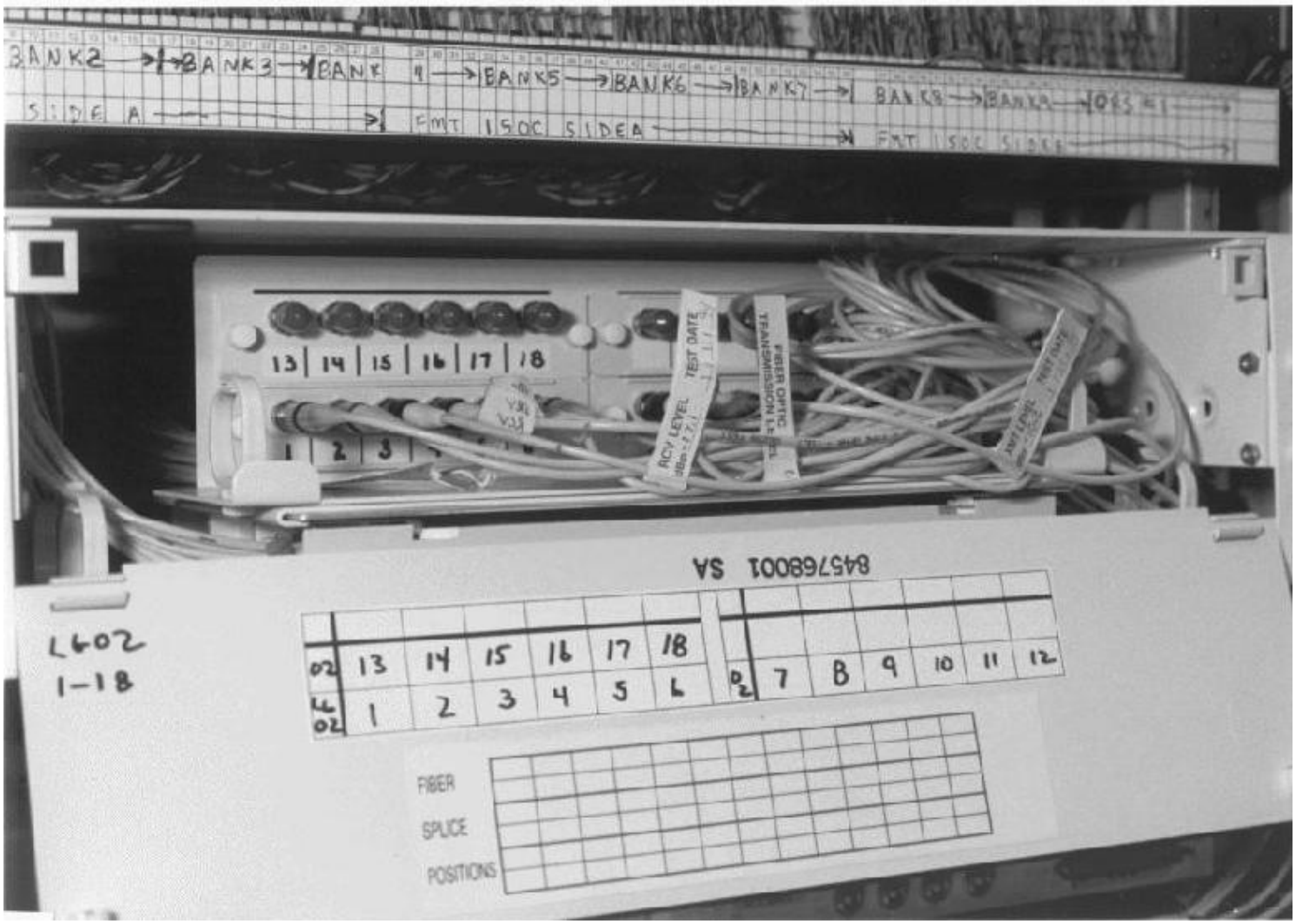
The above splices connect the copper wire pairs to protection equipment located next to the splice chamber. This equipment provides the identical function performed by the same equipment in the above−ground cabinet. It serves to safeguard the vault and personnel working on the equipment from lightning surges and other over−voltage situations.

Local Loop Facility Tour



The telephone lines from homes and businesses in the area are eventually connected to this electronic equipment, a subscriber loop carrier system. This equipment converts digital signals coming from the central office into analog signals for delivery to the home. In the other direction, the equipment converts the analog singals to digital signals and combines digital signals from many calls into high speed pulses of light which are sent over fiber optic cables back to the central office.

Local Loop Facility Tour



This shows the fiber optic cross−connect panel. Individual fibers are cross−connected to the appropriate equipment which converts the light pulses to electrical pulses used by the digital loop carrier systems. A Nortel FMT−150C in this case.

Local Loop Facility Tour

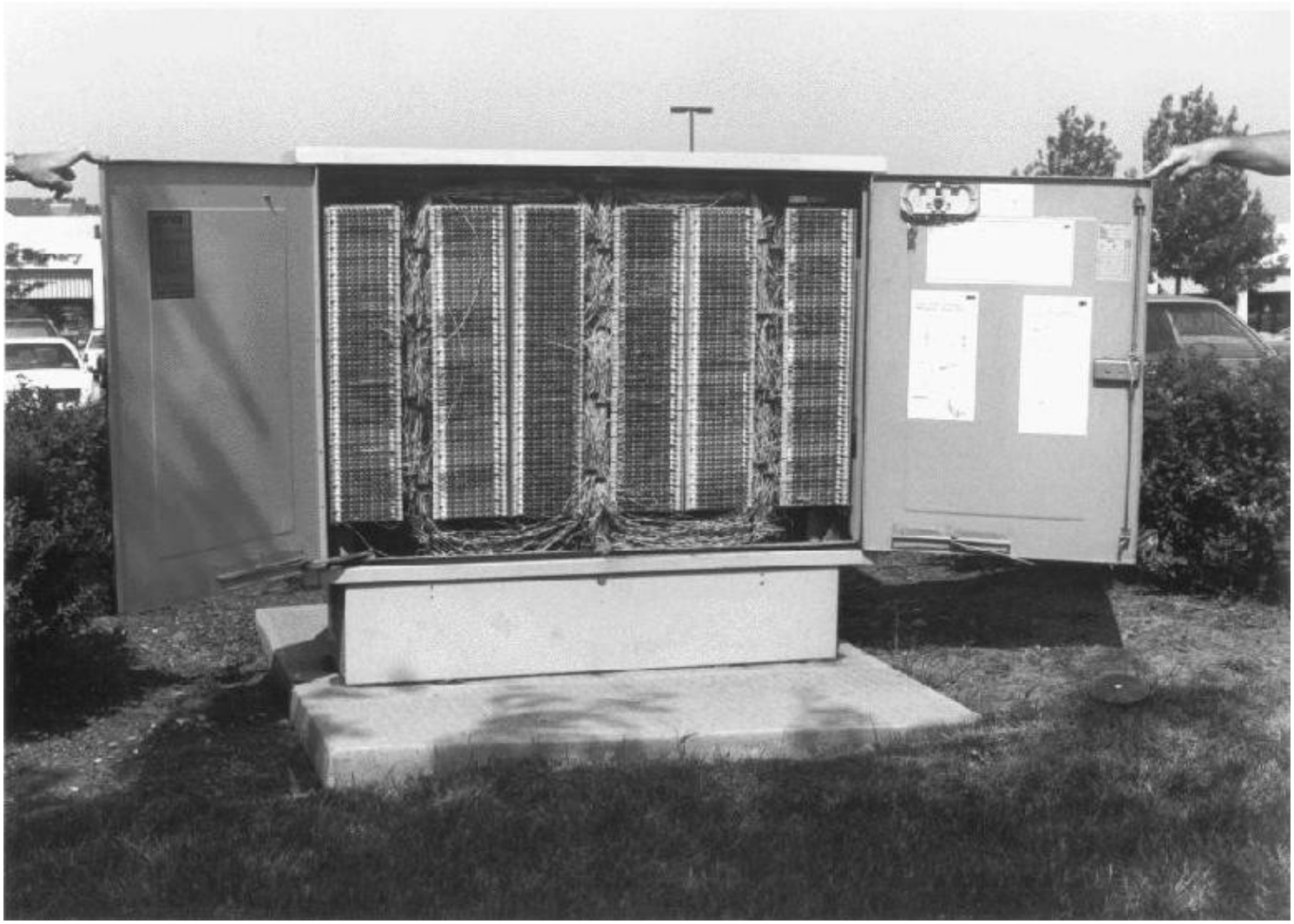
To maintain service in case of commercial power interruption, the CEV also contains banks of batteries to provide stand−by power. If an extended power outage occurs, connections are provided to permit an external generator to be connected to the battery charging equipment.

Local Loop Facility Tour

This is a cross−connect box. It is used to cross−connect feeder cables to local distribution cables serving the immediate area. The box's physical dimensions are 17 inches wide, 5 feet long and 4 feet high. Doors on both sides of the cabinet swing open to provide the technicians access. The box is engineered to economically connect the pairs serving the immediate area to the feeder cables coming from the central office or in some cases from a CEV or remote terminal.

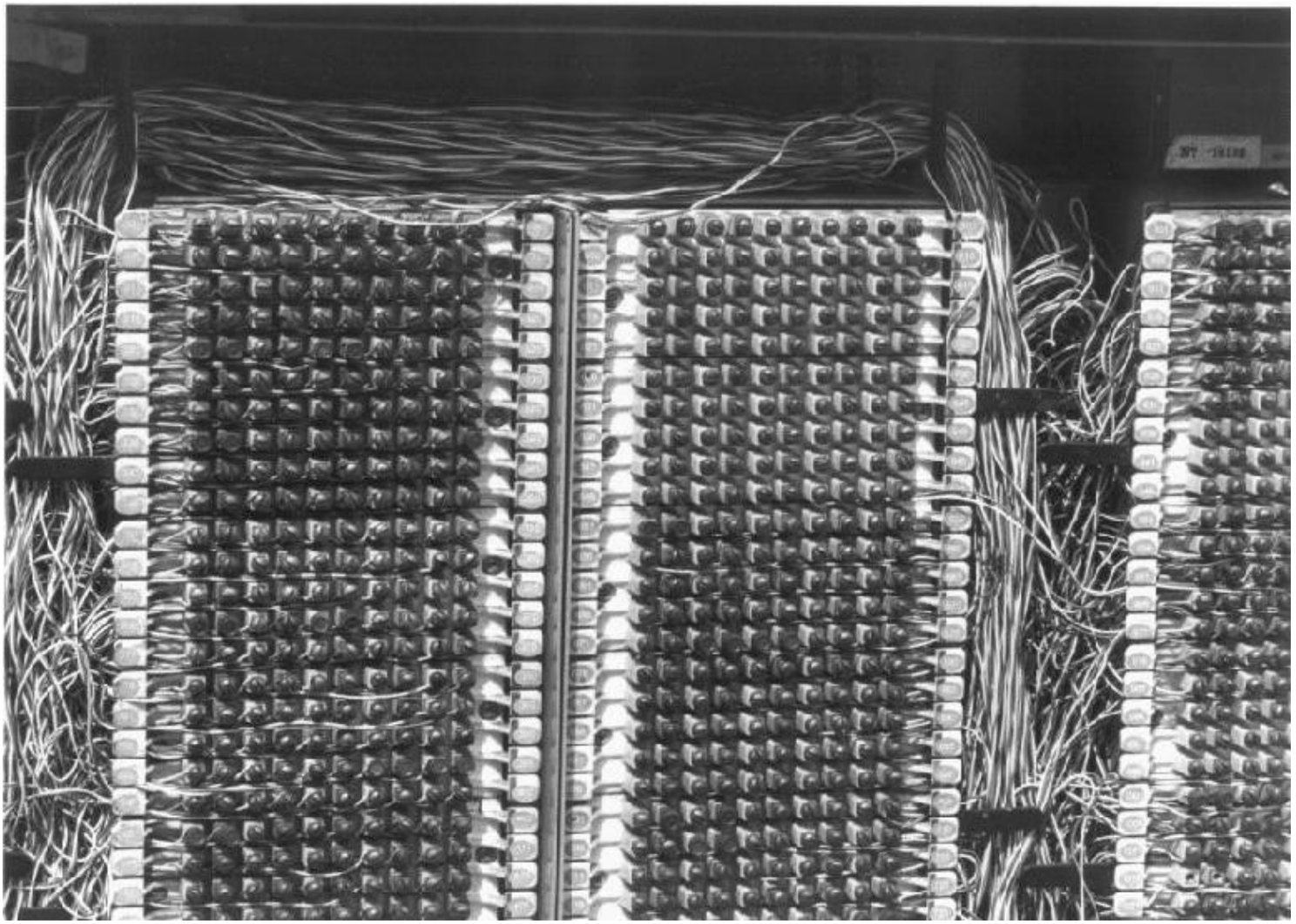
Depending on the nature of the area being served, local distribution pairs will exceed feeder pairs by some predetermined ratio. For instance, if the ratio is 1.5:1, then there would be three local distribution pairs for each two feeder pairs. When installing cable within a given community, it is not possible to predict, on a lot−by−lot basis, which customers will be ordering two or more lines. However, based on demographics of a given area, the phone company can estimate the total demand for service. As customers order service the phone company can cross−connect a feeder cable pair coming from the central office to an appropriate local distribution pair serving the end user customer. This system also allows them to more rapidly restore service by switching a customer service from a defective pair to one that is in working condition. Each cross−connect box is designed for a particular type of connector and for the cable feeder to local distribution cable ratio most appropriate for that area.

Local Loop Facility Tour

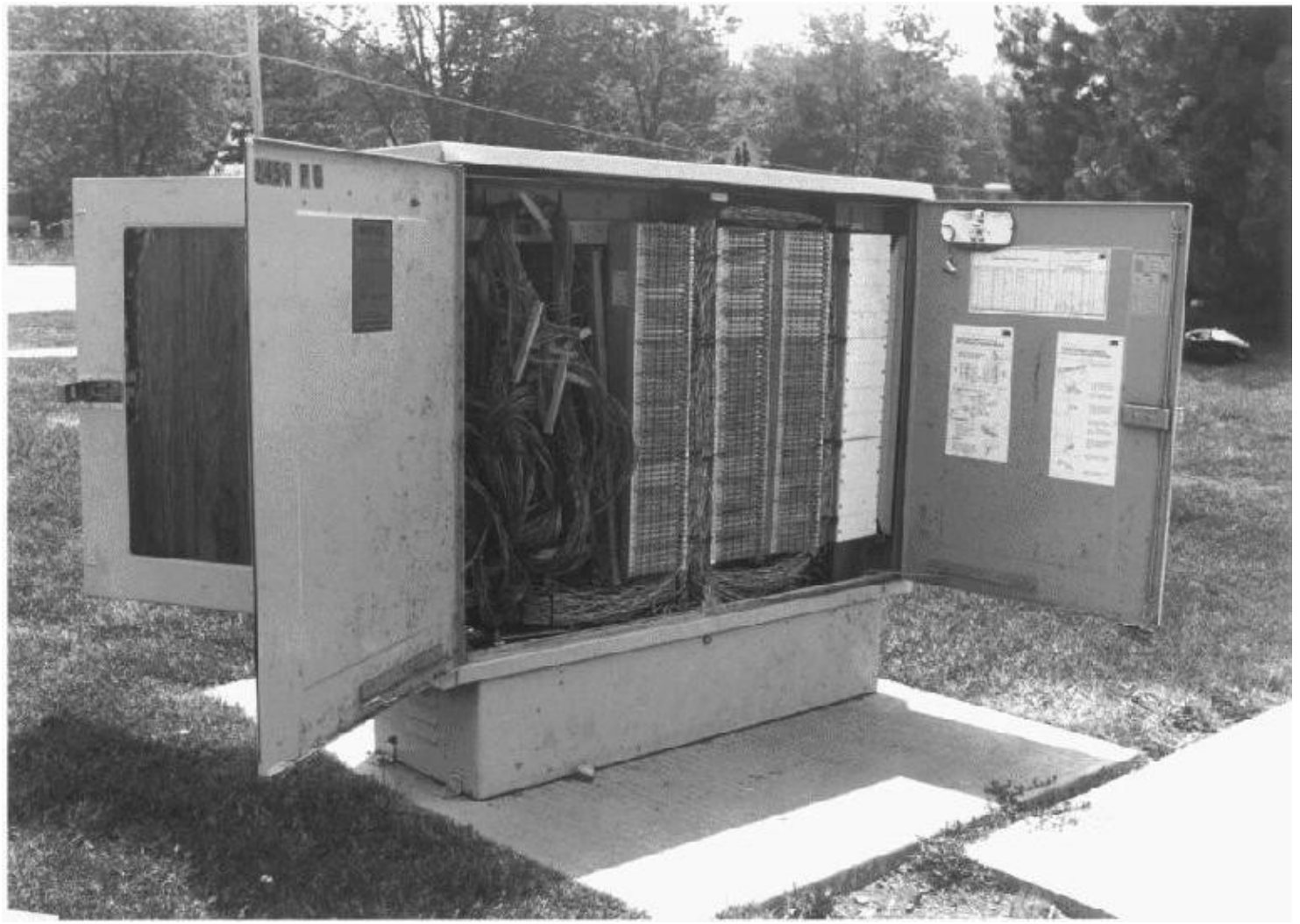


Inside a cross−connect box.

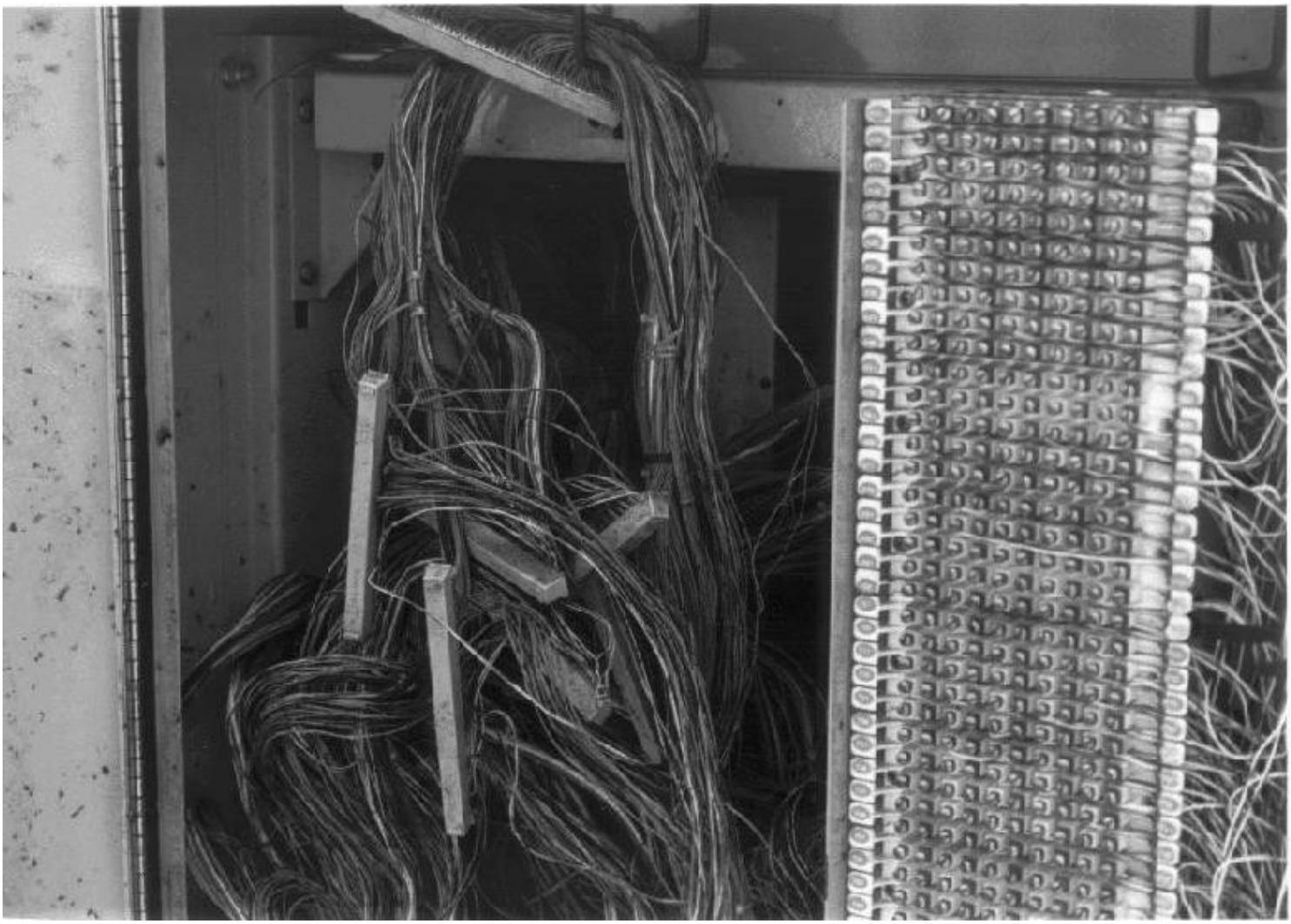
Local Loop Facility Tour



Individual wires are used to connect feeder pairs to the appropriate local distribution pair. A closer view of these connection blocks is shown above. If you examine it closely you can see the individual wires connected to the screws. Other cross−connects use "punch−down" terminals.



The back of the cross−connect box.



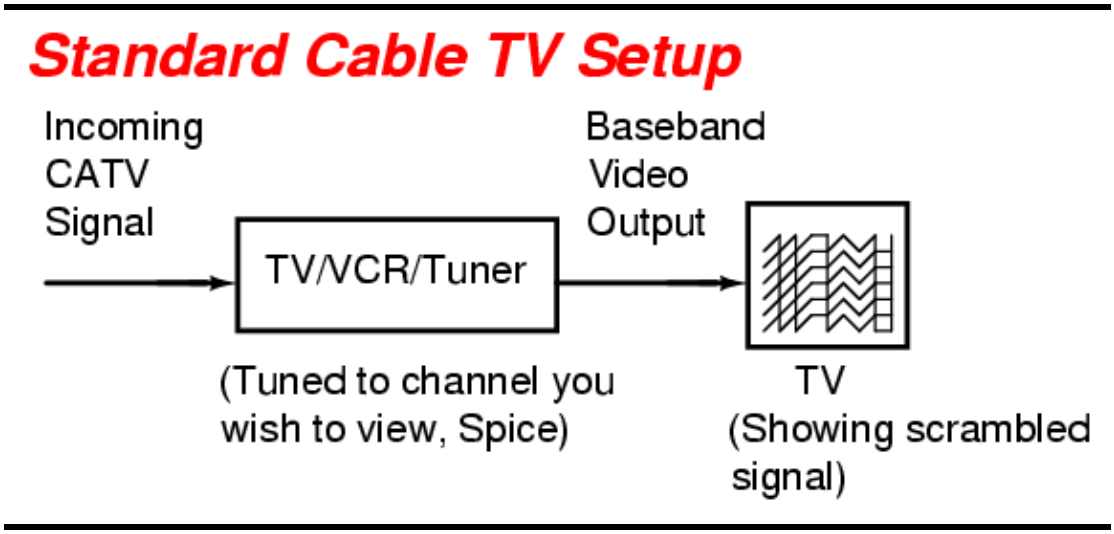
Located behind the connecting blocks are splices which connect the feeder and distribution cables to their associated connecting block.

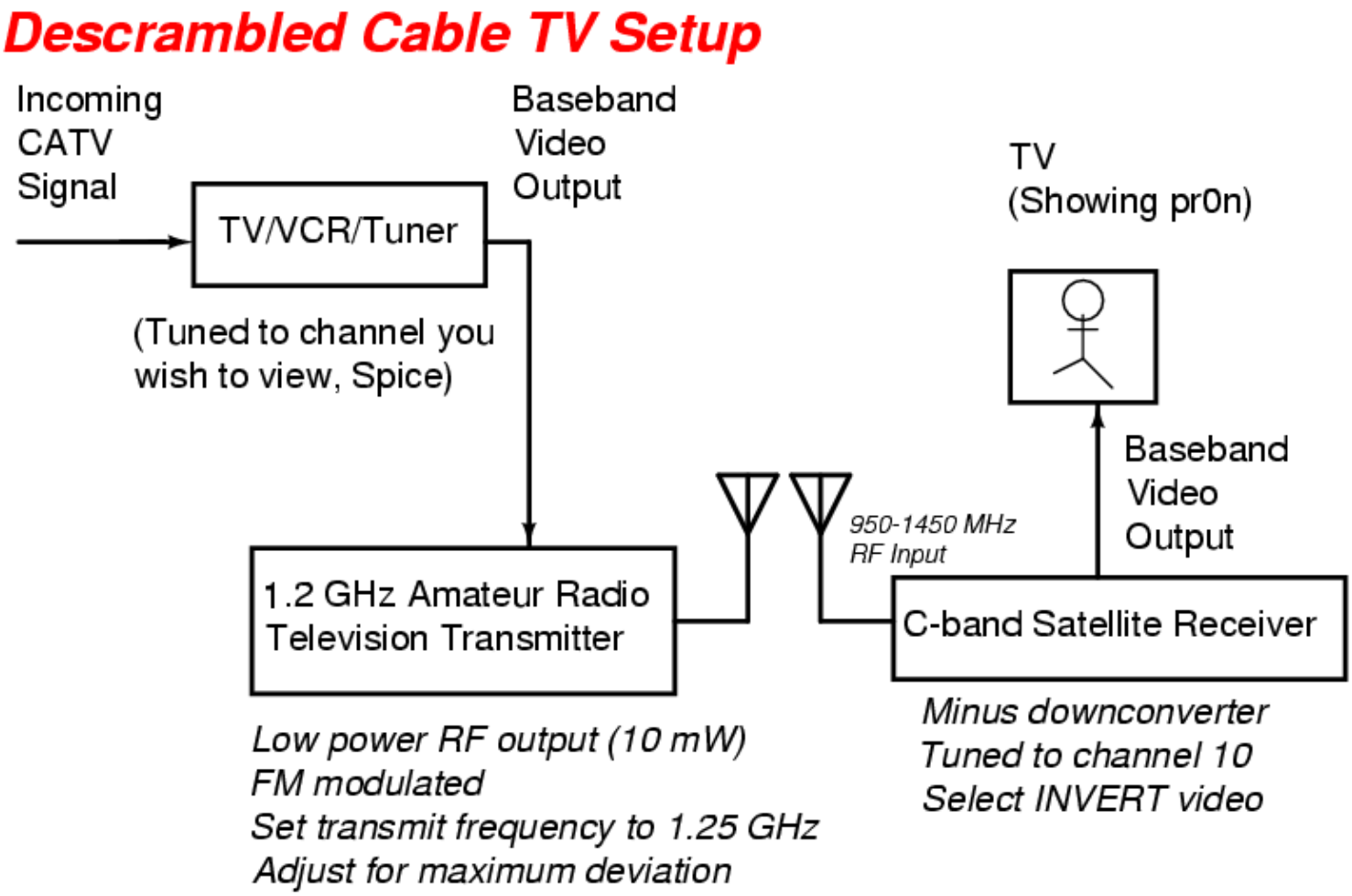
Splices from a different angle. Although obscured by the wiring and splices, the rear of the connecting blocks on the opposite side of the cabinet are located immediately behind the splices. Additional connecting blocks are located to the right of the cable splices.

Descrambing Analog Cable TV Channels

Here is a trick using a 1.2 GHz (23 cm) FM modulated amateur radio TV transmitter, an old C−band satellite receiver (with video invert option) and a TV with a baseband video input to descramble pay−per−view, or other premium cable channels. This method has only been tested on an analog AOL/Time Warner cable system − and does work. It helps if you can find a security system monitor to display the video signal, as these often have external controls for adjusting horizontal and vertical syncronization. This will help in tweaking the final results.

It works by taking the scrambled, baseband video signal and *transmitting* it via a frequency modulated (FM) transmitter *with too much deviation*. This allows a scrambled video signal with sync−suppression and video inversion to be received on a standard C−band satellite receiver via its 950−1450 MHz input. The over−deviating part allows the suppressed sync signals to actually be "brought up" in strength, and along with enabling VIDEO INVERT on the satellite receiver, a clear picture can then be seen − minus the color. There is no way to restore the color component using this method.





The TV transmitter and the satellite receiver need to be placed next to each other, if you are using simple wire antennas. Avoid connecting the transmitter directly to the receiver or you'll burn out the receiver's input RF stage.

Schematics and construction details of the GBPPR 1.2 GHz (23 cm) ATV Video Transmitter are available here:

http://www.gbppr.org/atv/index.html

Monitoring Spice Channel Audio on AOL/Time Warner Cable

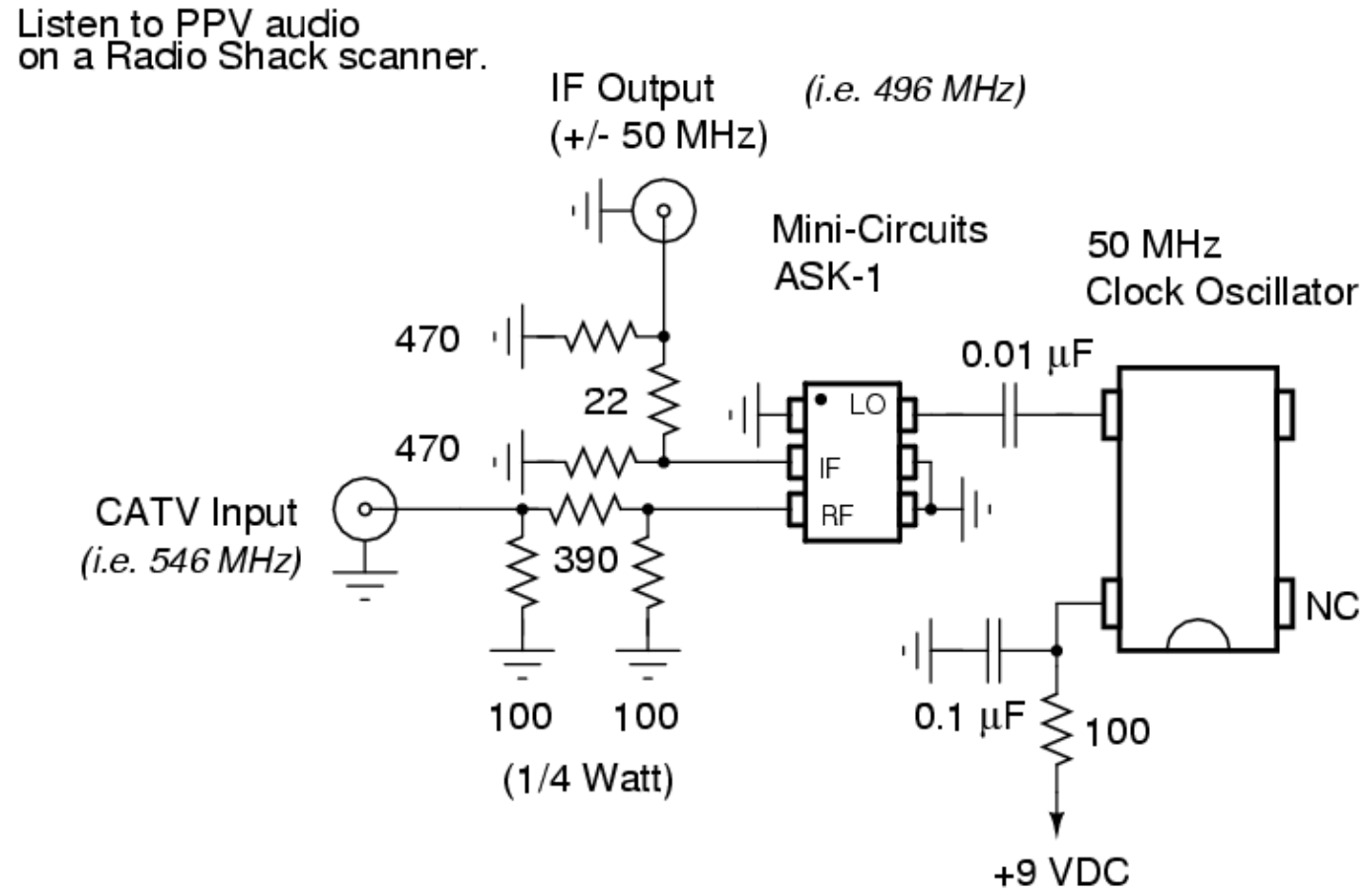
Along with the usual video sync suppression − the Spice channel, as carried on AOL/Time Warner cable, "jams" the supplied audio carrier to frustrate any attempts on audio eavesdropping. On a normal NTSC video signal, the FM modulated audio carrier is offset 4.5 MHz from the video carrier. Example: if the center video carrier you want to receive (channel 77) is at 541.25 MHz then the audio carrier will be at 545.75 MHz (541.25 + 4.5).

On the good channels, such as Spice, the commie bastards at AOL/Time Warner actually transmit a random "noise" signal at the standard 4.5 MHz offset. The true, unencrypted audio signal is actually transmitted at a non−standard offset of 4.75 MHz, 250 kHz higher (541.25 + 4.75 = 546 MHz). If you where to directly monitor your cable TV signal, through about 20 dB of attenuation, on a communications receiver tuned to 546 MHz (wideband FM) the audio

would be crystal clear.

The following schematic is a simple converter you can add to a Radio Shack scanner (Radio Shack scanners have frequencies between 520−800 MHz blocked) to downconvert a 520+ MHz audio carrier down to a lower frequency, 50 MHz lower in this case. Example: input frequency is 546 MHz, it's mixed with 50 MHz to produce a new Intermediate Frequency (IF) at 496 MHz, a frequency the scanner can receive.

CATV Audio Converter



If you didn't understand any of that, ask the guys from thebroken.org to explain it for you.

Northeast Wisconsin Test Numbers

I got ahold (don't ask) of the actual test number hand−outs back when I was hardcore phreakin'. It's mostly for historical purposes now, some still work though.

SUBJECT: 958 Toll Free Test Numbers

DATE: July 21, 1987

FILE: WT87−29−01

PROCEDURE FOR: Distribution Service Personnel − Field

INFORMATION FOR: DSOC

AUTHOR: Donald J. Aber, (414) 678−6866

In the near future, Wisconsin Bell Test Line Numbers will be revised to reflect changes in test numbers for ESS/Digital Type offices. A new exchange (958) will be opened throughout most of WBI's central offices.

When FLS (Free Line Service) was discontinued, it became necessary for some work groups and/or vendors/customers to pay toll for the use of test line numbers. The 958 exchange will eliminate this and again provide free access to all of the test line numbers.

The type of test and the new numbers are as follows:

Milliwatt (1000 HZ)	958−0010	Balance (900 Ohm)	958−0015
Loop Around	958−0011	1004 Hertz Test Tone	958−0016
Dry Line Test	958−0012	Synchronous Test	958−0017
Open Test	958−0013	Coin Test	958−0018
Short Test	958−0014	Silent Termination	958−0019

All of these numbers will be common to ESS/Digital Type offices only. These numbers will become available in step−by−step and cross−bar offices when they are converted to ESS or Digital. Until all electro−mechanical offices are converted, use existing test line numbers.

At this time, 958 test numbers should not be given out to vendors or customers. Refer any requests to the Test Line Coordinator (see WT83−29−04)

As the offices are converted to 958 numbers, the I&M Staff will call the DSOC Manager responsible for the area of the converted office. It will be the DSOC Manager's responsibility to notify the respective work groups (inside and out) of the changes.

Known Test Number NPA−NXX's

920/414−953	920/414−975	608−956
920/414−954	920/414−976	608−957
920/414−955	920/414−977	608−959
920/414−958	920/414−978	608−970
920/414−959		608−973
920/414−961		608−978
920/414−970		608−980
920/414−974		

Other Green Bay Test Numbers

```
Covers exchanges 433,431,435,436,437,455

433-0015        Balance Termination
433-0044        1004 Hz
433-0098        Synchronous
433-0004        Transmission Test Line
433-0014        Short Test
433-0011        Loop Around
433-0010        Loop Milliwatt

Covers exchanges 434

434-0011        Balance Termination
434-0010        1004 Hz
434-0009        Synchronous
434-0004        Transmission Test Line
434-0014        Short Test
434-0013        Open Test
434-0011        Loop Around
434-0010        Loop Milliwatt

Covers exchanges 468,465,469

465-0015        Balance Termination
468-1097        1004 Hz
465-0009        Synchronous
465-0005        Transmission Test Line
465-0014        Short Test
465-0013        Open Test
465-0011        Loop Around
465-0010        Loop Milliwatt

Covers exchanges 494,496,497,498,499

497-0015        Balance Termination
497-1097        1004 Hz
497-4965        Synchronous
497-0004        Transmission Test Line
497-0014        Short Test
497-0013        Open Test
497-0011        Loop Around
497-0010        Loop Milliwatt

952-0015        Balance Termination
952-0012        1004 Hz
952-0098        Synchronous
952-0004        Transmission Test Line
952-0014        Short Test
952-0013        Open Test
952-0011        Loop Around
952-0013        Loop Milliwatt
```

Green Bay Huth Street Central Office Test Numbers

```
468-0096        Tone
468-0074        Don't dial 950 ...
468-0073        Must dial 950 ...
468-0072        Can't be completed as dialed ...
468-0071        Please hang up and try again ...
```

```
468-0070        Call didn't go through ...
468-0068        Telephone facility trouble ...
468-0067        All circuits are busy ...
```

Oshkosh

```
Covers exchanges 236,231,233,235,426

236-0015        Balance Termination
236-0010        1004 Hz
236-0098        Syncronous
236-0004        Transmission Test Line
236-0014        Short Test
236-0013        Open Test
236-0011        Loop Around

Covers exchange 424

424-9915        Balance Termination
424-9910        1004 Hz
424-9998        Syncronous
424-9904        Transmission Test Line
424-9913        Short Test
```

De Pere

```
Covers exchanges 337,336

337-0015        Balance Termination
337-0010        1004 Hz
337-0098        Syncronous
337-0004        Transmission Test Line
337-0014        Short Test
337-0013        Open Test
337-0011        Loop Around
```

Appleton

```
Covers exchanges 735,730,731,733,734,738,739,749,735

735-0015        Balance Termination
735-0097        1004 Hz
735-0098        Syncronous
735-0004        Transmission Test Line
735-0014        Short Test
735-0013        Open Test
735-0011        Loop Around
735-0010        Loop Milliwatt

Covers exchanges 954,832

954-0015        Balance Termination
954-0012        1004 Hz
954-0098        Syncronous
954-0004        Transmission Test Line
954-0014        Short Test
954-0013        Open Test
954-0011        Loop Around
954-0010        Loop Milliwatt
```

Setting Off NOAA Weather Alert Receivers

From http://www.nws.noaa.gov/nwr

NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. NWR broadcasts National Weather Service warnings, watches, forecasts and other hazard information 24 hours a day.

Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "all hazards" radio network, making it your single source for comprehensive weather and emergency information. NWR also broadcasts warning and post−event information for all types of hazards−−both natural (such as earthquakes and volcano activity) and environmental (such as chemical releases or oil spills).

Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the National Oceanic &Atmospheric Administration (NOAA), part of the Department of Commerce. NWR includes more than 850 transmitters, covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. NWR requires a special radio receiver or scanner capable of picking up the signal. Broadcasts are found in the public service band at these seven frequencies (MHz):

162.400	162.425	162.450	162.475	162.500	162.525	162.550

Basically, when you purchase a NOAA weather radio receiver, it is pre−programmed to search through these frequencies until it finds the strongest broadcast. You can then use it get the weather information for your area anytime of the day. The cool part is the *Weather Alert* feature. Your receiver will sit quietly listening to the NWR audio stream, but if there is an emergency, it will sound an alarm and start playing the NWR audio.

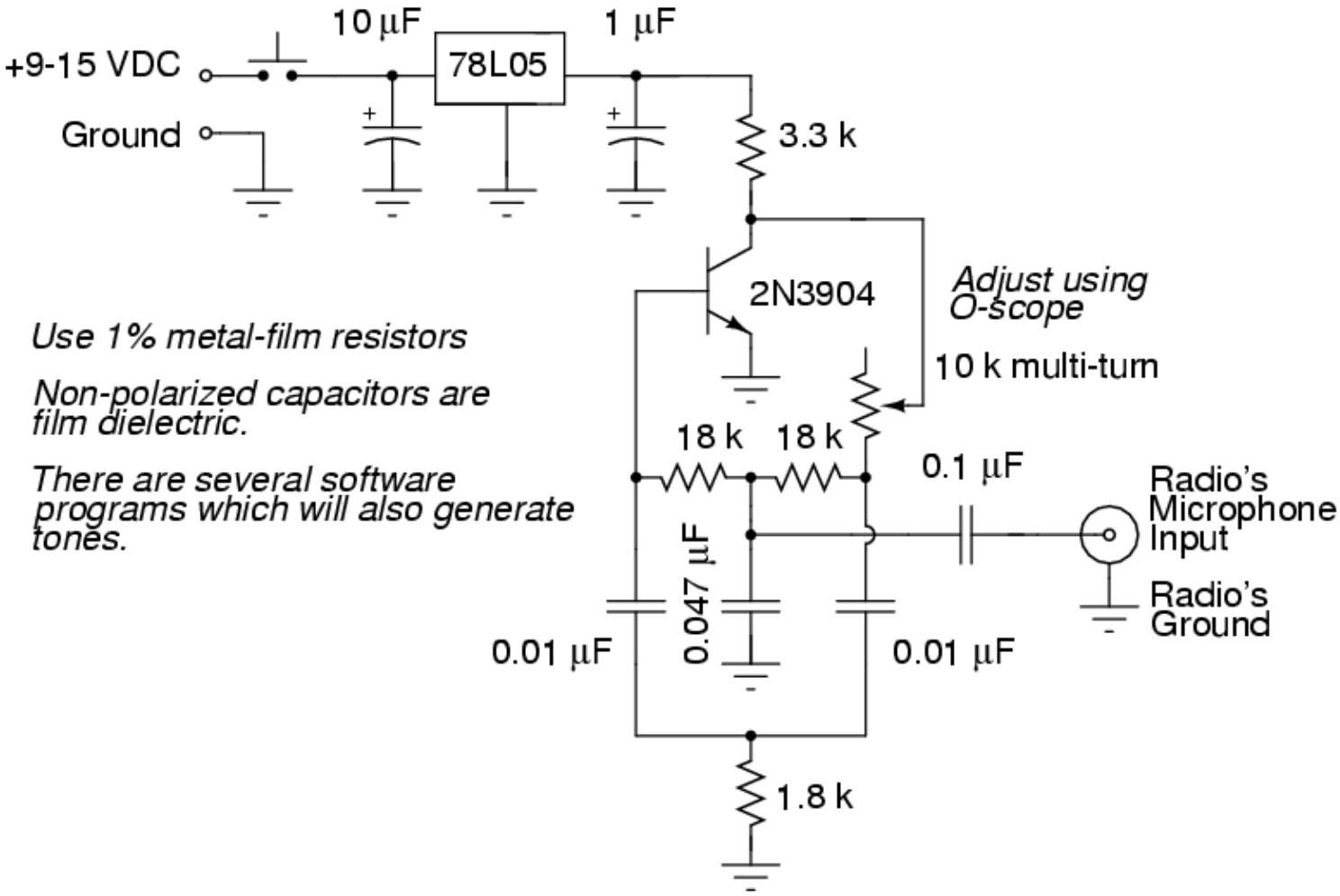
A *really* funny trick to play is to transmit your own NWR alert tone (four seconds of 1050 Hz tone) on the NWR frequency using an out−of−band transmit modified amateur radio transceiver. The Yaesu FT−50 is a good choice. This way, you can set off the NWR receiver − getting everyone's attention − then proceed to broadcast *your own* weather alert message. Hilarity will definitely ensue.

A good bonus is some public broadcasting or low power FM/TV systems will often play the direct, raw audio following a NWR alert (most stations don't have a 24−hour staff). It's possible to sit outside their transmitter site or office and set off the over−the−air broadcast NWR alert system. You can then inject your own audio commentary into the TV or FM station broadcast.

Below is a schematic for a hardware−based audio tone generator. This should be connected to your radio's microphone input jack, which should be described in the manual. You'll need an audio frequency counter or oscilloscope to tune the output frequency. It doesn't have to be exact. Experiments showed even a 1000 Hz tone would set off some receivers.

1050 Hz Tone Generator

Use this to set off NOAA weather radio alerts



Use 1% metal-film resistors

Non-polarized capacitors are film dielectric.

There are several software programs which will also generate tones.

Analog Cellular Receive Adapter

This is a simple trick using an old VCR, TV, or CATV tuner module to receive analog AMPS cellular phone transmissions, or any narrowband FM transmission for that matter.

The tuner in your TV/VCR or cable box is really just a wideband RF receiver. It takes an incoming signal, either over−the−air or from a coaxial cable, and mixes it down to a new Intermediate Frequency (IF) of 45.75 MHz. This IF frequency is then amplified, filtered, and demodulated to get the actual video & audio information.

If you where to take the 45.75 MHz IF output and run that into a regular communications receiver, like a cheap Radio Shack scanner, it will then become a very wideband RF downconverter − with no gaps. It can now essentially tune into any transmission from 50 MHz to around 960 MHz. This is good for intercepting "banned" frequencies between 825−850 MHz and 870−895 MHz. It can also receive the elusive 520−780 MHz band missing from some Radio Shack scanners.

The key is finding older tuner modules which are *Voltage Tuned* (VT). These where very popular in the 1980s and early 1990s. Look for old VCRs that had lots of little tweaking pots or wheels needed for fine tuning the reception. Newer tuner modules are all digitally tuned − which will work, but you'll need to hack them quite a bit. A drawback is the older tuner modules often stopped tuning above 810 MHz. A trick to overcome this is to run the voltage tune line at 40 volts instead of 30 volts.

The tuner's RF input should be feed with good 800 MHz cellular antenna and low loss coax. A low−noise receive pre−amplifier will also help improve the reception range, but isn't necessary.

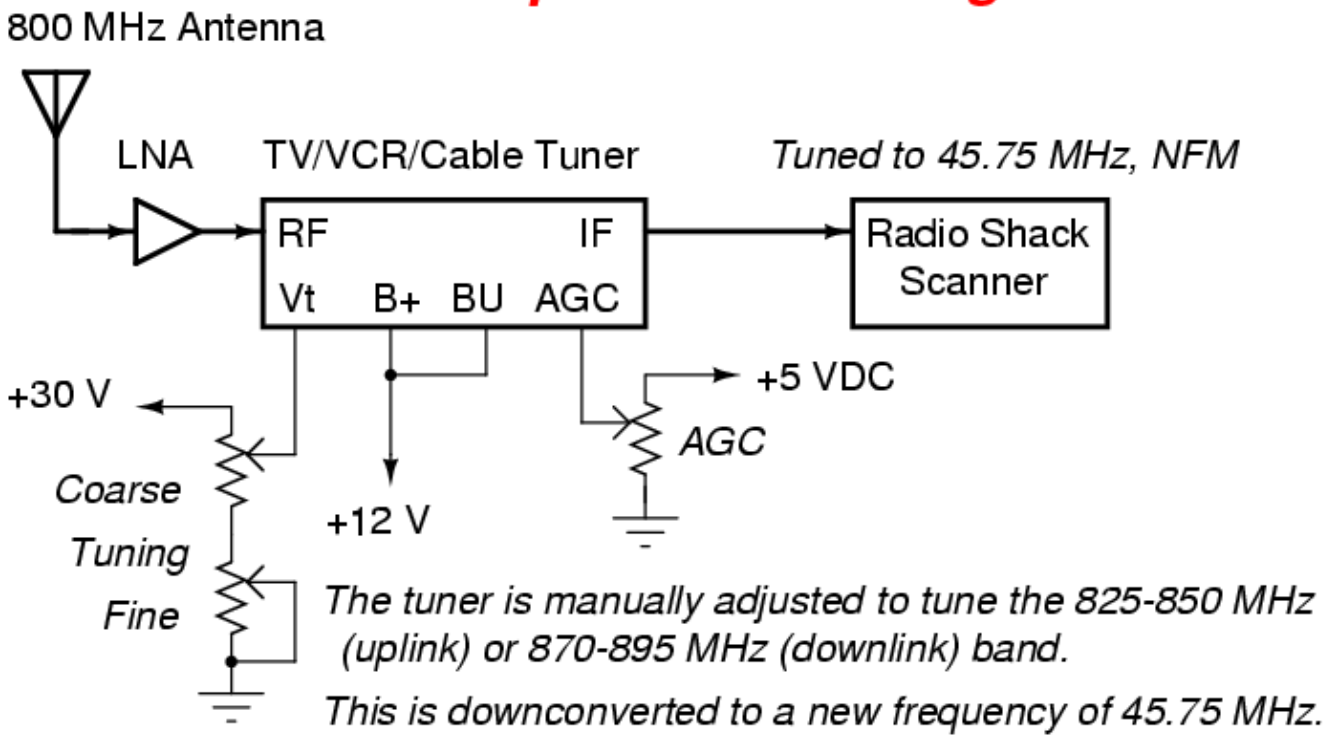
Unfortunately, almost every tuner module is different in some way. Your best bet is to search for Toshiba VCRs, if you can. Toshiba actually *marks* the pins on their tuner's and VCR circuit boards − what a concept.

It also helps to tap the tuner's Local Oscillator (LO) signal and feed that to a frequency counter. This will help to verify the reception range. The LO signal will be 45.75 MHz *higher* than the frequency you are trying to receive. Example: You want to receive 880 MHz. Tune the tuner module until the LO frequency is reading 925.75 MHz. Your signal will be received at the IF frequency of 45.75 MHz.

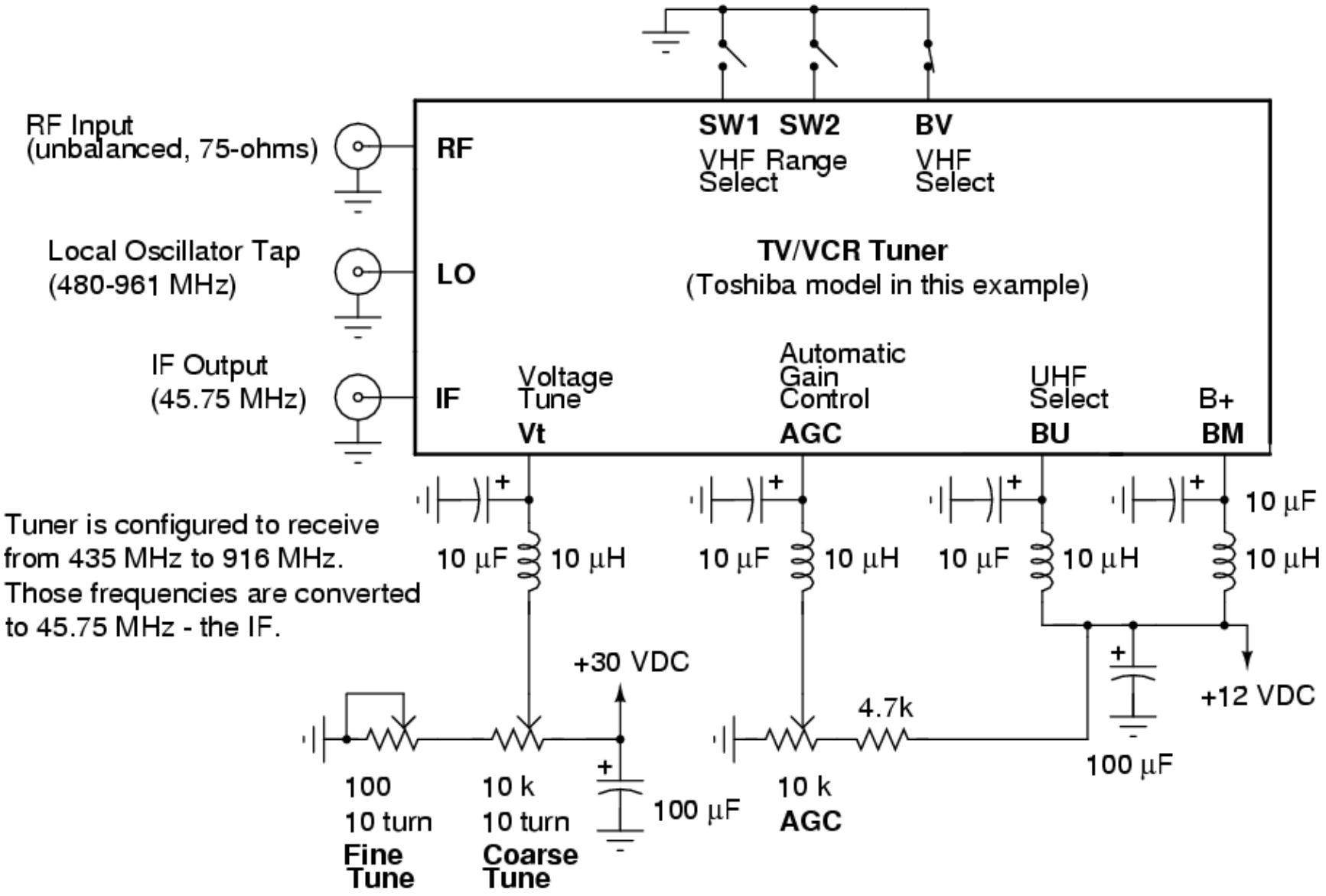
The Automatic Gain Control (AGC) pin is used to adjust the receive gain of the tuner's incoming RF amplifier. Adjust this for maximum gain (minimum noise on the signal). If the tuner has a Automatic Frequency Control (AFC) pin, ground it.

Strings of series 9 or 12 volt batteries can be used in place of a 30 volt power supply.

Cellular Receive Adapter - Block Diagram



Cellular Phone Receive Converter - Schematic



Tuner is configured to receive from 435 MHz to 916 MHz. Those frequencies are converted to 45.75 MHz - the IF.

Ameritech Maintenace & Record Keeping Systems

Here are some of the acronyms that you may encounter on the telephone companies' maintenace and record keeping systems. It's a couple of years old now.

Loop Maintenace Operations System (LMOS)

The LMOS system mechanizes the administration support of Plain Old Telephone Service (POTS)−like trouble reports. Starting with repair service answering, automated screening and continuing through field dispatch and completion. There are several systems related to the LMOS system that comprise the Automated Repair Service Bureau (ARSB) environment.

Mechanized Loop Test (MLT)

MLT is a mechanized test system that provides mechanized testing of the local loop circuits in conjunction with the central office switch. It is directly related to LMOS for circuit data and communication. In todays environment, there are two versions of MLT, MLT−1, which is the older of the two systems and MLT−2.

Cable Repair and Analysis System (CRAS)

The CRAS system is a cable trouble report analysis system. With links to the LMOS host and MTR, CRAS collects data and allows the end−user to request analysis data to determine cable repair trends.

Automated Cable Expertise (ACE)

ACE uses data collected by CRAS to analyze the completed cable trouble reports in an effort to determine potential problems and chronic areas in the local loop plant.

Voice Customer Access System (VCAS)

VCAS is a voice interface system that allows customers to enter trouble reports directly into the LMOS system. It also allows customers to check the status of previously entered trouble reports.

Ameritech Service Management System (ASMS)

ASMS is a Bellcore developed software application that allows customers to access LMOS and CIMAP to enter and obtain status on trouble reports. It also allows customers to perform electronic tests and request traffic management reports.

Craft Access System (CAS)

The CAS system allows field technicians to access LMOS to receive and close trouble report data via hand−held terminals. Field technicians are also able to request MLT test requests through the LMOS work manager.

Mechanized Trouble Analysis System (MTAS)

MTAS was developed by a small software company called Spencer & Spencer and is used to collect completed trouble report information from the LMOS host and provide internal measurement reports. The MTAS software is owned by Ameritech and resides on mainframe computers.

Predictor

Predictor is a computer based system that collects data from various systems where preset thresholds are involked to determine probable areas of trouble in the outside plant environment. Predictor is part of the ARSB system.

Circuit Installation and Maintenance Package (CIMAP)

CIMAP mechanizes the administration support of the installation and maintenance for special services, message trunks and interoffice facilities. The CIMAP system consists of two primary software modules. CIMAP/SSC (Special Service Center) mechanizes work flows, document access and transfer processes for installation and creates, distributes, tracks and logs trouble reports for maintenance.

Generic Dispatch System (GDS)

GDS mechanizes the administration support for the installation and maintenance for POTS and special services. It is inter−related to the CIMAP product line and forms the basis for Bellcore's Work Force Administration (WFA) system.

Trunk Integrated Record Keeping System (TIRKS)

TIRKS provides for the creation and maintenance of equipment inventory and assignment records and pending equipment orders. It also provides for the creation and maintenance of central office switching equipment assignment records including trunk relay, traffic measuring and test access.

Switched Access Remote Test System (SARTS)

SARTS is a remote test system that premits testing of special service circuits from the Switch Control Center (SCC) without assistance of technicians in the central offices.

Mechanized Time Recording (MTR)

MTR is the system used to report hours and minutes associated with work function codes of the employees. CIMAP and GDS−SSDAC (Special Service Dispatch Adminstraion Center) have interfaces to the MTR system.

Service Order Analysis and Control (SOAC)

The SOAC interface system is a part of Bellcore's FACS system and serves as an interface between the local Service Order Processor (SOP) and GDS. It receives the service order data from the SOP and automatically queries LFACS and COSMOS for the cable/pair and office equipment facilities.

CAS/Gateway

The CAS/Gateway application is a component of the CAS system and is currently used to obtain trouble report history information from the LMOS host by the field technicians. It is also used to obtain cable/pair information from LFACS and planning is underway to provide access to GDS from the hand−held terminal.

Service Order Processor (SOP)

The SOP issues the service order to Operations Support Systems and accept completion information which is subsequently distributed in the billing system. GDS will automatically enter completion statistics to the SOP via a generic SOP interface.

Automatic Line Record Update (ALRU)

The ALRU process takes completed service order data via computer tapes and reformats the information. It then uploads the information into the LMOS host which establishes a permanent line record for the circuit in the LMOS database.

MIZAR

The MIZAR system is a memory administration system used by the Recent Change Memory Administration Center (RCMAC) to translate line service order data into recent change messages in an Electronic Switching System (ESS) office. The system automatically generates recent change messages and updates switches on the appropriate date as well as making switch changes for residential service without the need for physical wire changes.

Switching Center Control System (SCCS)

SCCS provides the facilities to control, administer and maintain switching systems from a remote, central location.

Centralized Automatic Reporting On Trunks (CAROT)

CAROT provides demand and scheduled testing of analog trunks and some switched special service circuits.

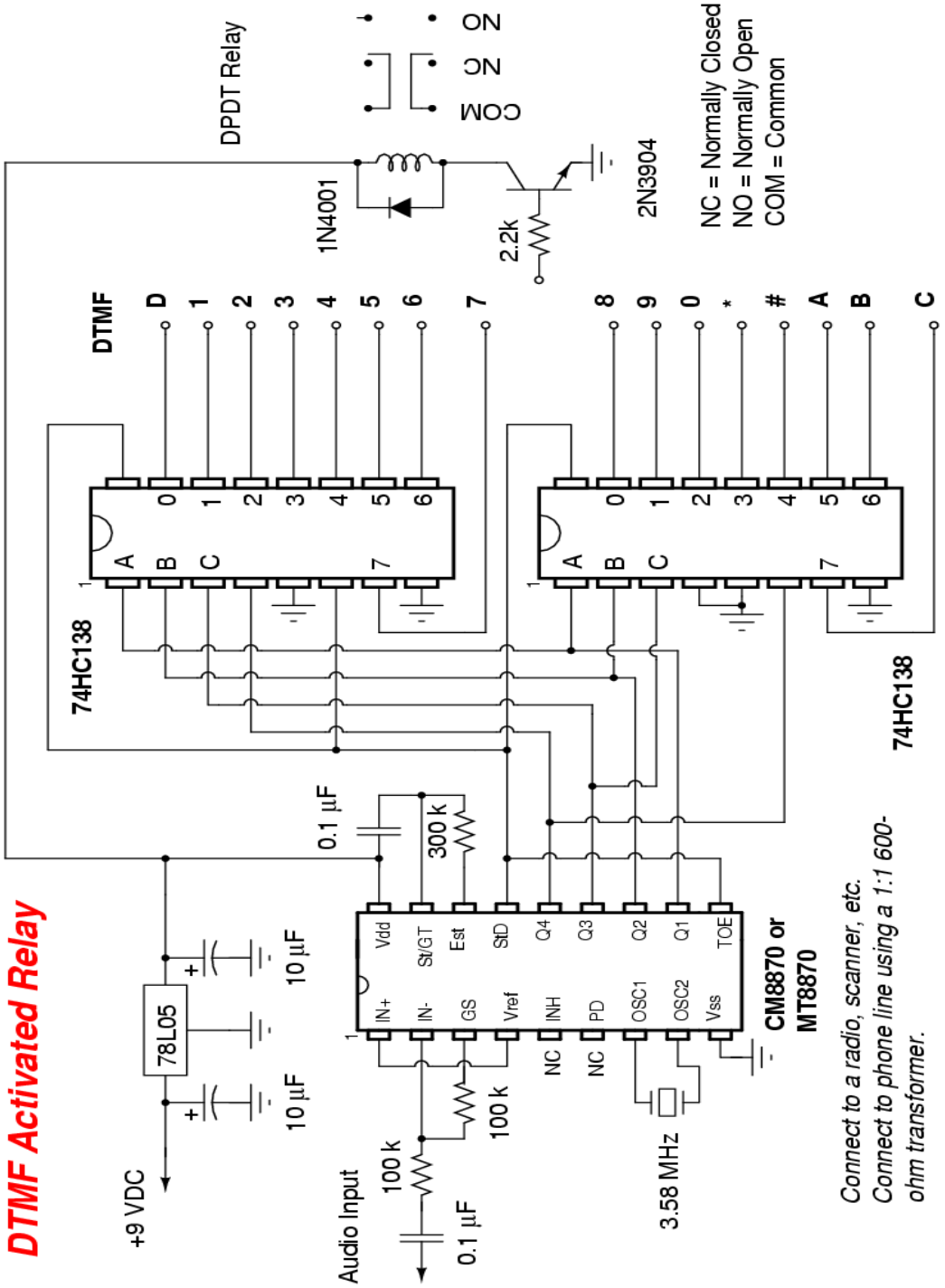
Computer System for Main Frame Operations (COSMOS)

A real time computer designed as a wire center administration system for subscriber services. It's responsible for assignment and inventory control of central office facilities. SWITCH will replace COSMOS.

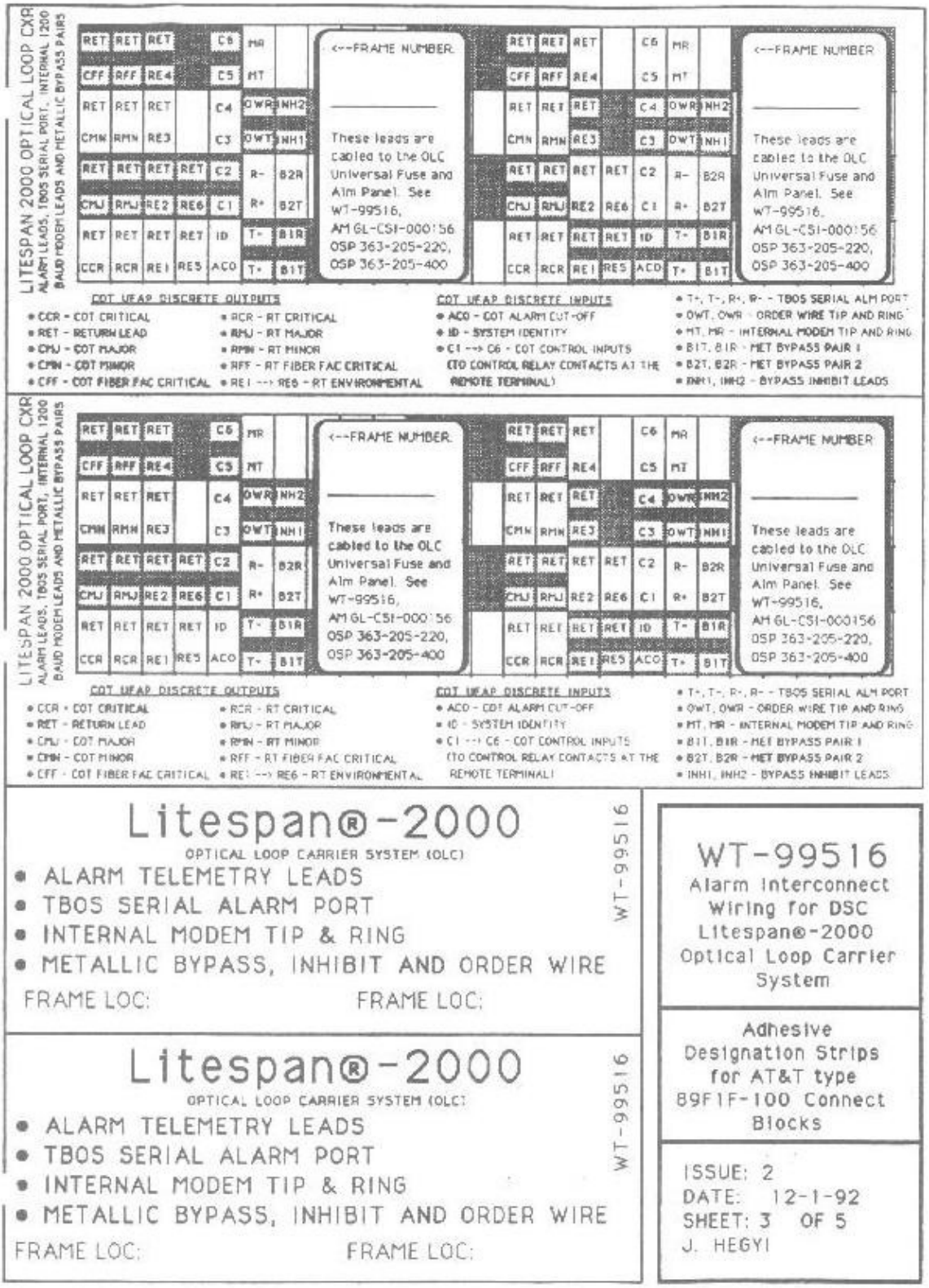
SWITCH

The new nodal inventory and assignment component for integrated provisioning, assigns both line and trunk switch ports. It replaces COSMOS and TIRKS/Generic TAS systems while adding enhanced functionality.

DTMF Activated Relay



Bonus


LITESPAN 2000 OPTICAL LOOP CXR
ALARM LEADS, TBOS SERIAL PORT, INTERNAL 1200 BAUD MODEM LEADS AND METALLIC BYPASS PAIRS
<--FRAME NUMBER
These leads are cabled to the OLC Universal Fuse and Alm Panel. See WT-99516, AM GL-CSI-000156 OSP 363-205-220, OSP 363-205-400
COT UFAP DISCRETE OUTPUTS
• CCR - COT CRITICAL
• RET - RETURN LEAD
• CMJ - COT MAJOR
• CMN - COT MINOR
• CFF - COT FIBER FAC CRITICAL
• RCR - RT CRITICAL
• RMJ - RT MAJOR
• RMN - RT MINOR
• RFF - RT FIBER FAC CRITICAL
• RE1 --> RE6 - RT ENVIRONMENTAL
COT UFAP DISCRETE INPUTS
• ACO - COT ALARM CUT-OFF
• ID - SYSTEM IDENTITY
• C1 --> C6 - COT CONTROL INPUTS (TO CONTROL RELAY CONTACTS AT THE REMOTE TERMINAL)
• T+, T-, R+, R- - TBOS SERIAL ALM PORT
• OWT, OWR - ORDER WIRE TIP AND RING
• MT, MR - INTERNAL MODEM TIP AND RING
• B1T, B1R - MET BYPASS PAIR 1
• B2T, B2R - MET BYPASS PAIR 2
• INH1, INH2 - BYPASS INHIBIT LEADS
Litespan®-2000
OPTICAL LOOP CARRIER SYSTEM (OLC)
• ALARM TELEMETRY LEADS
• TBOS SERIAL ALARM PORT
• INTERNAL MODEM TIP & RING
• METALLIC BYPASS, INHIBIT AND ORDER WIRE
FRAME LOC:
FRAME LOC:
WT-99516
WT-99516
Alarm Interconnect Wiring for DSC Litespan®-2000 Optical Loop Carrier System
Adhesive Designation Strips for AT&T type 89F1F-100 Connect Blocks
ISSUE: 2
DATE: 12-1-92
SHEET: 3 OF 5
J. HEGYI

End of Issue #1

Any Questions?

Editorial and Rants

The United States spent $12 billion buying nuclear waste from Russia, and its former republics, to help with the disposal. Why the hell don't other countries help out? That's money taken from our schools and it would help out the *entire* world. We should ship all the Russian nuclear waste to New Zealand. Let those bastards start helping out for a change.

Dear Germany, Hitler didn't build schools for little Jewish boys & girls or give free medical care and food to its enemies. Fuck off. P.S. It was the United States that made you the 3rd largest economy in the world.

Dear Japan, Unit 731 with its chemical warfare & biological experiments killed over 500,000 Chinese. We bombed you bastards for a reason. Fuck off. P.S. It was the United States that made you the 2nd largest economy in the world.

When Kevin Mitnick exploited the Open Records Act to harass people − all the sheep cheered. When the FBI does the exact same thing, *to catch murders*, all the sheep scream their "rights" are being infringed. Hello? WTF? What about Kevin's victims rights?

I don't care if "hacker" magazines and conventions charge money or sell items. Just don't bullshit me with your anti−capitalist, must−destroy−corporations, fight−the−power delusional attitude. Hint: Where the hell do you think computers come from? You've never provided anyone with money for food, school, or shelter in your life.