

"Shortly after the Islamabad embassy bombing, a Canadian engineer named Ahmed Khadr was arrested in Pakistan. He was accused of funding the embassy attack with money he had filtered through a Canadian charity. Khadr claimed he was innocent, and was released from prison a few months later. The Canadian prime minister had put pressure on [Benaizir] Bhutto during a state visit to Pakistan. I would learn much more about Khadr after 9/11, when the United States put his name on a list of suspected terrorists. I learned he had been a close associate of Usama bin Laden's since the 1980s, when the two had funded the mujahidin in the war with the Soviets. Khadr had gone on to become one of bin Laden's top fundraisers."

---- Quote from *Inside the Jihad* by Omar Nasiri. Egyptian-born Canadian Ahmed Said Khadr was killed in Afghanistan in October 2003. He worked with the Ottawa-based Muslim charity Human Concern International and directly aided Usama bin Laden as far back as 1985 and even helped bomb the Egyptian embassy in Pakistan.

He was released from prison by Canadian Prime Minister Jean Chretien and went on to fight again in Afghanistan.

Murder all Canadians!

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**Division 231** 

1 and 1A ESS™ Switches

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## **GBPPR Base Station Chaos – 800**

### <u>Overview</u>

It seems like there are thousands of corrupt politicians and judges out there who are *refusing* to help the common man in their fight against liberal propaganda, illegal alien crime, and Marxist brainwashing in our school systems. Of course, these same politicians and judges will only live in rich, majority–white, gated communities and will only send their kids to elite private schools. This is to further help isolate themselves from the disease, decay, and crime brought about by genetically inferior invaders from third–world countries.

Judges are even now giving *non–U.S.* citizens "constitutional rights." Scary stuff... This is a standard liberal attempt to weaken the U.S. constitution by giving *everyone* the same rights (i.e. Marxism). Usama bin Laden could now probably sue the NSA or CIA if they were to listen in on his telephone calls, and you sure as hell know the ACLU won't be backing the U.S. taxpayers on that one!



Don't think there is a way for the common man to fight back?

Well, you can...

The one good thing about third–world trash and illegal aliens is that they'll march together in the streets whenever *their* "rights" are threatened. But, just don't count on them marching for *your* rights, or even the rights of people in the military.

Just imagine if the next time the third–world trash and illegal aliens are having one of their little demonstrations, someone were to open up with a few full–auto bursts from a MG–42.

That would be terrible now, wouldn't it?

There's just one problem, though. Since cellular phones are so prevalent today, it would probably be only a matter of seconds before some traitor called 911.

But what if the cellular phone service in the entire area was disabled? Heh.

This particular device is a based around a slight modification to the cellular phone jammer in *GBPPR 'Zine*, Issue #49. Instead of mixing the cellular handset's transmitted frequency with a 45 MHz signal to jam the downlink, we'll reverse this process.

Now, the base station's transmitted *output* frequency (870–895 MHz) will be mixed with a 45 MHz local oscillator signal. The new, lower IF frequency (825–850 MHz) will be filtered, amplified, and finally rebroadcast. The cellular base station will now essentially be jamming itself. Everytime the base station's transmitters go on the air, the base station will have its receiver's jammed by its own transmitted signal.

To use this jamming device, place the antenna as close to the cellular base station as possible, or at least somewhat within radio line–of–sight. Cellular radio sites use multiple directional sector antennas, so you may have to build several of these devices to disable cellular phone service in a large geographical area. Receive pre–amplifiers can be added to the RF input to the mixer to help extend the "receive' range slightly.

A similar device can also be constructed to disable cellular phone systems in the 1.9 GHz PCS band. You'll just need to replace the duplexer, filters, RF power amplifier, and antenna with ones which cover that frequency range. You'll also need to replace the 45 MHz clock oscillator with one that operates at 80 MHz.

### **Block Diagram**



### **Construction Notes & Pictures**



This is the kind of old cellular phone you'll want to look out for when salvaging for RF parts.

Shown above is an Uniden CP1700 analog cellular phone (AMPS). It uses the common Hitachi PF0030 RF power amplifier module, and also has nice, non–surface mount Murata bandpass filters on both the transmit and receive sides. It also has a very nice antenna duplexer and even a protection isolator on the RF output of the PF0030 amplifier.



Salvage all the parts you can and also keep an eye out for a nice heatsink to mount the RF amplifier and jammer PC board to.

You'll need to make sure the PC board is constructed with a large RF ground plane and lots of ground vias.



Starting the PC board component layout.

Layout your board however is most convenient, making sure any components carrying a RF signal have a good ground plane and strong solder connections.

The PF0030 should also have a very thin layer of heatsink compound underneath it before mounting. Be sure not to overtighten the mounting screws for the RF amplifier module, or its internal substrate material can crack.



Jammer PC board completed overview.

The antenna input connector is a SMA jack going to the "ANT" port on the duplexer.

The "RX" port on the duplexer (870–895 MHz) is sent to a 3–pole Murata 880 MHz bandpass filter and onto the RF input port on a Mini–Circuits TFM–150 mixer.

The LO input port on the mixer is feed with an impedance matched 45 MHz clock oscillator signal.

The IF output port on the mixer is then feed to a 6 dB attenuator pad and a 3–pole Murata 836 MHz bandpass filter. This then feeds a Mini–Circuits VNA–25 MMIC amplifier to increase the signal levels slightly. This is then sent through a 2–pole Murata 836 MHz bandpass filter. There is an optional 3 dB attenuator pad just before the input to the Hitachi PF0030 RF power amplifier module.

The PF0030 amplifier module has a constant +5 VDC on the power control line (Vapc) and +12 VDC on the Vdd line. The output of the PF0030 is sent through an optional isolator to protect the power amplifier from any impedance mismatches or even a missing antenna.

The isolator finally feeds the "TX" port on the duplexer, and the signal is sent back out through the antenna port.



PC board layout alternate view.



Completed Base Station Chaos jammer.

A fuse holder and a 10 amp fuse were added to the side of the heatsink. The jammer itself will be mounted using a small piece of aluminum square tubing and some 1/4–inch couplers and hardware.



Case overview.

For this project, the power source will be both AC and DC. An old +15 VDC, 3 Amp laptop switching power supply will be the main power supply, and a DPDT relay will switch between the AC or DC power when an external +12 VDC power source is applied.

The incoming 120 VAC will be passed through an AC line filter, fuse, and a power switch.

The (optional) incoming +12 VDC line will come in through panel-mounted banana jacks.


Front-panel overview.

Incoming 120 VAC from a standard IEC connector is fed through a fuse and onto the AC line filter.



Power select relay.

The default position is to power the jammer from a 120 VAC wall–wart power source, but as soon as an external +12 VDC power source is applied, the relay switches over, disconnecting the AC side.



Case internal view with completed power supply wiring.

The +15 VDC laptop wall–wart power supply is epoxied to a small piece of aluminum bracket and secured to the side of the case. All the solder connections should be covered with heatshrink tubing for protection.



Finished overview.



Alternate view.



Make a simple antenna holder using a padded gas line clamp and some 1/4-inch hardware.



Internal overview showing the antenna holder attached to the lid.



A cellular phone company's worst nightmare.

On the right-hand side are the 120 VAC input, fuse holder, power switch, and a power indicator LED.

In the middle are the banana jacks for +12 VDC input.

On the left is the TNC antenna jack.







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# Nortel DMS-100 Trunk-to-Treatment Translations

### **Description**

When a call originates on an incoming trunk, the appropriate trunk tables are used. The call then enters the screening tables where digit analysis begins. After some general pre–screening or pre–translation is performed, the call may progress into more detailed screening based on NPA/NXX digits to determine the path into the designated routing tables for defining the final destination, or termination of the call. If the call cannot be completed, the call routes to treatment.

A call is routed to treatment under the following conditions:

- The operating company explicitly routes this call to treatment.
- The DMS-100 switch detects certain conditions that result in treatment.

#### **Operation**

Trunk to treatment translations can be traced using a simplified block diagram, representing the major functions within the translation process, as shown in the following figure:

The *trunks* table contain detailed information about trunks originating and terminating in the switch. Each trunk connected to the office is represented by entries in the trunk tables. These tables include information about the following:

- Type of trunk group.
- Type of signaling.
- Hardware location of each trunk.
- Screening information for incoming call from trunks to define the next logical step in translation.

The *screening* tables contain the information used to analyze the digits that the DMS–100 switch receives. This screening process tests the digits dialed before continuing to the next routing stage, to determine, for example, whether this call is local or non–local.

The screening tables establish the call type based on the digits received. The three basic call types are:

- Operator Assisted (OA)
- Direct Dial (DD)
- No Prefix (NP)

The *routing* tables route the call to its final destination. If the call cannot be completed, it will route to a recorded announcement or treatment.

#### Translations Table Flow for Trunk-to-Treatment Translations

The call originates from a particular hardware location on an incoming trunk member listed in table TRKMEM (Trunk Member). Signaling information is obtained from table TRKSGRP (Trunk Subgroups).

For an incoming trunk, table TRKGRP (Trunk Group) lists the Serving Numbering Plan Area (SNPA) in subfield SNPA and the pre-translator subtable name in subfield PRTNM (Pre-Translator Class Name).

If a pre-translator subtable name is specified, translation continues with table STDPRTCT (Standard Pre-Translator) and its subtable STDPRT. If no pre-translator is specified, the entry in subfield PRTNM is NPRT (No Pre-Translation) and the call routes to table HNPACONT (Home Numbering Plan Area Control) and its subtable HNPACODE.

If the call cannot be completed, it is routed to table TMTCNTL (Treatment Control) and its subtable TREAT. Subtable TREAT defines the tones, announcements, or states that are to be returned when a specified treatment code is encountered.

Call processing continues through table OFRT (Office Route). The Common Language Location Identifier (CLLI) datafilled in table OFRT is listed in table CLLI. Each treatment CLLI, except for fixed treatment CLLIs IDLE, LKOUT (Lockout), and COPP (Cut–Off on Permanent Signal and Partial Dial), are also defined in tables TONES, STN (Special Tones), ANNS (Announcement), and ANNMEMS (Announcement Member).

Table TONES lists specific tones and identifies the type, pattern, and duration of each tone. Table STN contains additional tone data.

Table ANNS identifies the type, maximum number of simultaneous connections, and maximum length of each announcement. Table ANNMEMS identifies the hardware location for the announcement. The hardware can be a Digital Recorded Announcement Machine (DRAM), located on a Maintenance Trunk Module (MTM), or an Audichron located on a Trunk Module (TM).

The trunk-to-treatment translation process is shown in the following flowchart.



The following table lists the example datafill content used in the flowchart:

| Datafill Table  | Example Data   |
|-----------------|--|
| CLLI            | S5807705TPTIT 228 40 S5807_TO_S5705_2W_PTS_INTERTOL                      |
| TRKGRP          | S5807705TPTIT IT 0 NPDGP NCIT 2W IT ASEQ 705 P807 NSCR 807 000 N N \$    |
| TRKSGRP         | S5807705TPTIT 0 DS1SIG STD 2W MF DD N 5 5 MF DD 7 0 N NO NO N N Y M 70 U |
| TRKMEM          | S5807705TPTIT 0 0 DTC 5 9 1  |
| STDPRTCT        | P807 (1) (65021)   |
| subtable STDPRT | 8 910 D VACT   |
| TMTCNTL         | ITTRKGRP (7)   |
| subtable TREAT  | SSTO Y T OFRT 72   |
| OFRT            | 72 (S D *OFLO) \$  |
| CLLI            | *OFLO 168 10 TREATMENT   |
| TONES           | *OFLO 20 25 101010 LO 30 10  |
| <br>-End-       |  |

#### **Datafilling Office Parameters**

The following table shows the office parameters used by trunk-to-treatment translations. For more information about office parameters, refer to the *DMS-100 Office Parameters Reference Manual*, NTP 297–8021–855:

| Office Parameters | Used by Trunk-to-Treatment | Translationss   |
|-------------------|----------------------------|---|
| Table Name        | Parameter Name             | Explanation and Action  |
| OFCENG            | NCCBS                      | Enter a number from 0 to 65,535 to specify the<br>number of Call Condense Blocks (CCB) required<br>for the switching unit. A CCB is a software<br>register associated with a call throughout its<br>duration, containing information such as the<br>identity of the calling and called appearances.<br>The default value is 80. |
|                   | MAX_PROGRAMMERS            | This parameter is required for a switching unit<br>with the Call Forwarding Remote Access (CFRA)<br>feature. It specifies the maximum number of<br>users that can simultaneously perform a remote<br>programming action of CFRA.  |
|                   | NUMCPWAKE                  | This parameter is required in all switching<br>units and specifies the maximum number of<br>call process wakeups in the system.   |

|        | TFAN_OUT_MAX_NUMBER | This parameter specifies the maximum number of<br>Destination Traffic Separation Numbers (DTSN)<br>that can be assigned to:   |
|--------|---------------------|---|
|        |                     | * Outgoing and two-way trunk groups in table TRKGRP   |
|        |                     | * Lines in table LINEATTR   |
|        |                     | * Network class of service numbers in table NCOS  |
|        |                     | * Announcements in table ANNS   |
|        |                     | * Tones in table TONES  |
|        |                     | * Special tones in table STN  |
|        |                     | This parameter can be assigned values SIZE_15, SIZE_31, SIZE_64, or SIZE_127.   |
|        | TOPS_ACTS           | This parameter specifies whether the TOPS<br>Automatic Coin Toll Service (ACTS) feature is<br>active in the office.   |
| OFCVAR | AIN_OFFICE_TRIGGRP  | This parameter is used to subscribe trigger<br>behaviors on an office-wide basis. The entry<br>in field AINGRP in table TRIGGRP is entered<br>here. The default value is "NIL". |
|        | CWT_TONE_LENGTH     | This parameter specifies the length of a solid<br>burst of Call Waiting (CWT) tone, in 100 ms<br>intervals.   |
|        | DIST_CWT_TONE       | This parameter specifies the on-off durations<br>for the special CWT distinctive cadence,<br>in 10 ms intervals. The default value is 25<br>(250 ms) on and 10 (100 ms) off.    |
|        |                     |   |

#### **Table Datafill Sequence**

The following table lists the tables that require datafill to implement trunk-to-treatment translations. The tables are listed in the order in which they are to be datafilled:

| Datafill Tables Red | quired for Trunk-to-Treatment Translations  |
|---------------------|---|
| Table               | Purpose of Table  |
| CLLI                | The Common Language Location Identifier table defines the CLLI of each tone and announcement.                                   |
| TONES               | The Tones table defines tones generated at the line or trunk peripheral.  |
| STN                 | The Special Tone table lists the physical location and the maximum number of connections that can be made to each special tone. |
| ANNS                | The Announcement table contains data for each analog and digital announcement assigned in the switching unit.                   |

| ANNMEMS           | The Announcement Member table lists the assignments for each of the members assigned to the announcements listed in table ANNS.  |
|-------------------|--|
| OFRT              | The Office Route table lists the sequence of tones, announcements, and<br>states to be returned to the originator of the call when a specified<br>treatment code is encountered during call translation. |
| TMTCNTL           | The Treatment Control table defines all treatments.  |
| subtable TREAT    | The Treatment subtable defines the tones, announcements, and states to<br>be returned to the originator of the call when a specified treatment code<br>is encountered during call translation.           |
| HNPACONT          | The Home Numbering Plan Area Control table lists all the home or serving area NPAs for a particular area.  |
| subtable HNPACODE | The Home Numbering Plan Area Code subtable lists the route treatment or table to which the translation routes for each of the assigned NPAs.   |
| STDPRTCT          | The Standard Pre-Translator table lists the names of the standard pre-translator subtables.  |
| subtable STDPRT   | The Standard Pre-Translator subtable determines the next stage of translation, based on the range of leading digits.   |
| LCASCRCN          | The Local Calling Area Screening Control table lists the NPA code and local calling area name and its prefix selector.   |
| subtable LCASCR   | The Local Calling Area Screening Code subtable determines from the dialed digits if the call is local or non-local.  |
| CLSVSCRC          | The Class of Service Control table lists the serving NPA of the screening class, the screening class name, and the type of call to which screening is applicable.  |
| subtable CLSVSCR  | The Class of Service subtable determines, for specific digits dialed, if<br>the call will maintain the route specified in subtable HNPACONT.HNPACODE<br>or route to treatment.                           |
| TRKGRP            | The Trunk Group table contains customer-defined data associated with each trunk group.   |
| TRKSGRP           | The Trunk Subgroup table specifies supplementary information for each trun group.  |
| TRKMEM            | The Trunk Member table gives the physical location of each trunk assigned to one of the trunk groups.  |
|                   |  |

## **Datafilling Table CLLI**

Table CLLI must contain a tuple for the originating office and the tone or announcement.

The following table shows the datafill specific to trunk-to-reatment translations for table CLLI.

## Table CLLI

| Field | Subfield or<br>Refinement | Entry                                   | Explanation and Action   |
|-------|---------------------------|---|--|
| CLLI  |                           | Alphanumeric<br>(1 to 16<br>characters) | Common Language Location Identifier<br>Enter a CLLI code to uniquely identify the far<br>end of each announcement, tone, or trunk group. |
|       |                           |   |  |

\_\_\_\_\_

-End-

The following example MAP display shows sample datafill for table CLLI. The first example contains the CLLI for the trunk. The second example contains the CLLI for the treatment.

| CLLI            | ADNUM | TRKGRSIZ | ADMININF                 |
|-----------------|-------|----------|--------------------------|
| F514T13TISIT048 | 1527  | 1        | SSP5_TACISUP_TRAF_TRUNKS |
| *BUSY           | 149   | 0        | BUSY_TONE                |

\_\_\_\_\_

### **Datafilling Table TONES**

The following table shows the datafill specific to trunk-to-treatment translations for table TONES.

|    |   |   |   | - | - | - | - |  |
|----|---|---|---|---|---|---|---|--|
| Та | Ы | e | 1 | 0 | N | Ð | s |  |

| Field    | Subfield or<br>Refinement | Entry                                   | Explanation and Action  |
|----------|---------------------------|---|---|
| CLLI     |                           | Alphanumeric<br>(1 to 16<br>characters) | Common Language Location Identifier<br>Enter the code assigned to the tone in table<br>CLLI.  |
| TRAFSNO  |                           | 0 to 127                                | Traffic Separation Number<br>If switching unit has the optional Traffic<br>Separation software feature, enter the outgoing<br>traffic separation number 0 to 127 assigned to<br>the tone. If traffic separation not required,<br>enter 0.<br>The range of values for the outgoing traffic<br>separation number is dependent upon office<br>parameter TFAN_OUT_MAX_NUMBER in table OFCENG. |
| SEGTIME  |                           | 10 to 100                               | Segment Time<br>Enter the duration of one segment of tone<br>specified in multiples of 10 ms<br>(for example: 25 = 250 ms).   |
| TONEPATT |                           | Numeric<br>(up to 16 digits)            | Tone Pattern<br>Enter a string of up to 16 digits of 0s and<br>1s. Each digit corresponds to one segment of<br>tone pattern and represents the binary state<br>on the tone, where: 0 = Tone Off, 1 = Tone On  |

| TONETYP | HI, HZ400_5DB,<br>or LO | <pre>Tone Type<br/>Enter the type of tone generator required.<br/>Since some of the tone generators listed<br/>below are mutually exclusive, only a subset<br/>of these tone generators can be found in a<br/>given software load. Tone generator types<br/>other than those described below are not valid<br/>entries.<br/>Enter "HI" for high tone.<br/>Enter "HZ400_5DB" for a tone generated at<br/>400 Hz at -5 dBm.<br/>Enter "LO" for low tone.</pre> |
|---------|-------------------------|--|
| MAXDURN | 1 to 255                | Maximum Duration<br>Enter the maximum time in seconds that a<br>call condense block can be attached.<br>The maximum time duration for silent tone<br>is 10 seconds.  |
| -End-   |                         |  |

The following example MAP display shows sample datafill for table TONES:

| CLLI  | TRAFSNO | SEGTIME | TONEPATT | TONETYP | MAXDURN | MAXCONN |
|-------|---------|---------|----------|---------|---------|---------|
| *BUSY | 21      | 50      | 101010   | LO      | 40      | 30      |

### **Datafilling Table STN**

Table STN

The following table shows the datafill specific to trunk-to-treatment translations for table STN.

| Subfield or<br>Refinement | Entry                                       | Explanation and Action   |
|---------------------------|---|--|
|                           | See Subfields                               | Special Tone Key<br>This field consists of subfields TONE and<br>MEMBER.   |
| TONE                      | Alphanumeric<br>(1 to 16<br>characters)     | <i>Tone</i><br>Enter the fixed code (TONE_INDEX) assigned<br>to the tone trunk circuit in table CLLI.                                    |
| MEMBER                    | 0 to 999                                    | <i>Member Number</i><br>Enter the member number assigned to the tone<br>trunk circuit.   |
|                           | 0 to 255                                    | Maximum Connections<br>Enter the maximum number of simultaneous<br>connections that are allowed to be made to<br>the tone trunk circuit. |
|                           | Subfield or<br>Refinement<br>TONE<br>MEMBER | Subfield or<br>RefinementEntrySee SubfieldsTONEAlphanumeric<br>(1 to 16<br>characters)MEMBER0 to 9990 to 255                             |

The following example MAP display shows sample datafill for table STN:

| SK  |   | TMTYPE | TMNO | TMCKTNO | CARDCODE | MAXCONN | TRAFSNO |
|-----|---|--------|------|---------|----------|---------|---------|
| CWT | 0 | МТМ    | 6    | 17      | 3X68AC   | 127     | 0       |
|     |   |        |      |         |          |         |         |

## Datafilling Table ANNS

The following table shows the datafill specific to trunk-to-treatment translations for table ANNS.

| Table | ANNS |
|-------|------|

| Field  | Subfield or<br>Refinement | Entry                                   | Explanation and Action   |
|--------|---------------------------|---|--|
| CLLI   |                           | Alphanumeric<br>(1 to 16<br>characters) | Announcement CLLI Key<br>Enter the code that represents the<br>announcement in table CLLI.               |
| ANTYPE |                           | See Below                               | Announcement Type<br>Enter the announcement type as follows:   |
|        |                           | ACTS                                    | ACTS to specify Automatic Coin Toll Service.   |
|        |                           | AIN                                     | AIN to specify a given DMS user interface for each customer group.                                       |
|        |                           | AIS                                     | AIS to specify Automatic Intercept System announcement if the switch has the AIS feature                 |
|        |                           | AOSSVR                                  | AOSSVR to specify AOSS Voice Response.   |
|        |                           | CFRA                                    | CFRA to specify Call Forwarding Remote Access announcement.  |
|        |                           | CLASS                                   | CLASS to specify Custom Local Area Signaling<br>Services announcement.                                   |
|        |                           | CNAL                                    | CNAL to specify Calling Number Announcement playback to a line.  |
|        |                           | CNALT                                   | CNALT to specify Calling Number Announcement<br>playback to a line and over a trunk to a<br>loudspeaker. |
|        |                           | CNAT                                    | CNAT to specify Calling Number Announcement playback over a trunk to a loudspeaker.                      |
|        |                           | DMCT                                    | DMCT to specify Denied Malicious Call<br>Termination.  |
|        |                           | MCCS                                    | MCCS to specify Mechanized Calling Card Announcement.  |
|        |                           | NFRA                                    | NFRA to specify Network facility Remote Access.  |

|         | SACB          | SACB to specify Subscriber Activated Call<br>Blocking.   |
|---------|---------------|--|
|         | SLEENG        | SLEENG to specify Screening List Editing English.  |
|         | SLEFRE        | SLEFRE to specify Screening List Editing French.   |
|         | SPP           | SPP to specify Station Programmable PIN (Personal Identification Number).  |
|         | STND          | STND to specify Standard Announcement.   |
|         | TOPSVR        | TOPSVR to specify TOPS Voice Response.   |
|         |               | <b>Note:</b> Office parameter TOPS_ACTS must be set to "Y" in table OFCENG.  |
| MAXCONN | 1 to 255      | Maximum Connections<br>Enter the maximum number of simultaneous<br>connections that are permitted on the<br>announcement.  |
| CYTIME  | 1 to 18, or 0 | <i>Cycle Times</i><br>Enter the time, in seconds, for one<br>announcement cycle on one channel.  |
|         |               | <b>Note 1:</b> If your office is equipped with a<br>Cook or equivalent announcement machine and<br>table AUDIO is datafilled as ANNS, field<br>CYTIME is changed to 0. This allows flexible<br>announcement timing.      |
|         |               | <b>Note 2:</b> The cycle time for an Audichron is 0<br>due to the variable length announcement feature<br>on Audichron. By setting the value of this<br>field to 0, the length of the announcement is<br>always matched. |
| МАХСҮС  | 1 to 255      | Maximum Cycles<br>Enter the maximum number of times the complete<br>announcement is heard before the call is<br>advanced to the next route in the route list.<br>An entry outside of this range is invalid.              |
|         |               |  |

The following example MAP display shows sample datafill for table ANNS:

| CLLI | ANTYPE | TRAFSNO | MAXCONN | CYTIME | MAXCYC |
|------|--------|---------|---------|--------|--------|
| VCA  | STND   | 25      | 30      | 14     | 1      |

### **Datafilling Table ANNMEMS**

The following table shows the datafill specific to trunk-to-treatment translations for table ANNMEMS.

#### Table ANNMEMS

| Field   | Subfield or<br>Refinement | Entry                                   | Explanation and Action  |
|---------|---------------------------|---|---|
| ANNMEM  |                           | See Subfields                           | Announcement Member Key<br>This field consists of subfields ANN and MEMBER  |
|         | ANN                       | Alphanumeric<br>(1 to 16<br>characters) | Announcement<br>Enter the code that represents the announcement<br>group in table CLLI.   |
|         | MEMBER                    | 0 to 255                                | Member<br>If the trunk circuit is the first in the trunk<br>list for the announcement member, enter the<br>number assigned to the member. |
|         |                           |   | If digital, each announcement member can be assigned up to eight trunk circuits.  |
|         |                           |   | If analog, each announcement can be assigned up to two trunk circuits.  |
| HDWTYPE |                           | AUDICHRON<br>DRAM                       | Hardware Type<br>Enter "AUDICHRON" if the first entry for the<br>member and hardware type is analog.                                      |
|         |                           |   | Enter "DRAM" if the recorded announcement<br>member is digital.   |
|         |                           |   |   |

\_\_\_\_\_

-End-

The following example MAP display shows sample datafill for table ANNMEMS:

| ANNME | M | HDWTYPE | CARD | MEI | MINFO | C |    |    |
|-------|---|---------|------|-----|-------|---|----|----|
| VCA   | 0 | DRAM    | DRA  | (0  | MTM   | 2 | 4) | \$ |

### **Datafilling Table OFRT**

The following table shows the datafill specific to trunk-to-treatment translations for table OFRT.

\_\_\_\_\_

Table OFRT

| Field   | Subfield or<br>Refinement | Entry                   | Explanation and Action  |
|---------|---------------------------|-------------------------|---|
| RTE     |                           | 1 to 1,023,<br>or blank | Route Reference Index<br>Enter the route reference number assigned to<br>the route list.  |
| RTELIST |                           | See Subfield            | Route List<br>This field consists of subfield RTESEL and<br>refinements RTESEL, CONNTYPE, CLLI and<br>ROUTATTR_INDEX.<br>Enter "\$" to signify the end of the vector. |

| RTESEL         | S or SX                                 | Route Selector<br>Enter "S" and datafill refinements CONNTYPE<br>and CLLI if the route is standard.                                     |
|----------------|---|---|
|                |   | Enter "SX" and datafill refinements CLLI and ROUTATTR_INDEX if the route is expanded standard.  |
| CONNTYPE       | D                                       | <i>Connection Type</i><br>This field is not used by system logic.<br>Enter "D" to satisfy table control.                                |
| CTTI           | Alphanumeric<br>(1 to 16<br>characters) | <i>Common Language Location Identifier</i><br>Enter the code in table CLLI to which<br>translation is routed.                           |
| ROUTATTR_INDEX | Alphanumeric<br>(1 to 16<br>characters) | Route Attribute Index<br>Enter the index in table ROUTATTR containing<br>the expanded routing information to be<br>applied to the call. |
| <br>           |   |   |

The following example MAP display shows sample datafill for table OFRT:

RTE RTELIST 165 (S D VCA) (S D T120) \$

### **Datafilling Table TMTCNTL**

The following table shows the datafill specific to trunk-to-treatment translations for table TMTCNTL.

| Table TI | Table TMTCNTL             |           |                                     |  |  |
|----------|---------------------------|-----------|-------------------------------------|--|--|
| Field    | Subfield or<br>Refinement | Entry     | Explanation and Action              |  |  |
| EXTIMIN  | <br>1                     | ITTRKGRP, | Extended Treatment Name             |  |  |
|          |                           | OFFTREAT, | The following treatments are valid: |  |  |
|          |                           | INTRKGRP, | -                                   |  |  |
|          |                           | TOPS,     | * ITTRKGRP for intertoll            |  |  |
|          |                           | PXTRKGRP  | * OFFTREAT for office               |  |  |
|          |                           |           | * INTRKGRP for incoming CAMA        |  |  |
|          |                           |           | * TITRKGRP for local incoming trunk |  |  |
|          |                           |           | * TOPS for TOPS                     |  |  |
|          |                           |           | * PXTRKGRP for PBX two-way trunks   |  |  |
|          |                           |           |                                     |  |  |

-End-

The following example MAP display shows sample datafill for table TMTCNTL:

| EXTTMTNM | TREAT |
|----------|-------|
| ITTRKGRP | (7)   |

## **Datafilling Subtable TMTCNTL.TREAT**

The following table shows the datafill specific to trunk-to-treatment translations for subtable TMTCNTL.TREAT.

\_\_\_\_\_

#### Subtable TMTCNTL.TREAT

| Field   | Subfield or<br>Refinement | Entry                                   | Explanation and Action   |
|---------|---------------------------|---|--|
| TREATMT |                           | Alphanumeric<br>(1 to 4 characters)     | <i>Treatment</i><br>Enter the treatment name.  |
| LOG     |                           | Y or N                                  | Log<br>Enter "Y" for a trunk or line message 138<br>printout each time translation is routed<br>to a treatment. Otherwise enter "N". |
| FSTRTE  |                           | See Subfields                           | First Route<br>This field consists of subfields FSTRTSEL,<br>CLLI, TABID, and KEY.   |
|         | FSTRTSEL                  | S or T                                  | First Route Selector<br>Enter "S" if treatment routes to a CLLI listed<br>in table TONES. Complete subfield CLLI.                    |
|         |                           |   | Enter "T" if treatment routes to table OFRT.<br>Complete subfields TABID and KEY.  |
|         | CLLI                      | Alphanumeric<br>(1 to 16<br>characters) | Common Language Location Identifier<br>Enter the CLLI of the tone to which translation<br>is routed.                                 |
|         | TABID                     | OFRT, OFR2, OFR3,<br>or OFR4            | Table Name<br>Enter the office route table name.   |
|         | KEY                       | 1 to 1,023                              | Key<br>Enter the index into the office route table<br>which defines the route list for the treatment.                                |

-End-

The following example MAP display shows sample datafill for subtable TMTCNTL.TREAT:

| TREATMT | LOG | FSTR | Έ  |
|---------|-----|------|----|
| SSTO Y  | Т   | OFRT | 72 |

#### **Datafilling Table HNPACONT**

The following table shows the datafill specific to trunk-to-treatment translations for table HNPACONT.

\_\_\_\_\_

#### Table HNPACONT

| Field    | Subfield or<br>Refinement | Entry          | Explanation and Action   |
|----------|---------------------------|----------------|--|
| STS      |                           | 0 to 9,999,999 | Serving Numbering Plan Area<br>Enter a Serving Numbering Plan Area (SNPA)<br>or Serving Translation Scheme (STS) code. |
| HNPACODE |                           | See Note       | Home Numbering Plan Area Code<br>This field is an index into subtable<br>HNPACODE.                                     |
|          |                           |                | <b>Note:</b> This field does not accept any input.   |

-End-

The following example MAP display shows sample datafill for table HNPACONT:

| STS | NORTREFS | NOAMBIGC | RTEREF | HNPACODE | ATTRIB | RTEMAP |
|-----|----------|----------|--------|----------|--------|--------|
| 418 | 128      | 0        | (68)   | (1)      | (2)    | (0)    |

#### **Datafilling Subtable HNPACONT.HNPACODE**

The following table shows the datafill specific to trunk-to-treatment translations for subtable HNPACONT.HNPACODE.

#### Subtable HNPACONT.HNPACODE

| Field    | Subfield or<br>Refinement | Entry                 | Explanation and Action   |
|----------|---------------------------|-----------------------|--|
| FROMDIGS |                           | Numeric<br>(3 digits) | From Digits<br>Enter the number representing a single code<br>or the first in a block of consecutive codes<br>that have the same input data.   |
| TODIGS   |                           | Numeric<br>(3 digits) | To Digits<br>If field FROMDIGS represents a single code,<br>enter the same single code as in field<br>FROMDIGS. If field FROMDIGS represents the<br>first number of a block of consecutive<br>numbers, enter the last number in the block. |
| CDRRTMT  |                           | See Subfield          | Code Type, Route Reference, or Treatment<br>This field consists of subfield CD.  |

| CD   | VCT          | <i>Code Type</i><br>Enter VCT to route a call to treatment<br>specified in refinement TMT below. |
|------|--------------|--|
| TMT  | Alphanumeric | <i>Treatment</i><br>Enter the treatment that is used to index<br>subtable TMTCNTL.TREAT.         |
| <br> |              |  |

The following example MAP display shows sample datafill for subtable HNPACONT.HNPACODE:

| FROMDIGS | TODIGS | CDRRTMT  |
|----------|--------|----------|
| 225      | 225    | VCT BUSY |

#### **Datafilling Table STDPRTCT**

The following table shows the datafill specific to trunk-to-treatment translations for table STDPRTCT.

| Table SI | <b>IDPRTCT</b>            |   |  |
|----------|---------------------------|---|--|
| Field    | Subfield or<br>Refinement | Entry                                   | Explanation and Action   |
| EXPRTNM  |                           | Alphanumeric<br>(up to 8<br>characters) | External Standard Pre-Translator Subtable<br>Enter the name defined by the operating company<br>to represent the standard pretranslator subtable |
| STDPRT   |                           | See Note                                | Standard Pre-Translator<br>The field is an index into subtable STDPRT.   |
|          |                           |   | <b>Note:</b> This field does not accept any input.   |

-End-

The following example MAP display shows sample datafill for table STDPRTCT:

| EXPRTNM | STDPRT | AMAPRT  |
|---------|--------|---------|
| P225    | (1)    | (65021) |

#### Datafilling Subtable STDPRTCT.STDPRT

The following table shows the datafill specific to trunk-to-treatment translations for subtable STDPRTCT.STDPRT.

#### Subtable STDPRTCT.STDPRT

| Field     | Subfield or<br>Refinement | Entry                          | Explanation and Action  |
|-----------|---------------------------|--------------------------------|---|
| FROMDIGS  |                           | Numeric<br>(up to 18 digits)   | From Digits<br>Enter the digit or digits to be translated.  |
|           |                           |                                | If the entry represents a block of consecutive numbers, enter the first number in the block.                        |
| TODIGS    |                           | Numeric<br>(up to 18 digits)   | To Digits<br>If field FROMDIGS represents a block of<br>consecutive numbers, enter the last number<br>in the block. |
| PRETRTE   |                           | See Subfield                   | Pre-Translation Route<br>This field consists of subfields PRERTSEL<br>and TREAT.                                    |
|           | PRERTSEL                  | D                              | <i>Pre-Translator Route Selector</i><br>Enter "D" to route directly to a treatment.                                 |
|           | TREAT                     | Alphanumeric<br>(4 characters) | <i>Treatment</i><br>Enter the treatment that is the route of the<br>translation.                                    |
| <br>-End- |                           |                                |   |

\_\_\_\_\_

The following example MAP display shows sample datafill for subtable STDPRTCT.STDPRT:

| FROMDIGS | TODIGS | PRETRTE |
|----------|--------|---------|
| 560      | 560    | D VACT  |

### **Datafilling Table CLSVSCRC**

The following table shows the datafill specific to trunk-to-treatment translations for table CLSVSCRC.

Table CLSVSCRC

| Field    | Subfield or<br>Refinement | Entry         | Explanation and Action  |
|----------|---------------------------|---------------|---|
| NPASCTYP |                           | See Subfields | NPA Screening Class Type<br>This field is consists of subfields STS,<br>SCRNCL, and TYPCALL.                                    |
|          | STS                       | Numeric       | Serving Translation Scheme<br>Enter the serving home Numbering Plan Area<br>(NPA) for a given trunk group or line<br>attribute. |

|         | SCRNCL   | Alphanumeric<br>(1 to 4 digits) | Screening Class<br>Enter the class of service screening subtable<br>name assigned to the trunk group, line<br>attribute or CAMA or AMR5 billing code. |
|---------|----------|---------------------------------|---|
|         | TYPCALL  | DD, OA, NP, or NL               | <i>Type of Call</i><br>Enter the type of call, DD (Direct Dial),<br>OA (Operator Assisted), NP (No Prefix),<br>or NL (nil).                           |
|         |          |                                 | For Traffic Operator Position System (TOPS)<br>calls, there can be a mixture of 0 and 1<br>(OA and DD) call types. Enter "NL" for these<br>cases.     |
| NORSLTS |          | 0 to 255                        | Number of Results<br>Enter the number of results required.  |
| TMTOFRT |          | See Subfields                   | Treatment or Office Route<br>This field consists of subfields SCRNSEL<br>and RTEREFIX.  |
|         | SCRNSEL  | T or D                          | Screening Selector<br>Enter the screening selector "T", if<br>translation routes to table OFRT.<br>Complete subfield RTEREFIX.                        |
|         |          |                                 | Enter the screening selector "D", if<br>translation routes to one of the treatments<br>in table TREAT. Complete subfield TREAT.                       |
|         | RTEREFIX | See Subfields                   | <i>Route Reference Index</i><br>This field consists of subfields OFC_RTE and<br>RTE_ID.   |
|         | OFC_RTE  | OFRT, OFR2, OFR3,<br>or OFR4    | Office Route Table Name<br>the office route table name to which the<br>translations are directed.   |
|         | RTE_ID   | 1 to 1,023                      | <i>Route Reference Table Index</i><br>Enter the route index in table OFRT to which<br>the translation routes.   |
|         | TREAT    | Alphanumeric                    | <i>Treatment</i><br>Enter the treatment in table TREAT to which<br>translation routes.  |
|         |          |                                 |   |

The following example MAP display shows sample datafill for table CLSVSCRC:

| NPASCTYP    | NORSLTS | TMTOFRT | CLSVSC |
|-------------|---------|---------|--------|
| 418 P225 NP | 2       | D BUSY  | (0)    |

### Datafilling Subtable CLSVSCRC.CLSVSCR

The following table shows the datafill specific to trunk-to-treatment translations for subtable CLSVSCRC.CLSVSCR.

\_\_\_\_\_

#### Subtable CLSVSCRC.CLSVSCR

| Field    | Subfield or<br>Refinement | Entry                           | Explanation and Action   |
|----------|---------------------------|---------------------------------|--|
| FROMDIGS |                           | Numeric<br>(up to 18<br>digits) | From Digits<br>Enter the single code or the first in a<br>block of consecutive codes that have the<br>same screening route.  |
| TODIGS   |                           | Numeric<br>(up to 18<br>digits) | To Digits<br>If field FROMDIGS represents a single code,<br>the entry in this field is the same as the<br>entry in field FROMDIGS.   |
|          |                           |                                 | If the field FROMDIGS represents the first<br>number in a block of consecutive codes, the<br>entry in this field is equal to the last<br>number in the block.  |
| TMTOFRT  |                           | See Subfield                    | Treatment or Office Route<br>This field consists of subfields INPA and<br>SCRNSEL.   |
|          | INPA                      | I or blank                      | Interchangeable Numbering Plan Area<br>Enter "I" if INPA codes require separate<br>routes for seven and ten dialed digits.<br>If "I" is entered, two routes will be required.<br>The first route will be used for calls with<br>seven dialed digits and the second route will<br>be used for calls with ten dialed digits. |
|          | SCRNSEL                   | T or D                          | Screening Selector<br>Enter the screening selector "T", if<br>translation routes to table OFRT.<br>Complete subfield RTEREFIX.   |
|          |                           |                                 | Enter the screening selector "D", if<br>translation routes to one of the treatments<br>in table TREAT.<br>Complete subfield TREAT.   |
|          | RTEREFIX                  | See Subfields                   | <i>Route Reference Index</i><br>This field consists of subfields OFC_RTE and<br>RTE_ID.  |
|          | OFC_RTE                   | OFRT, OFR2, OFR3,<br>or OFR4    | Office Route Table Name<br>Enter the office route table name to which the<br>translations are directed.  |
|          |                           |                                 | If the INPA selector "I" has been entered in<br>subfield INPA two office route table names must<br>be entered. The first OFR table will handle<br>seven digit calls and the second OFR table will<br>handle ten digit calls.   |

| RTE_ID | 1 to 1,023   | <i>Route Reference Table Index</i><br>Enter the route index in table OFRT to which<br>the translation routes.   |
|--------|--------------|---|
|        |              | If the INPA selector "I" has been entered in<br>subfield INPA two route reference indices must<br>be entered. The first index will apply to the<br>first OFR table entered in subfield OFC_RTE and<br>the second index will apply to the second OFR<br>table entered in subfield OFC_RTE. |
| TREAT  | Alphanumeric | <i>Treatment</i><br>Enter the treatment in table TREAT, to which<br>translation routes.   |
|        |              | If the INPA selector "I" has been entered in<br>subfield INPA two treatments must be entered.<br>The first treatment will handle seven digit<br>calls and the second treatment will handle ten<br>digit calls.  |
|        |              |   |

The following example MAP display shows sample datafill for subtable CLSVSCRC.LCSVSCR:

| FROMDIGS | TODIGS | TMTOFRT |
|----------|--------|---------|
| 344      | 345    | D VACT  |

#### **Datafilling Table TRKGRP**

The following table shows the datafill specific to trunk-to-treatment translations for table TRKGRP.

\_\_\_\_\_

| Field  | Subfield or<br>Refinement | Entry                                   | Explanation and Action   |
|--------|---------------------------|---|--|
| GRPKEY |                           | See Subfield                            | Group Key<br>This field consists of subfield CLLI.   |
|        | CLLI                      | Alphanumeric<br>(1 to 16<br>characters) | Common Language Location Identifier<br>Enter the CLLI code assigned to the trunk<br>group in table CLLI. |

-End-

Table TRKGRP

The following example MAP display shows sample datafill for table TRKGRP:

| F514T13TISIT048 IT 0 NPDGP NCIT 2W NIL MIDL 514 NPRT NSCR 514 000 Y N \$ | GRPKEY          | GRE | ,II | 1FO   |      |    |     |      |     |      |      |     |     |   |   |    |
|--|-----------------|-----|-----|-------|------|----|-----|------|-----|------|------|-----|-----|---|---|----|
|  | F514T13TISIT048 | IT  | 0   | NPDGP | NCIT | 2W | NIL | MIDL | 514 | NPRT | NSCR | 514 | 000 | Y | N | \$ |

#### **Datafilling Table TRKSGRP**

The following table shows the datafill specific to trunk–to–treatment translations for table TRKSGRP.

\_\_\_\_\_

#### Table TRKSGRP

| Field   | Subfield or<br>Refinement | Entry                                   | Explanation and Action  |
|---------|---------------------------|---|---|
| SGRPKEY |                           | See Subfields                           | Subgroup Key<br>This field consists of subfields CLLI and<br>SGRP.  |
|         | CTTI                      | Alphanumeric<br>(1 to 16<br>characters) | <i>Common Language Location Identifier</i><br>Enter the code that is assigned in table CLLI<br>to the trunk group to which the subgroup<br>belongs. |
|         | SGRP                      | 0 or 1                                  | <i>Subgroup Number</i><br>Enter the number assigned to the trunk<br>subgroup.   |
|         |                           |   |   |

-End-

The following example MAP display shows sample datafill for table TRKSGRP:

| SGRPKEY           | CARDCODE | SGRPVAR | SGRPVAR   |
|-------------------|----------|---------|---|
| F514T13TISIT048 0 | DS1SIG   | C7UP    | 2W N N UNEQ NONE Q764 2W 2W 0 TATSTAC \$ TACTIMER CIC |

#### **Datafilling Table TRKMEM**

The following table shows the datafill specific to trunk-to-treatment translations for table TRKMEM.

\_\_\_\_\_

## Table TRKMEM

| Field   | Subfield or<br>Refinement | Entry                                   | Explanation and Action   |
|---------|---------------------------|---|--|
| CLLI    |                           | Alphanumeric<br>(1 to 16<br>characters) | Common Language Location Identifier<br>Enter the CLLI code that is assigned to the<br>trunk group of which the trunk is a member.<br>This CLLI code is assigned in table CLLI.   |
| EXTRKNM |                           | 0 to 9,999                              | External Trunk Number<br>Enter the external trunk number that is<br>assigned to the trunk. For members of trunk<br>groups using the AIOD option, the external<br>trunk number must be unique over all trunks<br>and lines using the same AIOD group. |
|         |                           |   |  |

| MEMVAR |          | See Subfield | Variable Data for Members<br>This field consists of subfield PMTYPE and<br>refinements.  |
|--------|----------|--------------|--|
|        | PMTYPE   | DTC          | Peripheral Module Type<br>Enter the Peripheral Module (PM) type on which<br>the trunk is mounted and datafill the<br>refinements associated with this entry value. |
|        |          |              | Enter "DTC" for a digital trunk controller and complete subfields DTCNO, DTCCKTNO, and DTCCKTTS  |
|        | DTCNO    | 0 to 511     | Digital Trunk Controller Number<br>Enter the number of the DTC to which the trunk<br>group member is assigned.   |
|        | DTCCKTNO | 0 to 19      | Digital Trunk Controller Circuit Number<br>Enter the number of the DTC circuit card to<br>which the trunk group member is assigned.                                |
|        | DTCCKTTS | 1 to 24      | Digital Trunk Controller Circuit Time-Slot<br>Enter the number of the circuit card DS-1<br>time-slot to which the trunk group member is<br>assigned.               |
|        |          |              |  |

The following example MAP display shows sample datafill for table TRKMEM:

| CLLI            | EXTRKNM | SGRP | MEM | /AR |    |    |
|-----------------|---------|------|-----|-----|----|----|
| F514T13TISIT048 | 1       | 0    | DTC | 13  | 19 | 24 |

#### **Translation Verification Tools**

The following example shows the output from TRAVER when it is used to verify trunk-to-treatment translations.

>TRAVER TR S5807705TPTIT 17059601017 B TABLE TRKGRP S5807705TPTIT IT 0 NPDGP NCIT 2W IT ASEQ 705 P807 NSCR 807 000 N N \$ TABLE OFCVAR AIN\_OFFICE\_TRIGGRP NIL TABLE STDPRTCT P807 ( 1) (65021) 0 . SUBTABLE STDPRT WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION. . 1 1 N DD 1 IN . SUBTABLE AMAPRT . KEY NOT FOUND . DEFAULT VALUE IS: NONE OVRNONE N TABLE CCTR TUPLE NOT FOUND DEFAULT IS: 0 18 D VACT TABLE TMTCNTL ITTRKGRP (7) . SUBTABLE TREAT KEY NOT FOUND DEFAULT OFFTREAT IS USED TABLE TMTCNTL OFFTREAT ( 53) . SUBTABLE TREAT . VACT Y T OFRT 57 . TABLE OFRT . 57 S D VCA . S D \*FRAO . EXIT TABLE OFRT +++ TRAVER: SUCCESSFUL CALL TRACE +++ TREATMENT ROUTES. TREATMENT IS: VACT 1 VCA 2 \*FRA0 +++ TRAVER: SUCCESSFUL CALL TRACE +++

# **Block Diagram**



## **BLOCK DIAGRAM**

## **Principles of Operation – Part 1**

## **PRINCIPLES OF OPERATION**

The PRO-2032 is a PLL (Phase Locked Loop) synthesized VHF/UHF, FM/AM receiver, controlled by a CPU (Central Processing Unit) via a keyboard.

The VHF Low band (30–54 MHz) or VHF High band (137–174 MHz) is received in 5 kHz increments and the UHF Low band (380–512 MHz) or UHF High band (806–960 MHz) in 12.5 kHz increments. Similarly, the aircraft band (108–136.975 MHz) is in 25 kHz increments.

All functions, such as the receiving frequency range, frequency determination, scanning, and delay time, are controlled by the CPU. The CPU is able to do only the assigned functions and no modification of the CPU is feasible.

The following paragraphs explain the operation of the circuit in terms of the functional blocks:

Varactor (variable capacitance diode) tuning ("automatic tuning system") is employed on all bands.

Field-effect transistors (FET) are used in the RF/MIX circuits of low and high bands to achieve optimum mixmodulation and mutual-modulation characteristics. Q20 amplifies the 10.7 MHz IF. A monolithic crystal filter is incorporated to obtain good IF selectivity.

IC2 contains the local oscillator, mixer, IF amplifier, quadrature FM detector, and noise amplifier. A crystal oscillator produces 10.245 MHz which is mixed with 10.7 MHz, resulting in 455 kHz IF. A 455 kHz ceramic filter is provided to increase the IF selectivity. The 455 kHz IF signal is amplified in the IF amp stage and the quadrature FM detector detects it as an audio signal.

The detected output of the FM is applied to IC7. IC7 amplifies the audio signals and drives the speaker.

IC6 is the CPU, which does such functions as data processing and calculation. Any unstable supply voltage (VDD) to the CPU can cause the CPU to malfunction, resulting in incorrect data processing and wrong data transfer. To overcome this, C163 and R156 in the logic circuit "initialize" the CPU. (Refer to the schematic diagram on Page 57.)

The initialization is done as soon as the power supply is connected. Figure A shows the initializing waveform. The memory backup function is automatically started whenever the initialization has been completed.

The RESET switch is located in the hole on the back of the unit and is used to correct an LCD or keyboard malfunction. The initialization of the CPU, mentioned above, can also be done by pushing the RESET.

Key input and the receiving frequency are managed by the CPU, and the CPU output drives the LCD.

CX1 (8 MHz) is a ceramic oscillator which is used for CPU control. Figure B shows 1/8 of the waveform in Figure C.

# **Principles of Operation – Part 2**



## Schematic – Part 1

#### SCHEMATIC DIAGRAM



## Schematic – Part 2






"Affirmative action" in action!

This is a *perfect* picture explaining why a person should always learn to protect themselves, family, neighborhood, etc. and *not* rely on government assistance.

Brain-dead liberals care more about patting themselves on their backs, than your own safety.

Hint: The magazine is in upside down.

## End of Issue #51



#### Any Questions?

#### **Editorial and Rants**

Just a sign of the times...

#### Judge Advises Crime Victim To Arm Herself After Attack

June 27, 2008 – From: www.chattanoogan.com

# General Sessions Court Judge Bob Moon said Friday that crime in Chattanooga "has become so rampant that it is no longer possible for the police department to protect our citizens."

He told a woman who had been pulled from her car and beaten in the head that she or her mother needed to "purchase a weapon, obtain a gun permit and learn to protect yourself." The woman moved back in with her mother after the May 4 incident on E. 17th Street.

Judge Moon said, "The U.S. Supreme Court has ruled that all citizens have a right to purchase a weapon to defend themselves, their families and their homes – unless there is some disqualification that prevents them from owning a weapon."

## He said, "All area of our city are subject to crime, and some areas have very high crime rates and need to be 'overpoliced."

Judge Moon said Coolidge Park is one area that needs to be "overpoliced." He said, "I frequently hear of break-ins, thefts and robberies to tourists and citizens in that area. Having a high police presence there is one way you are going to abate it."

Judge Moon raised the bond for Dewayne Beard from \$65,000 to \$130,000 on especially aggravated robbery and from \$15,000 to \$50,000 on theft. He bound both cases to the Grand Jury.

The woman said she was driving on E. 17th Street when Beard came riding up on a bicycle and pulled a gold handgun on her. When she refused to get out of the car, he began hitting her in the head with the gun.

He then pulled her out and drove off with her gold 2001 Toyota Corolla.

Police found the woman semi–conscious with severe head injuries. She had to have eight stitches in her head and 10 stitches in her leg, where she was also hit.

Police located Beard at 4724 Tomahawk Dr. and arrested him as he walked out of the residence. He told officers the stolen car was being driven "by one of my goons."

Officers located the vehicle a couple of blocks away on Bella Vista Drive. Blood was found inside the vehicle, and the woman's purse was also inside.

Beard said he threw the gun out of the window while driving through Highland Park.

Beard was allowed out on an OR bond when the case was not ready for a hearing within 10 days.

On May 31, he picked up new charges of aggravated rape and aggravated burglary.

A woman said she was lying nude in her bed and a man began performing a sex act on her. She said when the man then began having sex with her using a condom, she realized it was not her boyfriend. She said she pulled the sheets up and saw it was Beard.

Just a sign of the times...

#### Mother Carrying Gun Scares Away Alleged Stalker

June 10, 2008 – From: www.nbc6.net

CORAL GABLES, Fla. -- A woman said she used a gun to scare away a man who was trying to lure her teenage daughter into a truck.

The mother, who did not wish to be identified, said the man approached her 16-year-old daughter on Alhambra Circle near their home.

"She was walking her dog in the median right out in front of our house here, and a man approached her in a truck and tried to get her to come to the truck," the woman said.

The teenager ran to nearby Coral Gables Elementary School, calling her mother and 911. The mother confronted the man and showed him her 9–mm gun.

"It's not until I showed him that I was armed and that I meant business to protect my daughter that he backed off," she said.

#### Coral Gables police arrested Ramon del Risco in connection with the incident.

The mother said her gun made the difference in the situation.

"I'm licensed. I shoot almost every week," she said.

#### The woman said she recommends a day at the shooting range for every parent.

Just a sign of the times...

#### Mugged for \$1

June 10, 2008 – From: www.tampabays10.com

By Janie Porter

St. Petersburg, Florida –– Stephanie Rockfield, 19, says she was punched in the face while riding her bike on the Pinellas Trail through St. Petersburg. And the two suspects got away with just one dollar.

Rockfield said she had just worked out at the YMCA on 5th Avenue South and was riding her bike home. She was passed by two men on bikes who were going the opposite direction. But then, she says they turned around, passed her and blocked the path in front of her.

"I swerved around him, and I was like, 'Excuse me.' And he said, 'No.' And he hit me off my bike," Rockfield explained. The punch left her with a blue knot over her right eye and minor head trauma.

When she was on the ground, Rockfield said the two men grabbed her sports bag and hit the side of her head until she dropped it. Inside, Rockfield had her wallet, IDs, house keys and one dollar.

The men eventually rode away and Rockfield managed to ride her bike home. Because the men made off with her ID and house keys, Rockfield's family had to change their door locks.

# Both suspects are described as black, 18 to 19 years old, between 5'8" and 5'9" and weighing about 120 pounds. A witness told police he saw one of the men dispose of a maroon–colored beach cruiser bicycle after the attack.

If you have any information, you're asked to call St. Petersburg Police at (727) 893-7780.

The attack happened just a few blocks away from where police say two people mugged a man in a wheelchair on Tuesday.





Just a sign of the times...

#### Pawn Shop Clerk Shot and Killed During Robbery

June 13, 2008 – From: www.ktbs.com

A clerk was shot and killed this afternoon during a robbery at a pawn shop in south-central Shreveport.

Police said the victim was turning over the money and had not resisted when he was shot.

The shooting happened about 2:40 p.m. at Max's Pawn Shop on Linwood Avenue.

Police said the victim was a clerk at the shop. He was shot in the chest as he tried to get the money together, police said.

The suspect fired two more random shots as he left the store. No one was hit. He was last seen driving away in a gray Cadillac that is believed to have been stolen earlier in the day during a carjacking on Youree Drive, police said.

The Cadillac was later found abandoned at Linwood Avenue and 76th Street.

The clerk was taken to LSU Hospital where he died.

Police also are investigating whether the shooter at the pawn shop was involved in a robbery attempt at the Family Dollar discount store on Kings Highway earlier in the day. The assailant fired one shot as he left the store. No one was injured. The suspect is described as black, about 5–foot–7, with a medium build and shot hair, some of it in braids. He was wearing an oversized white t–shirt and sunglasses.



Matthew Robert, a Navy veteran. Dead.



Tarsa Ray Cooley. Not dead.



Jarred Hullaby. Not dead.



More intelligent.

Just a sign of the times...



From: http://www.elpasotexas.gov/pdimug/default.asp?charge=Assault

### Thinking of voting for Barack Hussein Obama?







THE MODERN MEDIA



### Barack Hussein Obama's White House

