

GBPPR 'Zine



Issue #61 / The Monthly Journal of the American Hacker / May 2009

"We consent to be governed. We do not elect to be ruled."

--- Quote from Senator Barry Goldwater in his book *Where I Stand*.

Table of Contents

- ◆ **Page 2 / City Wide Centrex Implementation Procedures / #1A ESS (Part 1)**
 - ◆ Translation and recent change input/output messages for Centrex operations in a #1A ESS.
- ◆ **Page 27 / Nortel DMS-100 Incoming End Office Trunk Group Type**
 - ◆ Trunk group which connects with an end or toll office for local, direct, or tandem switching.
- ◆ **Page 31 / Radio Shack PRO-2042 10.7 MHz I.F. Filter Modifications**
 - ◆ Use the wideband FM mode in a PRO-2042 scanner for something useful.
- ◆ **Page 37 / Homebrew Lock-In Amplifier**
 - ◆ Handy little device for extracting audio signals from noise.
- ◆ **Page 50 / Bonus**
 - ◆ RTTY Pr0n
- ◆ **Page 51 / The End**
 - ◆ Editorial and rants.

**AT&T PRACTICE
Standard**

**AT&T 231-318-362
Issue 1, October 1985**

**CITY WIDE CENTREX (CWC)
IMPLEMENTATION PROCEDURES
(1AE9 GENERIC PROGRAM)**

1A ESS™ SWITCH

	CONTENTS	PAGE
1. GENERAL		1
1.1 Flowchart Symbols		1
2. OVERALL DESCRIPTION OF CWC		2
3. GENERAL RC INFORMATION		3
3.1 Translators Affected by CWC		3
4. TRANSLATOR DESCRIPTIONS		3
4.1 DN Translator		3
4.2 DN-CTX Translator		6
4.3 LEN Translator		7
4.4 Centrex Supplementary Translator		7
4.5 Centrex Digit Interpreter Tables		8
4.6 City Wide Centrex Translator		11
4.7 MLHG Translator		14
4.8 SCIW (Supplementary Call Identification Word) Translator		15
4.9 CORC (Customer Originated Recent Change) Blocks		15
5. CWC RELATED VERIFY MESSAGES		17
5.1 VF:DNSVY Input Message		17
5.2 VF:CWC Input Message		18
5.3 VF:TAG Input Message		18
5.4 VFY-DN Input Message		18
5.5 VFY-CSTG Input Message		19
5.5.1 VFY-CSTG-34		19
5.5.2 VFY-CSTG-35		19
5.6 VFY-LEN Input Message		19

AT&T Technologies, Inc. - Proprietary

Printed in U.S.A.

Page i

City Wide Centrex Implementation Procedures / #1A ESS

AT&T 231-318-362

	CONTENTS	PAGE
5.7	VFY-XDGNT Input Message	19
5.8	V-DNCTX Input Message	20
6.	RC MESSAGE FORMATS	20
6.1	RC:CFV Message	20
6.2	RC:LINE Message	21
6.3	RC:MLHG Message	21
6.4	RC:CCOL Message	21
6.5	RC:DNHT Message	22
6.6	RC:DNRNGE Message	22
6.7	RC:CTXCB Message	22
6.8	RC:CTXDI Message	22
6.9	RC:CWCTX Message	23
6.10	RC:SIMFAC Message	23
7.	CWC IMPLEMENTATION PROCEDURES	23
7.1	Building Interlocation Intercom Dialing Translations	24
7.1.1	Update to 1AE9 Generic Program and PDA	26
7.1.2	Activate and Verify LCCIS Direct Signaling	26
7.1.3	Modify the DN-CTX Translator	26
7.1.4	Build Regular Centrex Translations	27
7.1.5	Build SFGs (Simulated Facilities Group)	27
7.1.6	Build CFGs (Customer Facility Group)	28
7.1.7	Build the CWC translator	30
7.1.8	Modify the Centrex Supplementary translator	31
7.1.9	Modify the Centrex Digit Interpreter Tables	32
7.1.10	Remove Existing Centrex Private Facilities Translations Not Needed	33
7.2	Building CWC Access to Private Facilities Translations (Main location only)	33
7.2.1	Increase the Size of SFGs For Existing Private Facilities	37
7.2.2	Build SFGs For New Private Facilities	37
7.2.3	Build and Assign New Trunks	38
7.2.4	Assign New Rate Centers	41
7.2.5	Assign New Chart Column	42
7.2.6	Build Pseudo Lines	42
7.2.7	Enter Remote Location NPAs (PADNPA cases only)	43
7.2.8	Modify the SCIW Translator	43

Page ii

City Wide Centrex Implementation Procedures / #1A ESS

ISS 1, AT&T 231-318-362

CONTENTS	PAGE
7.2.9 Build the ICCS Block in the CWC Translator	44
7.2.10 Build Main-Satellite Configuration	44
7.3 Build CWC Access to Private Facilities Translations (Remote location only)	46
7.3.1 Assign FRLs (Facility Restriction Levels)	46
7.3.2 Assign Access Codes	47
7.3.3 Remove Existing Centrex Private Facilities Translations Not Needed	48
8. TRANSLATION FORMS	48

Figures

1. DN Auxiliary Block - CFBL/CFDA Option Words	5
2. Type 1 Translation Word - DN-CTX Translator	6
3. Type 6 Translation Word and Auxiliary Block - DN-CTX Translator	7
4. Option Word D - Centrex Supplementary Translator	8
5. Data Type 8 Subtype 1 - Centrex Digit Interpreter Tables	9
6. Data Type 8 Subtypes 2 and 3 - Centrex Digit Interpreter Tables	10
7. Data Type 5 Subtype 19 - Centrex Digit Interpreter Tables	11
8. City-Wide Centrex Translator	13
9. MLHG Auxiliary Block - CFBL/CFDA Option Words	16
10. Remote Location CORC Block	17
11. CWC Interlocation Intercom Dialing Implementation Sequence Flow Diagram	25
12. CWC Access to Private Facilities Implementation Sequence Flow Diagram (Main Location Only)	34
13. Equipping a Universal Trunk (Note)	39
14. CWC Access to Private Facilities Implementation Sequence Flow Diagram (Remote Location Only)	46

Tables

A. Abbreviations and Acronyms	2
B. RC:TRK Keyword Definitions - Universal Trunks	40

1. GENERAL

This practice provides CWC (City Wide Centrex) implementation procedures. Included are translator descriptions, RC verification data, RC input message format data, and CWC feature implementation procedures.

Refer to AT&T Practice 231-390-175 for additional descriptions of CWC features and attributes. Familiarity with AT&T Practice 231-390-175 is assumed for understanding of this practice.

Refer to Table A for abbreviations and acronyms used in this practice. Items and fields shown in translator layouts and keywords shown in RC and verify messages are not necessarily included in Table A (CWC abbreviations and acronyms). These items and keywords are defined in legends included in the translator layout figures or within the RC and verify message descriptions.

Refer to AT&T Practice 231-318-316 for additional general information on RC and verify formats and the interpretation of the message flowcharts.

Refer to Translation Guide TG-1A for documentation of translation data and associated ESS forms.

Refer to Input Manual IM-6A001 and Output Manual OM-6A001 for a complete description of input and output messages.

1.1 Flowchart Symbols

The following flowchart symbols are used in RC message flowcharts.

- **OPTION Symbol:** The OPTION symbol is used to indicate that all flowlines leaving the symbol are optional. None, one, some, or all such flowlines may be selected.
- ⊗ **EXCLUSIVE OR Symbol:** The EXCLUSIVE OR symbol is used to indicate that exactly one of two or more flowlines leaving the symbol must be selected.
- ⓪ **NONEXCLUSIVE OR Symbol:** The NONEXCLUSIVE OR symbol is used to indicate that one or more of the flowlines leaving the symbol must be selected (no less than one, but more than one may be selected).
- **AND Symbol:** The AND symbol is used to indicate that all flowlines leaving the symbol must be used.
- ⌈
%
⌋ **Repeatable Segment:** The repeatable segment symbol is used to indicate that the keyword unit or the specific group of keyword units within the segment bracket can be repeated within the RC message without reentering previous keyword units. Each segment is terminated by the percent sign.

In message flowcharts, keywords without a variable shown are YES/NO keywords. When a YES/NO feature is added, enter the keyword; when a YES/NO feature is removed, enter the keyword followed by NO or N.

City Wide Centrex Implementation Procedures / #1A ESS

AT&T 231-318-362

TABLE A ABBREVIATIONS AND ACRONYMS	
ACOF	Attendant Control of Facilities
BCD	Binary Coded Decimal
CFBL	Call Forwarding Busy Line
CFDA	Call Forwarding Don't Answer
CFV	Call Forwarding Variable
CWC	City Wide Centrex
DN	Directory Number
ETS	Electronic Tandem Switching
FRL	Facility Restriction Level
FRSI	Flexible Route Selection Index
IOIII	Inhibit Originating Interlocation Intercom Indicator
ITIII	Inhibit Terminating Interlocation Intercom Indicator
LEN	Line Equipment Number
MHT	Master Head Table
MLHG	Multiline Hunt Group
NPA	Numbering Plan Area (Area Code)
NXX	Office Code
PADNPA	Pad Remote Numbering Plan Area Indicator
PTW	Primary Translation Word

2. OVERALL DESCRIPTION OF CWC

CWC provides centrex capabilities to large businesses with multiple locations that are served by separate 1A ESS switches. Each location will remain as part of its own switch with its capabilities, but will be able to operate as part of the CWC system as if it was its own centrex group. All intragroup capabilities are extended to all interlocation calls. CWC uses LCCIS (Local Common Channel Interoffice Signaling), therefore all CWC locations must be within the same LATA (Local Access and Transport Area) because LCCIS is intraLATA.

3. GENERAL RC INFORMATION

3.1 Translators Affected by CWC

Translators affected by CWC are listed below, including the associated data input RC and verify messages.

- DN (Directory Number) Translator (RC:LINE, VF:DNSVY)
- LEN (Line Equipment Number) Translator (RC:LINE, VFY-LEN)
- Centrex Supplementary Translator (RC:CTXCB, VFY-CSTG-35)
- Centrex Digit Interpreter Tables (RC:CTXDI, VFY-XDGNT)
- CWC Translator (RC:CWCTX, VF:CWC)
- DN-CTX Translator (RC:TNCTX, V-DNCTX)
- MLHG (Multi-line Hunt Group) Translator (RC:MLHG, VFY-CSTG-34)
- SCIW (Supplementary Call Identification Word) Translator (RC:CCOL)
- CORC (Customer Originated Recent Change) Block (RC:CFV, VF:DNSVY)

4. TRANSLATOR DESCRIPTIONS

4.1 DN Translator

Assigning Satellite DNs to Main Location

The DN translator is used to assign CWC satellite DNs to the main location. These DNs are associated with a RI (route index) at the main location for routing DID (direct inward dialing) calls to the proper satellite location. CWC satellite DNs are assigned in the main location using either a DN head table type 3 entry or a DN subtranslator type 4 entry. The DN head table type 3 entry associates an entire number group of CWC satellite DNs with an RI and a DN subtranslator type 4 entry associates an individual CWC line with an RI. In both the type 3 or type 4 entry the DNs have an abbreviated code of 10 and a program index of 2. The type 3 or type 4 entry can **not** be associated with an RI less than 200.

Bit 2 of the DN head table type 3 entry and the DN subtranslator type 4 entry contains the CWSI (CWC Satellite DN Indicator). If bit 2 equals 1, the DN or number group is a CWC satellite DN. If bit 2 of the type 3 entry equals 0 the DN is given standard office interrupt treatment.

City Wide Centrex Implementation Procedures / #1A ESS

AT&T 231-318-362

Call Forwarding Busy Line/Call Forwarding Don't Answer

The DN translator auxiliary block (Fig. 1) for centrex lines and attendants contain 1- or 2-word CFBL/CFDA options. One option word (type 1, word 1) is used if the DN is intraoffice (stored in binary) and two option words (type 2, words 1 and 2) are used if the DN is interoffice (stored in BCD).

Bit 16 of the type 2, word 1 CFBL/CFDA option words indicates the satellite station DN is a CWC DN and contains the last four digits of the DN in BCD. The type 1, option word 1 contains the complete DN in binary. The type 2, word 2 option word contains the NPA (Numbering Plan Area) digits and the NXX (office code) digits of the DN in BCD.

Bit 23 of the type 1, word 1 or type 2, word 1 CFBL/CFDA option word indicates the satellite DN is an interoffice DN. Bit 23 of the type 1, word 1 CFBL/CFDA option word is always equal 0 indicating an intraoffice remote station DN. Bit 23 of the type 2, word 1 CFBL/CFDA option word is always equal 1 indicating a inter-office remote station DN.

Note: If bit 23 equals 1, bit 16 must also equal 1.

City Wide Centrex Implementation Procedures / #1A ESS

ISS 1, AT&T 231-318-362

CFBL/CFDA OR CFBL OPTION WORD(S)

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
TYPE 1 WORD 1	0	*1	*2	*3	*4	*5	DN (IN BINARY)																	

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
TYPE 2 WORD 2	NPA 1			NPA 2			NPA 3			NXX 1			NXX 2			NXX 3								
TYPE 2 WORD 1	1	*1	*2	*3	*4	*5	*7	DIG 7			DIG 8			DIG 9			DIG 10							

CFDA OPTION WORD(S)

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
TYPE 1 WORD 1	0	*6	-0-		*5	DN (IN BINARY)																		

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
TYPE 2 WORD 2	NPA 1			NPA 2			NPA 3			NXX 1			NXX 2			NXX 3								
TYPE 2 WORD 1	1	*6	-0-		*5	*7	DIG 7			DIG 8			DIG 9			DIG 10								

*1 = CFUS AND CFBLUS *2 = CFIMB *3 = CFILB
 *4 = CFOV *5 = CFDAT *6 = CFDAUS *7 = CWCI

NOTES:

1. DIG, NPA, AND NXX ARE STORED IN BCD.
2. CFBLUS AND CFDAUS ARE ONLY VALID IF CFBL AND CFDA ARE ASSIGNED.

LEGEND:

- CFUS - CALL FORWARDING UNRESTRICTED SOURCE.
- CFBLUS - CALL FORWARDING BUSY LINE UNRESTRICTED SOURCE (SEPARATE REMOTE STATION DNs).
- CFIMB - CALL FORWARDING INHIBIT MAKE BUSY INDICATOR.
- CFILB - CALL FORWARDING INHIBIT LINE BUSY INDICATOR.
- CFOV - CALL FORWARDING OVERFLOW INDICATOR.
- CFDAT - NUMBER OF RINGING CYCLES TO BE APPLIED TO THE CFDA BASE STATION BEFORE THE CALL IS FORWARDED.
- CFDAUS - CALL FORWARDING DON'T ANSWER UNRESTRICTED SOURCE.
- CWCI - CITY-WIDE CENTREX INDICATOR.
- DIG - LAST FOUR DIGITS OF DN.
- NXX - OFFICE CODE.
- NPA - AREA CODE.

Fig. 1 — DN Auxiliary Block - CFBL/CFDA Option Words

AT&T 231-318-362

4.2 DN-CTX Translator

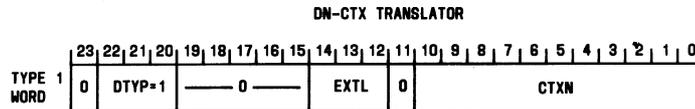
The DN-CTX translator translates a DN to a centrex group number and CTX extension given the following requirements:

- The legal size of a CTX extension is between two and seven digits.
- CTX extensions match the last n-digits of the corresponding DN in nearly all cases.
- The last two-digits of a CTX directory number (D6 and D7) must always match the last two digits of the CTX extension.

The "TYPE 1" (DTYP=1) translation word (Fig. 2) of the DN-CTX translator is used when the n-digits of the DN match the CTX extension exactly. Bits 12-14 dictate the size of the extension. Therefore the last n-digits of the input DN produce the desired extension.

The "TYPE 6" (DTYP=6) translation word (Fig. 3) is used when the CTX extension does not match the CTX extension exactly, however the last 2-digits (D6 and D7) must still match the last 2-digits of the extension. The "TYPE 6" entry replaces the previous "TYPE 1" final data entry and contains the address of an auxiliary block (Fig. 3) created for cases where the CTX DN and extension do not match and the EXTL (Centrex Extension Length) exceeds 2-digits. Word 1 of the auxiliary block contains the EXTL and CTXN. Word 2 contains the replacement digits (D1-D5) for the first five digits of the associated CTX DN (D1-D5). If a valid BCD (binary coded decimal) replacement digit is present, then this value replaces the corresponding digit of the CTX DN and the result is the CTX extension.

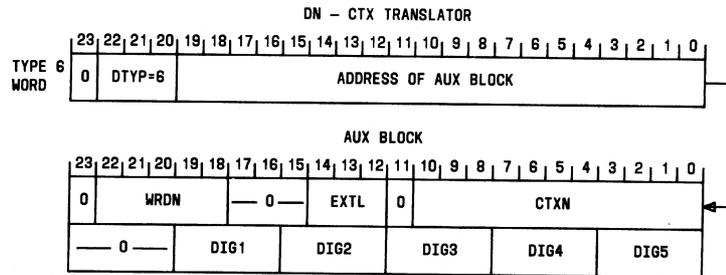
Note: Digits 6 and 7 of the CTX DN are the last 2-digits of the CTX extension.



LEGEND:

- DTYP - DATA TYPE: "001" FOR DN BLOCKS THAT ARE ALL ASSIGNED IN THE SAME CENTREX GROUP
- EXTL - CENTREX EXTENSION LENGTH
 - 0 = EXTENSION UNAVAILABLE OR UNASSIGNED
 - 001 = INVALID
 - 011-111 = EXTENSION LENGTH AT LEVEL ZERO OF TRANSLATOR, i.e., DN TO CTX TABLE
 - 010-111 = EXTENSION LENGTH AT LEVEL 1-3 OF TRANSLATOR, i.e., D5-D7 IN INTERPRETER TABLES
- CTXN - CENTREX GROUP NUMBER

Fig. 2 — Type 1 Translation Word - DN-CTX Translator



NOTE:

1. Digits 6 and 7 of the centrex DN must be the last 2 digits of the centrex extension.

LEGEND:

- DTYP - DATA TYPE; "110" FOR DNs WHERE THE CTX EXTENSIONS DO NOT MATCH THE LAST n DIGITS OF THE DN AND EXTENSION LENGTH EXCEEDS 2 DIGITS
- WRDN - NUMBER OF WORDS IN AUX BLOCK
- EXTL - CENTREX EXTENSION LENGTH
000-010 = INVALID
011-111 = EXTENSION LENGTH
- CTXN - CENTREX GROUP NUMBER
- DIG1-5 - REPLACEMENT DIGITS (BCD) FOR THE FIRST FIVE DIGITS OF THE CENTREX DIRECTORY NUMBER (D1-D5)
0 = NO REPLACEMENT
1010 = DIALED ZERO
0001-1001 = DIGITS 1-9
1011-1111 = INVALID

Fig. 3 — Type 6 Translation Word and Auxiliary Block - DN-CTX Translator

4.3 LEN Translator

The FRL (facility restriction level) indicator and field in the LEN translator auxiliary blocks for centrex is used for ETS (electronic tandem switching). The FRL indicator and field are also used as a selector into a table of screening LENs located in the CWC translator for individual chart column screening for remote access to non-ETS facilities.

4.4 Centrex Supplementary Translator

A new option word (Option word D) (Fig. 4) is added to the centrex supplementary translator. Option word D contains:

- The CWC group number
- The location identifier
- The IOIII (inhibit originating interlocation intercom indicator)
- The ITIII (inhibit terminating interlocation intercom indicator)

City Wide Centrex Implementation Procedures / #1A ESS

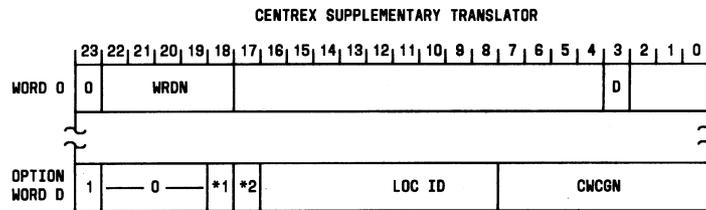
AT&T 231-318-362

The CWC group number is the number of the CWC group. All offices in the group for a specific customer have the same group number.

A different location identifier is associated with each location in the CWC group. These locations may or may not be in the same office, (i.e., a CWC group can have locations in different offices and different centrex groups can exist in the same office).

The IOIII restricts all fully-restricted stations in the centrex group from originating or forwarding interlocation intercom calls. The IOIII applies only to CWC stations with a fully-restricted originating major class.

The ITIII restricts all fully-restricted stations in the centrex group from receiving interlocation intercom calls. The ITIII applies only to CWC stations with a fully-restricted terminating major class.



- LEGEND:**
- WRDN - NUMBER OF WORDS IN THE CENTREX SUPPLEMENTARY TRANSLATOR.
 - D - OPTION WORD D INDICATOR.
 - *1 = ITIII - INHIBIT TERMINATING INTERLOCATION INTERCOM INDICATOR.
 - *2 = IOIII - INHIBIT ORIGINATING INTERLOCATION INTERCOM INDICATOR.
 - LOC ID - LOCATION ID ASSOCIATED WITH THIS 1A ESS SWITCH FOR THIS CWC GROUP. VALUES = 1 TO 127.
 - CWCGN - CITY-WIDE CENTREX GROUP NUMBER. VALUES = 1 TO 255.

Fig. 4 — Option Word D - Centrex Supplementary Translator

4.5 Centrex Digit Interpreter Tables

The data type field of the centrex digit interpreter tables is expanded; it is in bits 20 through 23. Data type 8 of the centrex digit interpreter tables defines 3 CWC functions:

- Interlocation Intercom Dialing
- Indicates the Interlocation Directory Number
- Allows CWC Access to Centralized Facilities

Interlocation intercom dialing allows the CWC customer to dial intercom numbers in other offices but in the same CWC group. The data type 8, subtype 1 (Fig. 5) is used to form a 10 digit DN associated with the intercom number dialed. Bit 17 of word 0 is the ACOF (attendant control of facilities) bit and is always equal 0.

City Wide Centrex Implementation Procedures / #1A ESS

ISS 1, AT&T 231-318-362

The data type 8, subtype 2 (Fig. 6) contains a 10 digit interlocation DN. Bit 17 of word 0 is the ACOF (attendant control of facilities) bit and is always equal 0.

The data type 8, subtype 3 (Fig. 6) provides a 10 digit DN at the CWC main office to allow a CWC customer to access private facilities at a single location from any customer location. Treatment codes are used to deny access to this capability on a per station basis. Bit 17 of word 0 is the ACOF (attendant control of facilities) bit and is always equal 0.

The centrex digit interpreter tables data type 5, subtype 19 (Fig. 7) auxiliary block is modified to allow the FRSI (flexible route selection index) field to contain up to 8 bits without requiring the use of bit 23 of the data word. The final data is a PTW (Fig. 7) contained in the common block if the FRSI is less than or equal to 127. The final data is an auxiliary block (Fig. 7) if the FRSI is greater than 127 or if ACOF with FRS is specified. The auxiliary block layout is required if the FRSI field is greater than 127 because the FRSI field in the PTW layout is only 7 bits long. The FRSI field in the auxiliary block layout is 8 bits long which allows for FRISs greater than 127.

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
WORD 0	WRDN=3					*1											SUBTYPE=1							
WORD 1	DTYPE=8		DEL		0		PREF 1				PREF 2		COLL											
WORD 2	NPA										NXX													

*1 = ACOF

LEGEND:

- ACOF - ATTENDANT CONTROL OF FACILITIES. EQUALS 0.
- WRDN - NUMBER OF WORDS IN THIS BLOCK.
- SUBTYPE - SUBTYPE EQUALS 1; INTERLOCATION INTERCOM DIALING.
- DTYPE - DATATYPE EQUALS 8; CWC FEATURE.
- DEL - DELETE DIGITS; NUMBER OF DIGITS TO DELETE.
- PREF1 - VALUE OF THOUSANDS DIGIT IF EXTENSION LENGTH IS 2 DIGITS. VALUE IS IN BCD.
- PREF2 - VALUE OF THOUSANDS DIGIT IF THE EXTENSION LENGTH IS 3 DIGITS. VALUE OF HUNDREDS DIGIT IF EXTENSION LENGTH IS 2 DIGITS. VALUE IS IN BCD.
- COLL - NUMBER OF ADDITIONAL DIGITS TO COLLECT.
- NPA - AREA CODE. USED TO FORM INTERLOCATION DN.
 - D1 = BITS 23-20.
 - D2 = BITS 19-16.
 - D3 = BITS 15-12.
 - DIGITS ARE IN BCD.
- NXX - OFFICE CODE. USED TO FORM INTERLOCATION DN.
 - D4 = BITS 11-8.
 - D5 = BITS 7-4.
 - D6 = BITS 3-0.
 - DIGITS ARE IN BCD.

Fig. 5 — Data Type 8 Subtype 1 - Centrex Digit Interpreter Tables

City Wide Centrex Implementation Procedures / #1A ESS

AT&T 231-318-362

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
WORD 0	WRDN=3				*1	RESTR										SUBTYPE								
WORD 1	DTYPE=8						EXT																	
WORD 2	NPA										NXX													

*1 = ACOF

NOTE: EXT, NPA, AND NXX DIGITS ARE STORED IN BCD.

LEGEND:

- ACOF - ATTENDANT CONTROL OF FACILITIES. EQUALS 0.
- WRDN - NUMBER OF WORDS IN THIS BLOCK.
- SUBTYPE - SUBTYPE = 2 - INTERLOCATION DN
3 - CWC ACCESS TO CENTRALIZED FACILITIES.
- DTYPE - DATATYPE EQUALS 8; CWC FEATURE.
- EXT - FOUR DIGIT EXTENSION. USED TO FORM INTERLOCATION DN.
D1 = BITS 15-12.
D2 = BITS 11-8.
D3 = BITS 7-4.
D4 = BITS 3-0.
- NPA - AREA CODE. USED TO FORM INTERLOCATION DN.
D1 = BITS 23-20.
D2 = BITS 19-16.
D3 = BITS 15-12.
- NXX - OFFICE CODE. USED TO FORM INTERLOCATION DN.
D4 = BITS 11-8.
D5 = BITS 7-4.
D6 = BITS 3-0.

Fig. 6 — Data Type 8 Subtypes 2 and 3 - Centrex Digit Interpreter Tables

City Wide Centrex Implementation Procedures / #1A ESS

ISS 1, AT&T 231-318-362

		PTW																										
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0			
TYPE 5D	0	1	0	1	RESTR								FRSI								SUBTYPE=19							

		AUXILIARY BLOCK																								
		23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
WORD 0	0	WRDN=4				*1		0		FRSI								0								
WORD 1	0	1	0	1	RESTR								0								SUBTYPE=19					
WORD 2	0	*2	*3	*4	0		MSN																0			
WORD 3	0	0				AIRI																0				

*1 = ACOF *2 = ACNR *3 = AIR *4 = ACPF

NOTE: IF ACOF IS NOT SPECIFIED, ONLY WORDS 0 AND 1 ARE BUILT AND THE ACOF BIT EQUALS ZERO.

LEGEND:

- RESTR - TREATMENT CODE
- FRSI - FLEXIBLE ROUTE SELECTION INDEX (1-255).
- WRDN - NUMBER OF WORDS IN AUX BLOCK.
- MSN - DIRECTED MASTER SCANNER POINT.
- AIRI - ATTENDANT CONTROL INTERCEPT ROUTE INDEX.
- ACOF - ATTENDANT CONTROL OF FACILITIES
- ACNR - ATTENDANT CONTROL NIGHT RESTRICTION
- AIR - ATTENDANT CONTROL INTERCEPT ROUTING
- ACPF - ANNOUNCEMENT FOR CALL FORWARDING OVER PRIVATE FACILITIES.

Fig. 7 — Data Type 5 Subtype 19 - Centrex Digit Interpreter Tables

4.6 City Wide Centrex Translator

The CWC translator is not required in all CWC applications. The CWC translator is needed if simulated private facilities are used for CWC routing and if FRLs or PADNPAs (pad remote numbering plan area) are used for CWC access to private facilities. The CWC translator is not needed if CWC access is not used or if public facilities are used.

The CWC translator (Fig. 8) originates or terminates CWC interlocation calls. The CWC head table is pointed to by word 142 of the master head table and is fixed at 257 words, one word per CWC group (maximum of 256) plus one word containing the length of the head table (the -1 word). The CWC head table contains addresses of the CWC option blocks. If the options blocks are unassigned the head table addresses contain zeros. Each CWC option block length is variable and its length is in word 0 if the block is smaller than or equal to 31. The option blocks length is in the -1 word if the block is greater than 31 words long. Word 0 of the option block also contains auxiliary block option bit indicators, bit 0 indicates option

AT&T 231-318-362

A, bit 1 option B and so on up to bit 17 indicating option R. Options B and C are the only ones defined for use with CWC. The option indicators are set only for the CWC group for which the option block is built for.

Option B - Individual Chart-Column Screening

Option B is used for CWC access to private facilities. Option B is an 8-word individual chart-column screening auxiliary block containing screening LENs in bits 0-16 of each word. The screening LENs are indexed by the FRL stored in the LEN translator, see 4.3. A screening LEN field of zero indicates an unassigned screening entry. The individual chart column screening auxiliary block is required when CWC access to CFPF is used.

Option C - Location ID Information Block

Option C is a variable length auxiliary block from 2 to 129 words long containing auxiliary block addresses. Word 0 of the location ID information block contains the size of the block if it is less than or equal to 31 words; if its larger than 31 words the -1 word of the block contains the size. Words 1 through 127 of the location ID information block contain location ID information auxiliary block addresses and are indexed by location IDs. Valid location IDs are 1 through 127.

Location ID Information Auxiliary Block

The location ID information auxiliary blocks length is variable. Word 0 contains the length of the auxiliary block if it is less than or equal to 31 words; if it is greater than 31 words the -1 word contains the length. Word 0 also contains option indicators, bit 0 indicates location ID option A, bit 1 indicates location ID option B and

bit 17 indicating location ID option R. Location ID options B and C are the only ones defined at this time. The option indicators are set only for the location ID for which the auxiliary block was built.

Location ID option B -- One word used for CWC routing that contains the outgoing and/or incoming SFG (simulated facilities group). The SFGs must be type 0 SFGs. Option B is used for CWC routing.

Location ID option C -- One word used for CWC access where a PADNPA is necessary and contains the NPA of the location ID. The NPA is stored in BCD.

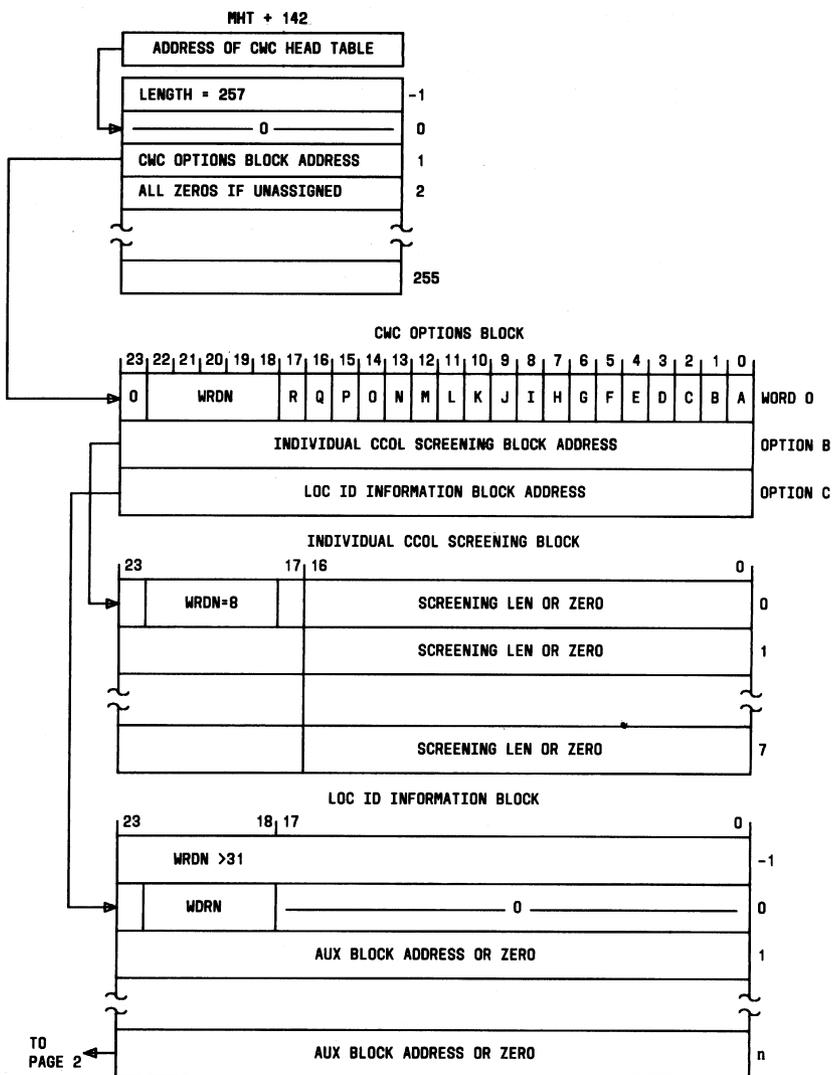
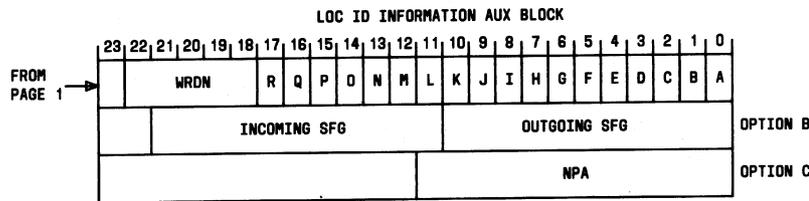


Fig. 8 — City-Wide Centrex Translator (Sheet 1 of 2)

AT&T 231-318-362



LEGEND:
 WRDN - NUMBER OF WORDS IN BLOCK.
 A THROUGH R - OPTION INDICATOR BITS.
 SFG - SIMULATED FACILITIES GROUP.
 NPA - AREA CODE.
 D1 = BITS 11-8.
 D2 = BITS 7-4.
 D3 = BITS 3-0.
 DIGITS ARE STORED IN BCD.
 LOC ID - LOCATION IDENTIFIER.

Fig. 8 — City-Wide Centrex Translator (Sheet 2 of 2)

4.7 MLHG Translator

Word 20 of the MLHG common block contains the address of a variable MLHG auxiliary block which contains CFBL and CFDA satellite station DNs data for customers with either combined satellite DNs or the separation of satellite DNs. Word 9 of the MLHG common block is always 0.

Word 0 of the auxiliary block contains option bits indicating which option words are built. The CFBL/CFDA option words are always built in two-word blocks. Option bit B indicates CFBL satellite station DN option words are built, and option bit C indicates CFDA satellite station option words are built. The CFBL/CFDA option words are always built separate even if they are equal.

The CFBL option words (Fig. 9) contain the CWC satellite station DN in BCD if an inter-office DN and in binary if an intra-office DN. Satellite station DNs that are not CWC DNs are stored in binary in the first word of the block, and the second word contains zeros. Bit 16 of the type 2, word 1 CFBL option word indicates a CWC satellite station DN. Bit 23 of the type 2, word 1 CFBL option word indicates a satellite station interoffice DN. The type 2, word 1 CFBL option word also contains the last four digits of the DN. The type 2, word 2 option word contains the NPA and NXX digits of the DN.

The CFDA option words (Fig. 9) contain the CWC satellite station DN in BCD if an inter-office DN and in binary if an intra-office DN. Satellite station DNs that are not CWC DNs are stored in binary in the first word of the block and the second word contains zeros. Bit 16 of the type 2, word 1 CFDA option word indicates a CWC satellite station DN. Bit 23 of the type 2, word 1 CFDA option word indicates a satellite station interoffice DN. The type 2, word 1 CFDA option word also contains the last four digits of the satellite DN. The type 2, word 2 CFDA option word contains the NPA and NXX digits of the satellite DN.

Note: If bit 23 of word 1 equals 1, then bit 16 of word 1 must also equal 1.

4.8 SCIW (Supplementary Call Identification Word) Translator

The type 1 supplementary call identification word is used for proper treatment for calls using CWC access to centralized facilities.

Bit 16 contains the CRACC (cancel remote access) indicator. If the CRACC bit is set routing is done through the remote location instead of using centralized facilities at the main location to route the call.

Bit 17 contains the PADNPA (pad remote numbering plan area) indicator. If the PADNPA bit is set, the NPA of the originating remote location is added to the 7 digit DN called, and the 3 digit translations are redone. The PADNPA bit is used in conjunction with call type 7 (interoffice 7-digit) calls.

4.9 CORC (Customer Originated Recent Change) Blocks

CWC access to CFPF (call forwarding over private facilities) requires two CORC blocks, one at the remote location and one at the main location. The 2-word CORC block at the remote location (Fig. 10) is built against the originating DN at this location and forwards calls to a corresponding DN at the main switch. The CORC block at the main location forwards the call over private facilities to the forwarded DN.

Word 0, bit 18 of the remote location 2-word CORC block indicates a CWC DN.

Word 1, bit 23 indicates that the CORC block at the main location is built and that when call forwarding is deactivated a direct signaling message is to be sent to the main location to tear down the corresponding CORC block.

Note: Refer to AT&T Practice 231-090-155 for more information on the CFPF feature and the main switch CORC blocks. In addition to the current information stored in the 4- and 6-word CORC blocks, the FRL for CWC access to CFPF is also stored in word 1, bits 20 through 23 of these CORC blocks at the main location.

City Wide Centrex Implementation Procedures / #1A ESS

AT&T 231-318-362

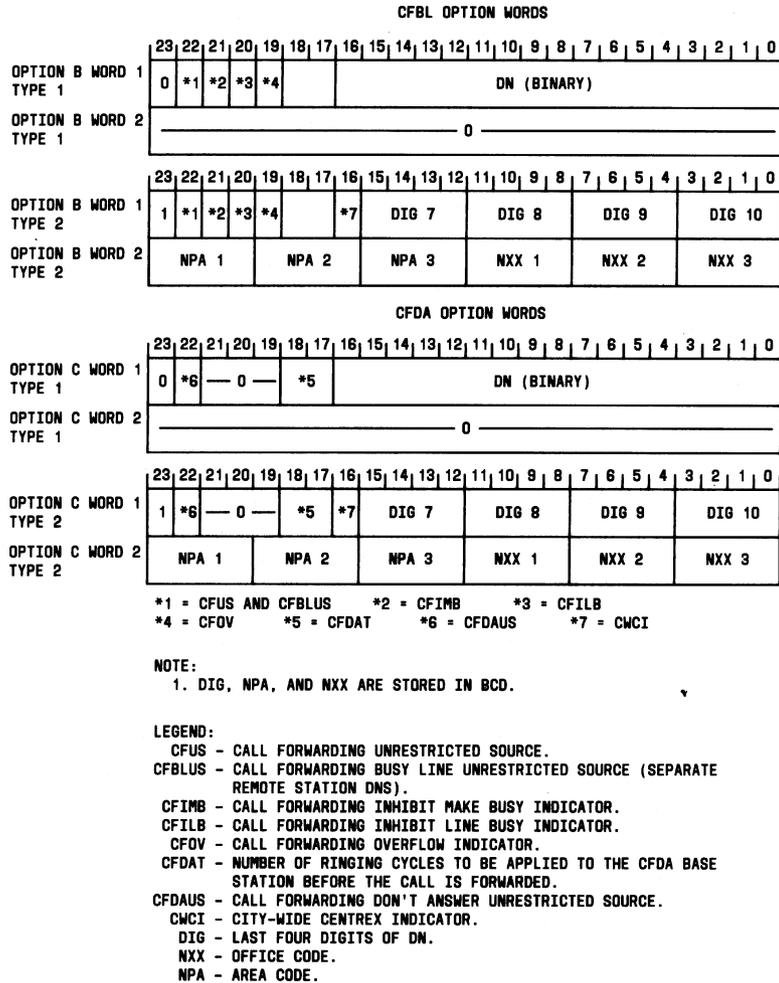


Fig. 9 — MLHG Auxiliary Block - CFBL/CFDA Option Words

	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
WORD 0	0	ID=2			*1	*2	0	*3	D4				D5			D6			D7					
WORD 1	*4	*5	D8-D10 (BINARY)										D1			D2			D3					

LEGEND:

- D1-D7 = FIRST SEVEN DIGITS OF THE DN. STORED IN BCD.
- D8-D10 = LAST THREE DIGITS OF THE DN.
- *1 = AUDIT BIT CHECKED BY SACD.
- *2 = CWC CALL FORWARDING DN INDICATOR.
- *3 = PREFIX INDICATOR.
- *4 = CWC REMOTE ACCESS TO CFPF INDICATOR.
- *5 = 10 DIGIT DN INDICATOR.

Fig. 10 — Remote Location CORC Block

5. CWC RELATED VERIFY MESSAGES

The CWC feature affects the following verify messages:

- VF:DNSVY
- VF:CWC
- VF:TAG
- VFY-DN
- VFY-CSTG
- VFY-LEN
- VFY-XDGNT
- V-DNCTX

The following information covers a brief description of the changes for RC verify messages and associated output response messages required for CWC. Refer to IM-6A001 and OM-6A001 for detailed descriptions of the messages and correct combinations of the keywords (flowcharts).

5.1 VF:DNSVY Input Message

The VF:DNSVY surveys the DN translations. Any DN that matches the input specifications is printed in an output response message.

The TR109 output message is printed in response to the LENDN keyword. The TR109 message prints the CWC satellite station indicator and the 7 or 10 digit DN in the output

AT&T 231-318-362

messages CFBL and CFDA fields.

The TR43 output message is printed in response to the ACFV (activated call forwarding variable) keyword. The TR43 message prints the CWC DN indicator.

5.2 VF:CWC Input Message

The VF:CWC input message surveys the CWC translator.

A TR140 output message is given in response to the CWCGN and (ALGOPT or FRL) keywords. The TR140 message prints:

- The CWC group number
- The FRL(s) in the group
- The screening LEN(s) used for individual chart column screening that is associated with the FRL(s)

A TR141 output message is given in response to the CWCGN and ALGOPT keywords or the CWCGN, LOCID, and (ALLOP, or SFGI, SFGO, NPA) keywords. The TR141 message prints:

- The CWC group number
- The location identifier
- The outgoing and incoming SFGs
- The NPA of the group

The TR142 output message is given in response to the CWSI keyword. The TR142 message prints the CWC satellite DNs by a thousands group or by single DNs. *

5.3 VF:TAG Input Message

The VF:TAG input message requests the PS (program store) address of a PTW for a given translator.

The CWC keyword requests the PS address and the PTW of the CWC translator and the LEN keyword requests the PS address and the PTW of the LEN translator. A VF04 output message is given, printing the PS address and PTW containing the address.

5.4 VFY-DN Input Message

The VFY-DN input message requests the DN translations of a DN or group of DN's specified in the message.

A TR01 output message is given in response to the VFY-DN message containing the CFBL and/or CFDA 7 or 10 digit DN(s) and also the CWC satellite indicator for each DN.

5.5 VFY-CSTG Input Message

5.5.1 VFY-CSTG-34

The VFY-CSTG-34 input message requests MLHG common block information.

A TR15 message is given in response to the VFY-CSTG-34 message. The TR15 output message prints the CFBL/CFDA DNs and the CWC satellite station DN indicators.

5.5.2 VFY-CSTG-35

The VFY-CSTG-35 input message requests a centrex group's common block information.

A TR46 output message is given in response to the VFY-CSTG-35 input message. The TR46 output message prints the ITIII, IOIII, location ID, and the CWC group number of the centrex group specified.

5.6 VFY-LEN Input Message

The VFY-LEN input message surveys the LEN translation data for one or more specified lines. A TR03 message is printed in response to the VFY-LEN input message.

The TR03 output message is printed giving the DN, originating line class, features, and the type of digit receiver to be connected to the line.

5.7 VFY-XDGNT Input Message

The VFY-XDGNT input message requests centrex digit interpreter table information about the centrex group specified in the message.

A TR02 output message is printed in response to the VFY-XDGNT message. The TR02 output message prints the CWC data located in the data type 8, subtypes 1, 2, and 3 entries in the centrex digit interpreter tables.

AT&T 231-318-362

5.8 V-DNCTX Input Message

The V-DNCTX input message requests DN-to-CTX translator information for a specified DN including final data and the level of interpretation.

A TR48 output message is printed in response to the V-DNCTX message. The TR48 output message prints the DN, data type, and centrex group number.

6. RC MESSAGE FORMATS

The CWC feature affects the following existing RC messages:

RC:CFV	AT&T Practice 231-318-325
RC:LINE	AT&T Practice 231-318-325
RC:MLHG	AT&T Practice 231-318-325
RC:CCOL	AT&T Practice 231-318-336
RC:DNHT	AT&T Practice 231-318-336
RC:DNRNGE	AT&T Practice 231-318-325
RC:CTXCB	AT&T Practice 231-318-355
RC:CTXDI	AT&T Practice 231-318-355
RC:SIMFAC	AT&T Practice 231-318-325

A new message, RC:CWCTX, is required for the CWC feature. The RC:CWCTX message is also covered in AT&T Practice 231-318-355.

Refer to the above recent change AT&T Practices for message flowcharts, keyword definitions, and new CWC keyword placement in the flowcharts.

6.1 RC:CFV Message

The RC:CFV message is used to forward a base TN to a remote TN. The keywords required by CWC for the RC:CFV message are:

CTX xxxxx	Centrex Number: The centrex group number
BASE aaaaaa	Base TN: The TN of the line having the CFV feature.
TO bbbbbbbbbbbbb	Remote TN: The TN or speed calling code calls are to be forwarded to.

When forwarding to a CWC DN, the DN specified by the TO keyword must be 10 digits and be in the same CWC group as the DN being called.

6.2 RC:LINE Message

The RC:LINE message is used to enter DN translations and LEN translations for a line. The new keywords required by CWC in the RC:LINE message are:

CFN <i>a'a'bbbbbb</i>	Call Forwarding Number: The DN that calls are forwarded to if the called DN is busy and/or doesn't answer.
E6G	Call Forwarding Busy Line.
E9G	Call Forwarding Don't Answer.
CFBL1 <i>a'a'bbbbbb</i>	Call Forwarding Busy Line DN: The DN that calls are forwarded to if the called DN is busy.
CFDA1 <i>a'a'bbbbbb</i>	Call Forwarding Don't Answer DN: The DN that calls are forwarded to if the called DN does not answer.
CWSI YES/NO	CWC Satellite indicator: If CWSI is set the entry is a CWC satellite DN.

The 10-digit number (area code + DN) must be used for CWC interlocation forwarding and must be in the same CWC group as the DN being assigned/changed.

6.3 RC:MLHG Message

The RC:MLHG is used to add, change, or move a multiline group common block. The new keywords required by CWC in the RC:MLHG message are:

CFN <i>a'a'bbbbbb</i>	Call Forwarding Number: The DN that calls are forwarded to if the called DN is busy and/or does not answer.
E6G	Call Forwarding Busy Line.
E9G	Call Forwarding Don't Answer.
CFBL1 <i>a'a'bbbbbb</i>	Call Forwarding Busy Line DN: The DN that calls are forwarded to if the called DN is busy.
CFDA1 <i>a'a'bbbbbb</i>	Call Forwarding Don't Answer DN: The DN that calls are forwarded to if the called DN does not answer.

The 10-digit number (area code + DN) must be use for CWC interlocation forwarding and be in the same CWC group as the base DN of the MLHG.

6.4 RC:COL Message

The RC:COL message is used to add, replace, or delete an entry in a chart class column (the SCIW table). The new keywords required for CWC in the RC:COL message are:

CRACC YES/NO	Cancel Remote Access indicator: If CRACC is set, call processing cancels CWC access for calls using this screening code.
--------------	--

City Wide Centrex Implementation Procedures / #1A ESS

AT&T 231-318-362

PADNPA YES/NO Pad Remote NPA: If PADNPA is set, the 7 digit DN called should have the NPA of the originating station added to it and the 3 digit translation redone.

6.5 RC:DNHT Message

The RC:DNHT message is used to enter addresses in the DN head table. A new keyword is required for CWC in the RC:DNHT message.

CWSI YES/NO CWC Satellite DN indicator: If CWSI is set, this entire thousands group is CWC satellite DNs.

6.6 RC:DNRNGE Message

The RC:DNRNGE message is used to assign a range of DNs to a route index.

The new keyword for the RC:DNRNGE message is:

CWSI YES/NO CWC Satellite DN indicator: If CWSI is set, the entire range of DNs are CWC satellite DNs.

6.7 RC:CTXCB Message

The RC:CTXCB message is used to add, change, or delete a centrex common block. The new keywords required by CWC in the RC:CTXCB message are:

CWCGN a/a/NO CWC Group Number: Valid values are 1 to 255.

LOCID b/b/NO Location Identifier: The location ID associated with this offices CWC group. Valid values are 1 to 127.

IOIII YES/NO Inhibit Originating Interlocation Intercom indicator: If IOIII is set, all fully-restricted stations in this centrex group are prevented from originating or forwarding an interlocation intercom call.

ITIII YES/NO Inhibit Terminating Interlocation Intercom indicator: If ITIII is set, all fully-restricted stations in this centrex group are prevented from receiving an interlocation intercom call.

6.8 RC:CTXDI Message

The RC:CTXDI message is used to add or replace entries in the centrex digit interpreter tables. The new keywords required by CWC in the RC:CTXDI message are:

NPA aaa Area Code: The NPA is used with the EXT and OC3 keywords to form the interlocation DN. Valid values are 000 to 999.

Nortel DMS-100 Incoming End Office Trunk Group Type

Incoming End Office Trunk Group Type

In a DMS office, incoming trunk group type TI connects with an end or toll office for local, direct, or tandem switching.

If the trunk group uses dial pulse signaling and trunk-to-trunk overlap outpulsing, the variable number of digits format is required. The minimum number of digits specified is the number of digits received before overlap outpulsing starts.

Datafill

For trunk group type TI, table TRIGGRP must be datafilled before table TRKGRP. For additional dependencies, refer to section "Table Size" in table TRKGRP.

The following table lists the datafill for table TRKGRP, type TI.

Field Descriptions - Incoming End Office

Field	Subfield	Entry	Explanation and Action
GRPKEY		See Subfield	<i>Group Key</i> This field consists of subfield CLLI.
	CLLI	Alphanumeric (1 to 16 characters)	<i>Common Language Location Identifier</i> Enter the Common Language Location Identifier (CLLI) name assigned to the trunk group in table CLLI.
GRPINFO		See Subfields	<i>Variable Group Information</i> This field consists of subfields GRPTYP, TRAFSNO, PADGRP, NCCLS, TRAFCLS, PRTNM, SCRNCL, SNPA, ORIGSRCE, VDEVAR, and OPTIONS.
	GRPTYP	TI	<i>Group Type</i> Enter the incoming end office trunk group type TI.
	TRAFSNO	Numeric (0 to 127)	<i>Traffic Separation Number</i> Enter the incoming traffic separation number assigned to the trunk group. If a traffic separation number is not required, enter "0". If switching unit has feature package NTX085AA (Traffic Separation Peg Count), enter a number between 1 and the value of office parameter TFAN_OUT_MAX_NUMBER in table OFCENG. For switching units without feature package NTX085AA, enter 1 to 15. It is recommended that incoming and outgoing traffic separation numbers 1 to 9 be reserved for generic traffic separation numbers.

PADGRP	Alphanumeric (1 to 5 characters)	<i>Pad Group</i> Enter the name of the pad group assigned to the trunk group in table PADDATA. Refer to the description of table PADDATA (Pad Data) for additional information.
NCCLS	NCRT	<i>Operational Measurements No-Circuit Class</i> This field is not required for incoming trunk groups. Enter "NCRT" (no circuit).
TRAFCLS	Alphanumeric (2 characters)	<i>Traffic Usage Class</i> Enter the traffic usage class assigned to the trunk group.
PRTNM	Alphanumeric (1 to 4 characters) or NPRT	<i>Standard Pretranslation Name</i> Enter the name of the standard pretranslator datafilled in table STDPRTCT to which translation routes on receipt of the first incoming digit. If pretranslation is not required, enter "NPRT" (no pretranslator). If office parameter TRK_OOS_CHK_ON in table OFCVAR is set to "Y", all trunks in the group must be busy before the value of this field can be changed by Data Modification Order (DMO).
SCRNCL	Alphanumeric (1 to 32 characters) or NSCR	<i>Class of Service Screening Table Name</i> If class-of-service screening is required, enter the name of the class-of-service screening table (datafilled in table SCRNCCLAS) to which digit translation routes. If class-of-service screening is not required, enter "NSCR" (no screening).
SNPA	Numeric (3 digits)	<i>Serving Numbering Plan Area</i> Enter the code in table HNPACODE to which translation routes for digit translation. If office parameter TRK_OOS_CHK_ON in table OF CVAR is set to "Y", all trunks in the group must be busy before the value of this field can be changed by DMO.
ORIGSRCE	LCL or NLCL	<i>Originating Source</i> Enter the originating source LCL (local) or NLCL (non-local).
VDEVAR	See Subfield	<i>Variable Digit Data</i> This field consists of subfield VDESEL.
VDESEL	Y or N	<i>Variable Digit Selector</i> If the number of incoming digits is variable, enter "Y" and datafill refinements DIGSIN1 and DIGSIN2. If the number of incoming digits is a fixed quantity, enter "N" and datafill refinement DIGREGEN. If office parameter TRK_OOS_CHK_ON in table OF CVAR is set to "Y", all trunks in the group must be busy before the value of this field can be changed by DMO.

DIGSIN1	Numeric (1 to 18)	<p><i>Minimum Number of Incoming Digits</i></p> <p>If the entry in field VDESEL is "Y", enter the minimum number of incoming digits that can be received on the trunk group. Entries outside the range indicated for this field are not valid.</p> <p>If office parameter TRK_OOS_CHK_ON in table OFCVAR is set to "Y" (yes), all trunks in the group must be busy before the value of this field can be changed by DMO.</p>
DIGSIN2	Numeric (1 to 18)	<p><i>Maximum Number of Incoming Digits</i></p> <p>If the entry in field VDESEL is "Y", enter the maximum number of incoming digits that can be received on the trunk group. Entries outside the range indicated for this field are not valid.</p> <p>If office parameter TRK_OOS_CHK_ON in table OFCVAR is set to "Y" (yes), all trunks in the group must be busy before the value of this field can be changed by DMO.</p>
DIGREGEN	Numeric (1 to 4 digits) or N	<p><i>Digits to be Regenerated</i></p> <p>If the entry in field VDESEL is "N", enter the digit string (one to four digits) to be prefixed to the incoming digits to regenerate a seven-digit number. The length of the digit string entered is subtracted from seven by the switch to determine the number of incoming digits to expect.</p> <p>The regenerated number is then translated in table STDPRTCT.STDPRT or HNPACONT.HNPACODE, or both.</p> <p>For example, if the entry is 73, the switch expects five incoming digits XXXXX and regenerates the number 73XXXXX.</p> <p>If no digits are to be prefixed, enter "N". The switch then expects seven incoming digits.</p>
OPTIONS	See Subfield	<p><i>Options</i></p> <p>This field consists of up to two multiples of subfield OPTION and refinements.</p>
OPTION	BCNAME	<p><i>Option</i></p> <p>To specify the bearer-capability-name option, enter "BCNAME" and datafill refinement BCNAME. If option BCNAME does not apply, leave this field blank.</p>
BCNAME	Alphanumeric (1 to 16 characters)	<p><i>Bearer Capability Name</i></p> <p>If the entry in field OPTION is "BCNAME", enter the bearer capability to be used by this trunk group. Refer to table BCDEF for the current list of available bearer capabilities.</p>

-End-

Datafill Example

The following example MAP display shows sample datafill for table TRKGRP, type T1.

The first tuple shows the following information:

- An incoming end office trunk group that has a fixed number of incoming digits.
- The code in table CLLI for the trunk group is OTWAON230T1.
- The trunk group type is T1.
- The incoming traffic separation number 20 is assigned to the trunk group. ELO is the name of the pad group assigned to the trunk group.
- NCRT is the no-circuit class.
- The traffic class is interoffice (IE).
- The standard pretranslator subtable name is INC3.
- No class-of-service screening is required.
- The trunk group is assigned to serving NPA 613.
- The originating source is non-local (NLCL).
- The number of incoming digits is 5 and the digits 72 are prefixed to the incoming digits to reconstruct the number dialed.
- The bearer capability is 56 kbps data.

The second tuple shows the following information:

- An incoming end office trunk group that has a variable number of incoming digits.
- The code in table CLLI for the trunk group is OTWAON11MG01.
- The trunk group type is T1.
- The incoming traffic separation number 21 is assigned to the trunk group.
- ELO is the name of the pad group assigned to the trunk group.
- NCRT is the no-circuit class.
- The traffic class is interoffice (IE).
- The standard pretranslator subtable name is INC2.
- No class-of-service screening is required.
- The trunk group is assigned to serving numbering plan area 613.
- The originating source is local (LCL).
- The number of incoming digits is variable, the minimum number of digits is 3 and the maximum number of digits is 7.
- The bearer capability is 56 kbps data.

GRPKEY	GRP INFO
OTWAON230T1	T1 20 ELO NCRT IE INC3 NSCR 613 NLCL N 72 BCNAME 56KDATA \$
OTWAON11MG01	T1 21 ELO NCRT IE INC2 NSCR 613 LCL Y 3 7 BCNAME 56KDATA \$

Radio Shack PRO-2042 10.7 MHz I.F. Filter Modifications

Overview

One of the wasted features on the Radio Shack PRO-2004/5/6/2035/2042 series of scanners is the "wideband FM" reception mode. The original idea for this circuitry was to allow the scanner to receive commercial FM broadcasts – and who the *fuck* would want to listen to that crap? Thankfully, we can change out a single component in the scanner's wideband FM demodulator circuit and tweak the wideband FM mode into something useful.

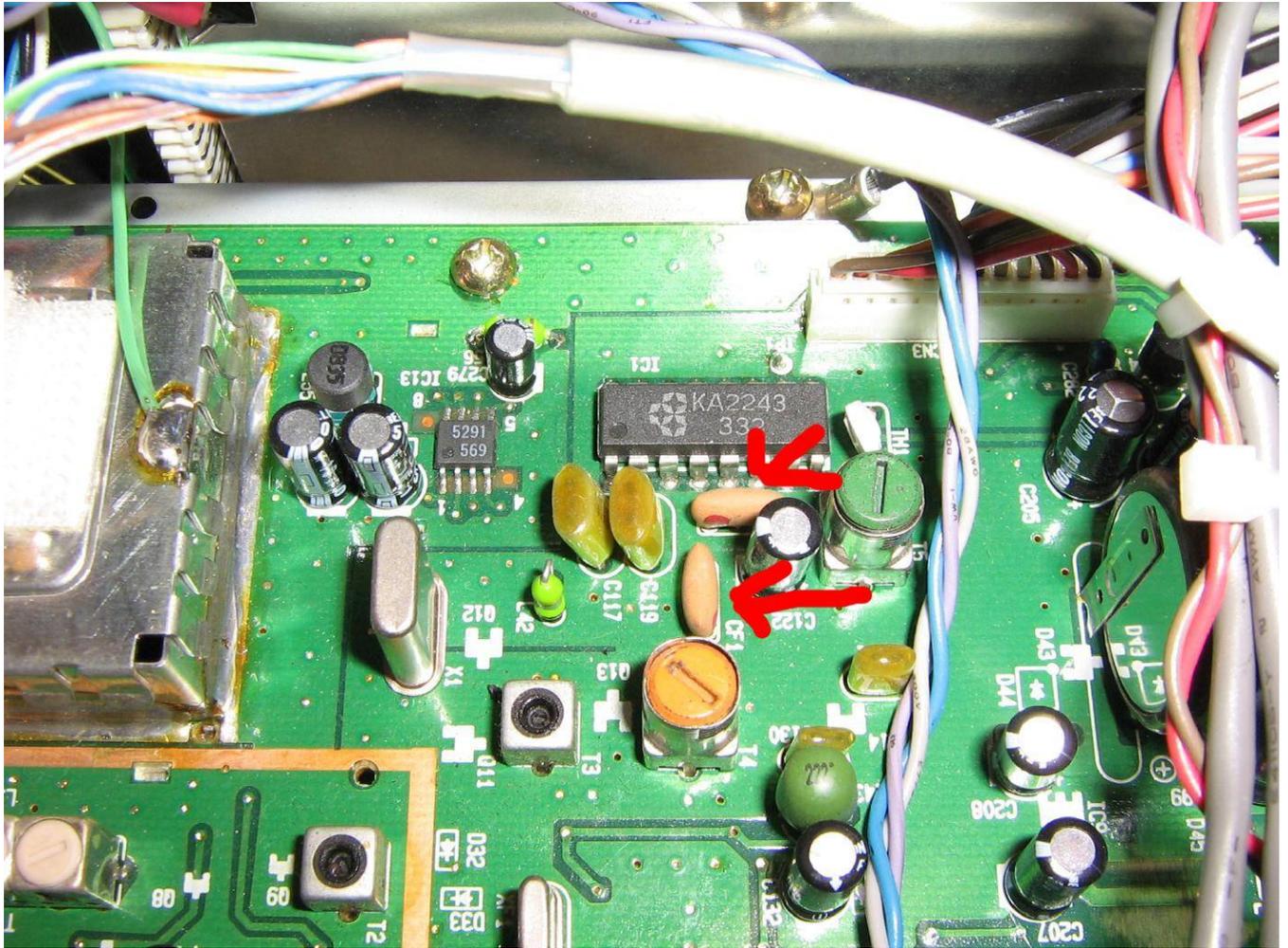
If you may not know, Radio Shack PRO-2004/5/6/2035/2042 scanners **DO** use a standard 10.7 MHz Intermediate Frequency (IF). These scanners have a separate IF chain which mixes the (unfiltered) 48.5 MHz IF with a crystal local oscillator of 37.8 MHz to produce a final IF of 10.7 MHz, which then drives a Samsung KA2243 (or Hitachi HA12413) wideband FM demodulator. One problem though, this *only* happens if wideband FM reception mode is enabled in the scanner or on that particular frequency. I mention this because, back in the early 1990s or so, several companies offered scanner-based spectrum analyzers and other neat demodulation schemes (including video) that *only* worked if you could tap the receiver's IF chain somewhere for a 10.7 MHz output. The magazines articles and authors would often mention that Radio Shack scanners would not work with these neat toys. We'll guess what – they do! You just had to enable the wideband FM reception mode, and the scanner would switch over to a demodulation circuit which uses a final IF of 10.7 MHz, instead of the normal 48.5 MHz and 455 kHz IFs used for narrowband FM and AM demodulation. Those companies could have made millions more, if they would have just looked at the scanner's schematic. Oh well...

What we'll want to do is replace the stock 10.7 MHz IF filter, which has a 6 dB bandwidth of around 280 kHz, with a similar filter which is much "sharper." Thankfully, Digi-Key offers an exact drop-in replacement filter which has a bandwidth of only 13 kHz. This reduced bandwidth greatly increases the scanner's sensitivity during wideband FM reception mode, while still allowing over modulated narrowband FM signals to be heard properly. You'll find this "new" mode handy for receiving analog cellular or cordless phone transmissions, and can also help to improve your wireless data or pager decoding schemes.

The replacement filter we'll be using is a Murata SFVLF10M7F00-B0, which is available from Digi-Key (Part Number 490-4713-ND) for less than \$3. The Samsung KA2243 actually uses *two* 10.7 MHz IF filters, but you only really have to replace one. Replacing both wouldn't hurt though, as that will also help to increase the scanner's selectivity a bit. Some analog cordless phones may contain a similar 10.7 MHz IF filter, if you want to try and salvage one. The filter's input/output impedance should be around 300 ohms.

It should also be possible to construct a high-dynamic range 10.7 MHz IF chain and FM demodulator using narrowband 10.7 MHz crystal IF filters and other high-quality parts. This will greatly improve the scanner's narrowband FM reception mode.

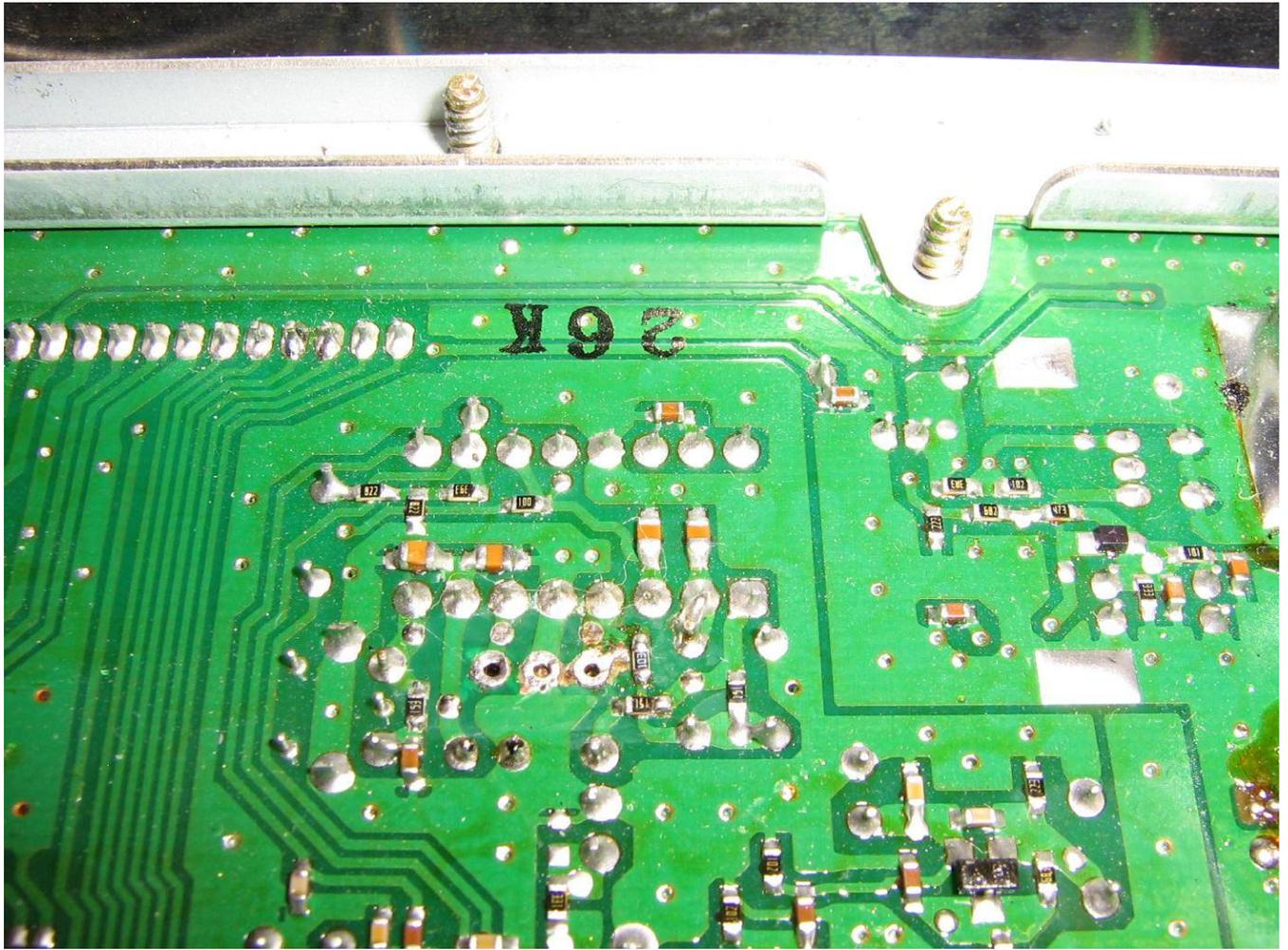
Pictures & Construction



Internal view of a Radio Shack PRO-2042 scanner showing the 10.7 MHz IF strip for receiving wideband FM signals.

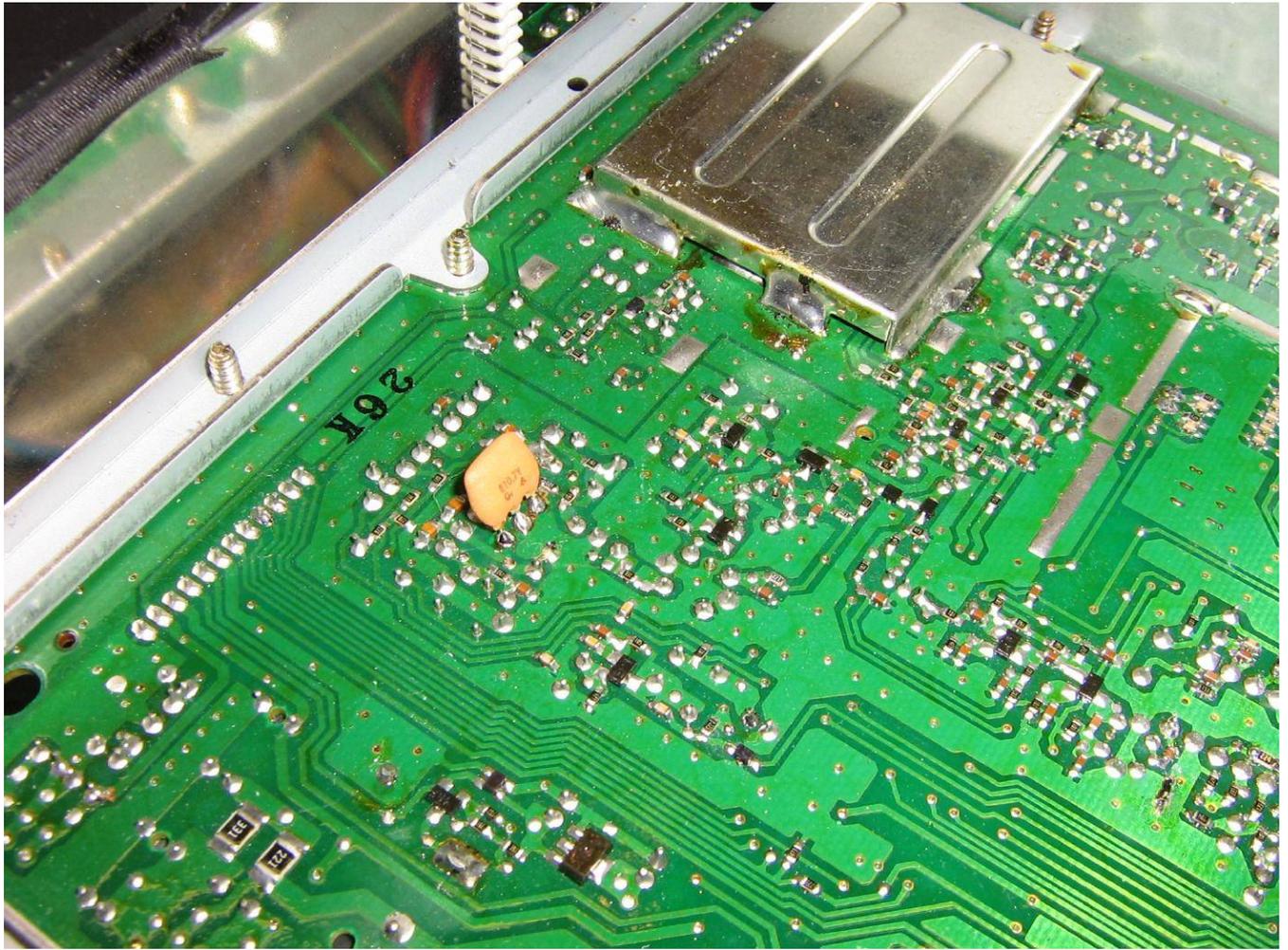
The 37.8 MHz crystal local oscillator is on the left, marked "X1." The 10.7 MHz IF filters are the two little, three-legged orangeish things (usually marked "CF1" and "CF2") next to the Samsung KA2243. The filter between pins 4 & 6 on the KA2243 controls the final selectivity, so that's the one you'll want to replace.

The part number for the stock 10.7 MHz filters in a Radio Shack PRO-2006 scanner is SFE10.7MA5W-A and they are also made by Murata.



Remove the old filter.

Turn the scanner over, and locate the pins for the Samsung KA2243. Locate the filter (labeled "CF2") to be replaced by following the traces from pins 4 & 6. Unsolder and clean the pads.



Replace the filter.

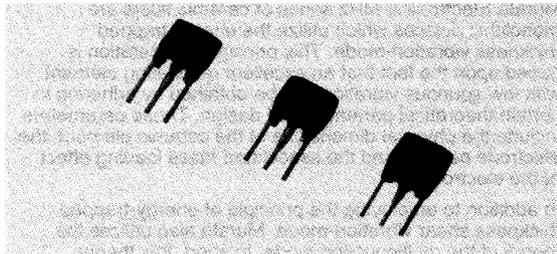
You can solder the filter on the bottom of the board to allow easier access if you want to swap out different filters for experimenting.

An amplified 10.7 MHz IF signal, with an output impedance of around 300 ohms, is available at pin 4 on the KA2243, if you wish to further experiment with other demodulation circuits.

PIEZO FILTERS
CERAMIC FILTERS LOW LOSS,
HIGHLY SELECTIVE, MINIATURE



SFE MA/MS/MJ/MH 10.7MHz



The standard SFE 10.7 line of ceramic filters are extremely reliable devices that exhibit excellent waveform symmetry. These filters have traditionally found wide application in FM receiver technology.

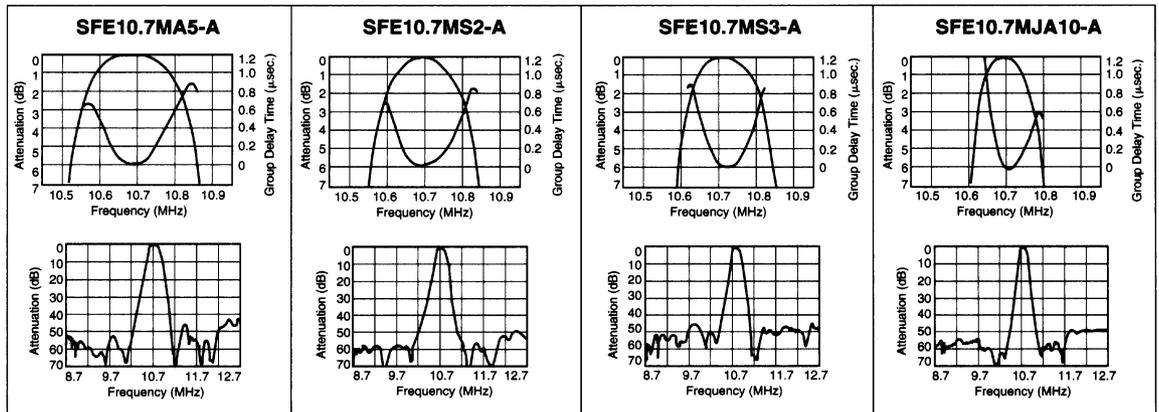
SPECIFICATIONS

SFE MA/MS/MJ/MH 10.7MHz

	Part Number	3dB Bandwidth (kHz)	20dB Bandwidth (kHz) max.	Ripple (dB) max.	Insertion Loss (dB) max.	Spurious (9 - 12MHz) (dB) min.
FM-IF	SFE10.7MA5-A	280 ± 50	650 (520)	1	6 (4)	30 (43)
	SFE10.7MS2-A	230 ± 50	600 (420)	1	6 (4)	40 (45)
	SFE10.7MS3-A	180 ± 40	520 (380)	1	7 (4.5)	40 (45)
• Input/output impedance: 330Ω () Typ. value						
A10 Series	SFE10.7MA5A10-A	280 ± 50	590 (480)	1	2.5 ± 2.0	30 (42)
	SFE10.7MS2A10-A	230 ± 50	520 (400)	1	3.0 ± 2.0	35 (43)
	SFE10.7MS3A10-A	180 ± 40	470 (360)	1	3.5 ± 1.5	35 (43)
	SFE10.7MJA10-A	150 ± 30	360 (290)	1	4.5 ± 2.0	35 (44)
• Input/output impedance: 330Ω • Low loss and high selectivity. () Typ. value						
B10 Series	SFE10.7MA5B10-A	280 ± 50	650	1	3.0 ± 2.0	45
	SFE10.7MS2B10-A	230 ± 50	570	1	3.0 ± 2.0	45
	SFE10.7MS3B10-A	180 ± 40	520	1	5.0 ± 2.0	45
• Input/output impedance: 330Ω • High attenuation type						
C10 Series	SFE10.7MA5C10-A	280 ± 50	650 (540)	1	3.0 ± 2.0	30 (47)
	SFE10.7MS2C10-A	230 ± 50	570 (470)	1	3.0 ± 2.0	40 (48)
	SFE10.7MS3C10-A	180 ± 40	470 (360)	1	3.5 ± 2.0	35 (45)
	SFE10.7MJC10-A	150 ± 40	360 (300)	1	4.5 ± 2.0	35 (48)
	SFE10.7MHC10-A	110 ± 30	350 (260)	1	7.0 ± 2.0	30 (42)
• Input/output impedance: 330Ω • Most suitable for a thin type and low profile set. • The performance is the same as that of conventional types. () Typ. value						

<p>MA5 Series</p> <p>UNIT: mm</p>	<p>MA5A10 Series</p> <p>UNIT: mm</p>	<p>MA5C10 Series</p> <p>UNIT: mm</p>	<p>CIRCUIT</p> <p>$R_g + R_1 = R_2 = 330\Omega \pm 5\%$ $C = 10\text{pF}$ (including stray capacitance and input capacitance of RF Voltmeter)</p> <p>1=INPUT 2=GROUND 3=OUTPUT</p>
--	---	---	---

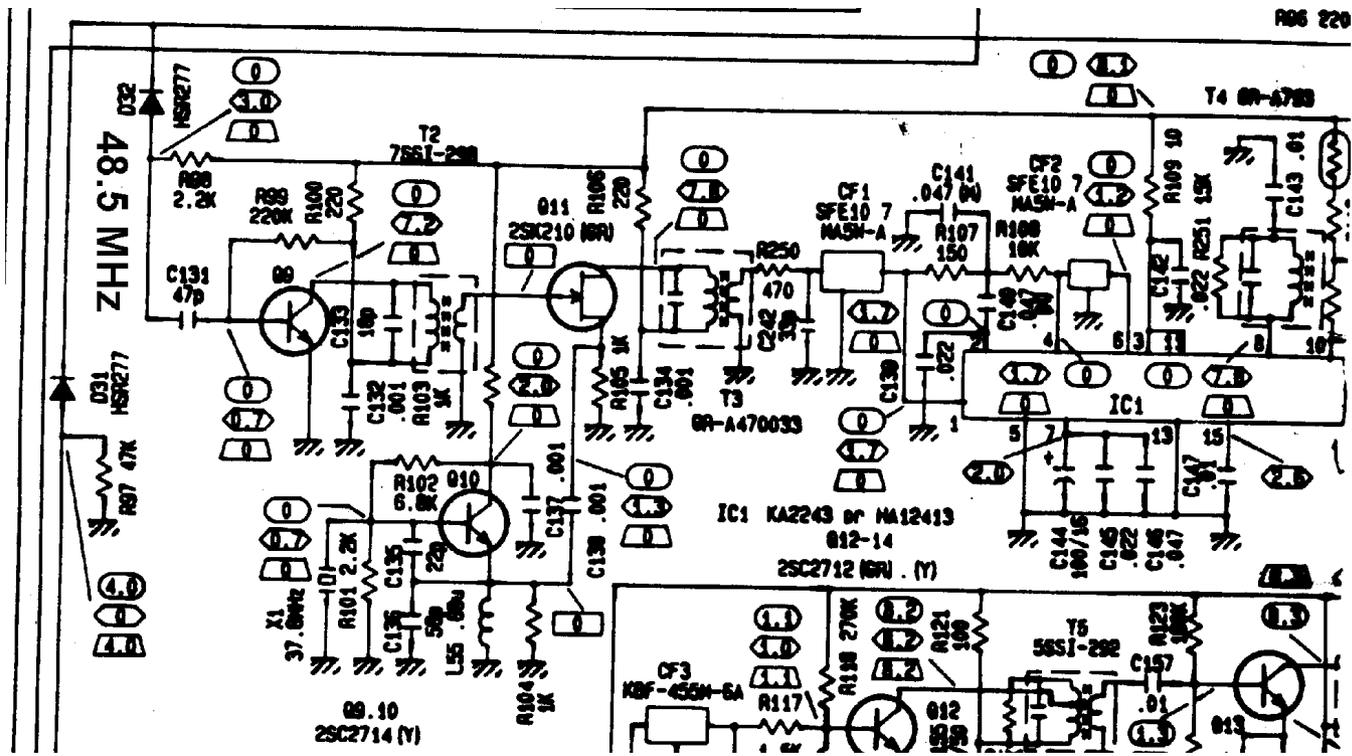
FREQUENCY CHARACTERISTICS



*Available as standard through authorized Murata Electronics Distributors.

Radio Shack PRO-2006 Wideband FM IF Schematic

FIG 220



Homebrew Lock-In Amplifier

Overview

"Lock-in amplification is a technique which is used to separate a small, narrow band signal from interfering noise. The lock-in amplifier acts as a detector and narrow band filter combined. Very small signals can be detected in the presence of large amounts of uncorrelated noise when the frequency and phase of the desired signal are known." ---- Excerpt from the Analog Devices AD630 datasheet.

The lock-in amplifier is basically a synchronous demodulator followed by a low-pass filter. An important measure of performance in a lock-in amplifier is the dynamic range of its demodulator. With a properly designed lock-in amplifier, it is possible to extract a target signal from a noise signal approximately 100,000 times *larger*, which is a dynamic range of 100 dB.

Synchronous demodulation is based around the fact that $1 + (-1) = 0$. What this means is, the synchronous receiver multiplies the incoming signal (using op-amp gain) by either +1 or -1 *in sync* with a some reference signal. Uncorrelated noise, or any other interfering signals, will average out to "zero." The "target" signal, riding on the reference signal, will *not* average to zero and can emerge from noise which is 100,000 times larger. For those who may not understand the significance of this, think of it as being able to listen to a person talk while they are standing next to a jet engine.

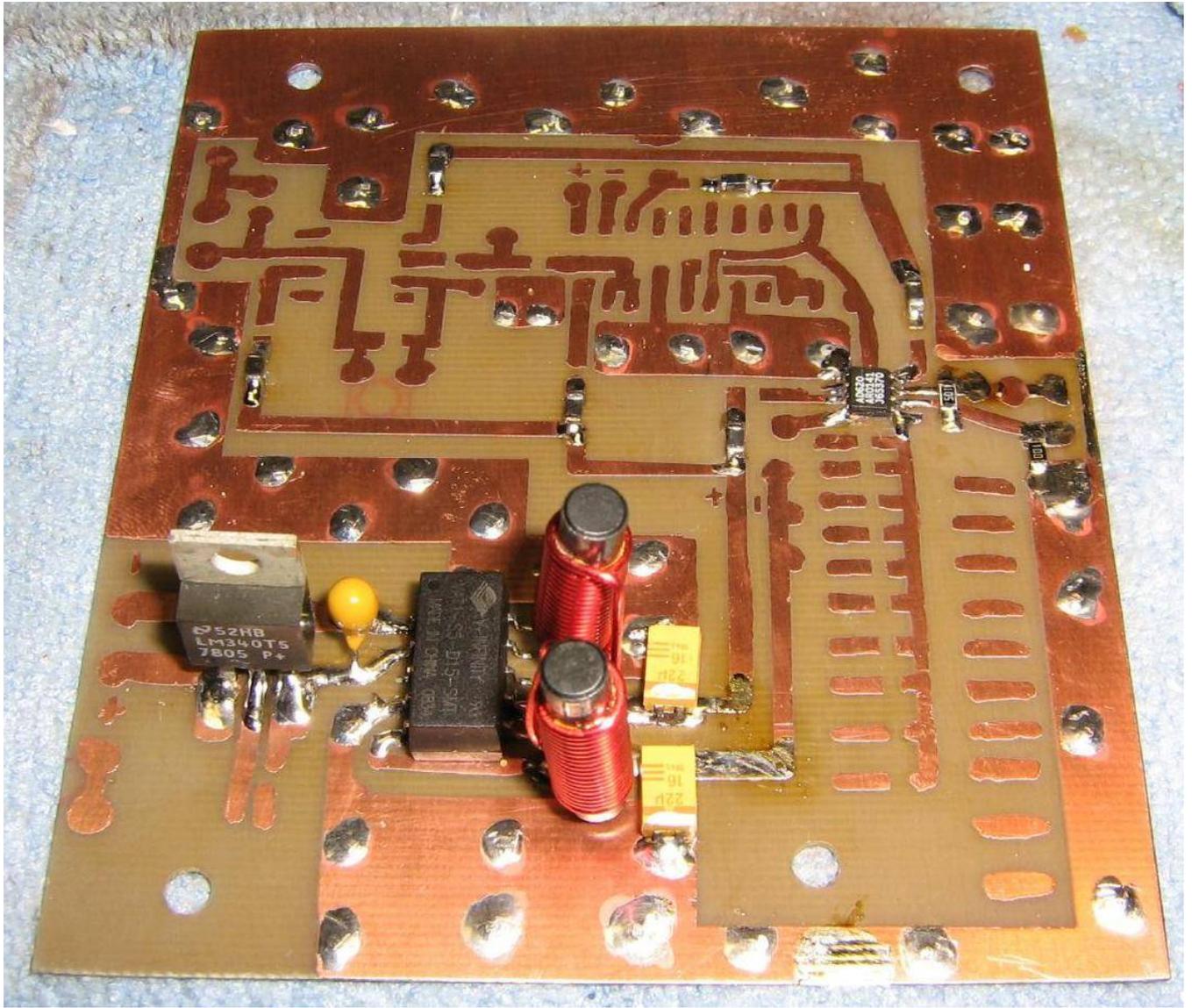
You can see why the amateur espionage enthusiast should have a lock-in amplifier in their toolbox. Things like "laser bounce listeners" *really* come to life when you modulate the illuminating laser with a reference signal, then extract the target signal using lock-in amplification. The key is to use a reference signal about 10 times greater than the target audio signals. For recovering speech up to around 3 kHz, you might try a reference signal based around a 32,768 Hz clock crystal source. The final target intelligence is then recovered using a sharp low-pass filter to attenuate any uncorrelated disturbances, like noise, while passing the target audio signals.

The lock-in amplifier project shown here comes from a technical paper entitled "A Simple Low-Cost Lock-In Amplifier for the Laboratory" by Sandip Sengupta, Jessica Farnham, and James Whitten at the Department of Chemistry and Center for Advanced Materials at the University of Massachusetts - Lowell. Their paper goes into much more detail on the construction and operation of this particular lock-in amplifier design, so it won't be covered here. A copy of the paper will be included on our website.

This lock-in amplifier will be based around an Analog Devices AD630 balanced modulator/demodulator. The AD630 has the ability to use it's internally-matched precision op-amps for lock-in amplification. An Analog Devices AD620 low-cost, low-power instrumentation amplifier will be used for the signal input amplifier because it has a larger signal bandwidth, instead of the Burr-Brown INA114 in the U. Mass paper. An OP27 low-noise precision op-amp will be used for the output low-pass filter. The AD620's gain will be selectable via a panel-mount 10-position rotary switch, and the output low-pass filter's time constant will also be selectable via a 10-position rotary switch.

Isolated BNC connectors will be used for the input and reference signals, and a simple DC-to-DC converter will supply the +/- 15 volt power lines for the op-amps and AD630.

Pictures & Construction



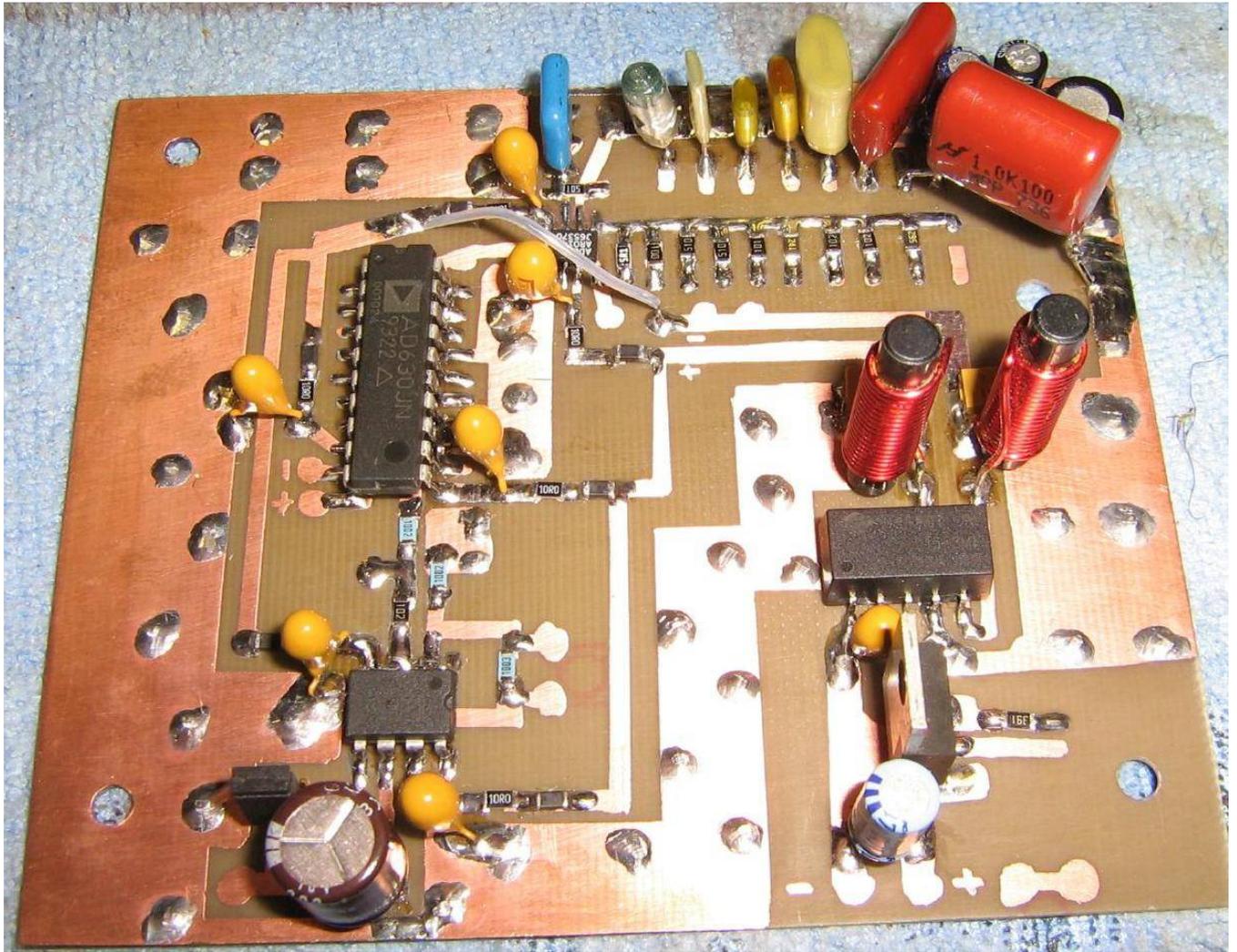
Overview of the lock-in amplifier's handmade printed circuit board.

The V-Infinity VAT1-S5-D15-SMT voltage converter (Digi-Key Part Number 102-1387-1-ND) is on the left, fed via an isolated 7805 voltage regulator. The DC-to-DC converter is setup to use an isolated ground to help prevent any ground loops.

The output of the VAT1-S5-D15-SMT is low-pass filtered using inductors salvaged from old computer power supplies and 22 μF tantalum capacitors. Be sure to note the capacitor's polarity, as the "positive" end is marked on a tantalum capacitor.

Note the use of a large ground plane and lots of ground vias. Ground loops can be a problem in high-gain precision circuits so you'll want to try and minimize them.

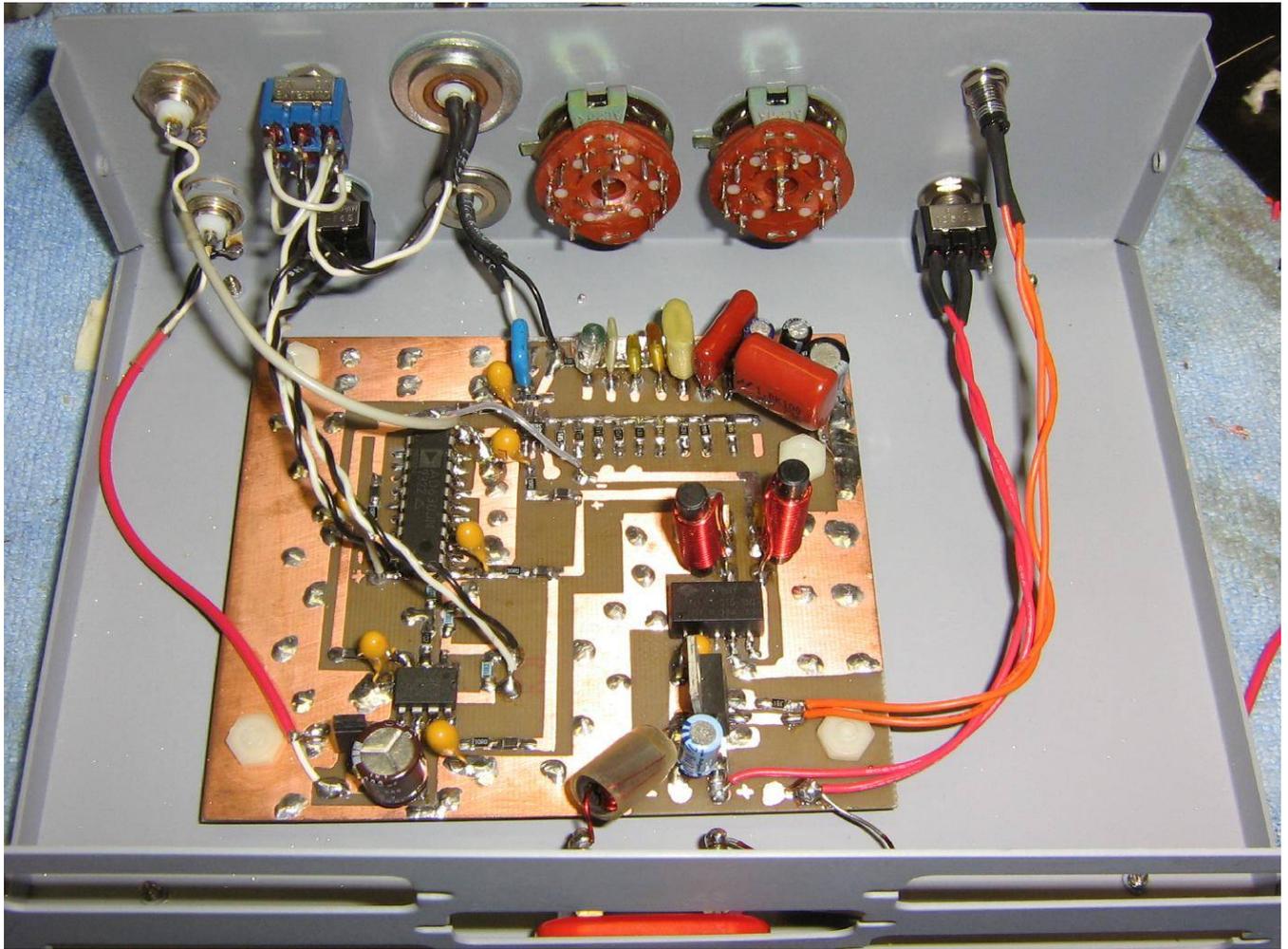
This project is still a "work in progress," so it will look a little rough. The overall concepts should still be applicable.



Completed lock-in amplifier circuit board. Alternate view.

Note the isolated incoming power lines on the lower-right.

Commercial lock-in amplifiers often have an adjustment to control the phase of the reference signal. This allows it to completely track the incoming signal, even if the reference signal phase is unknown.



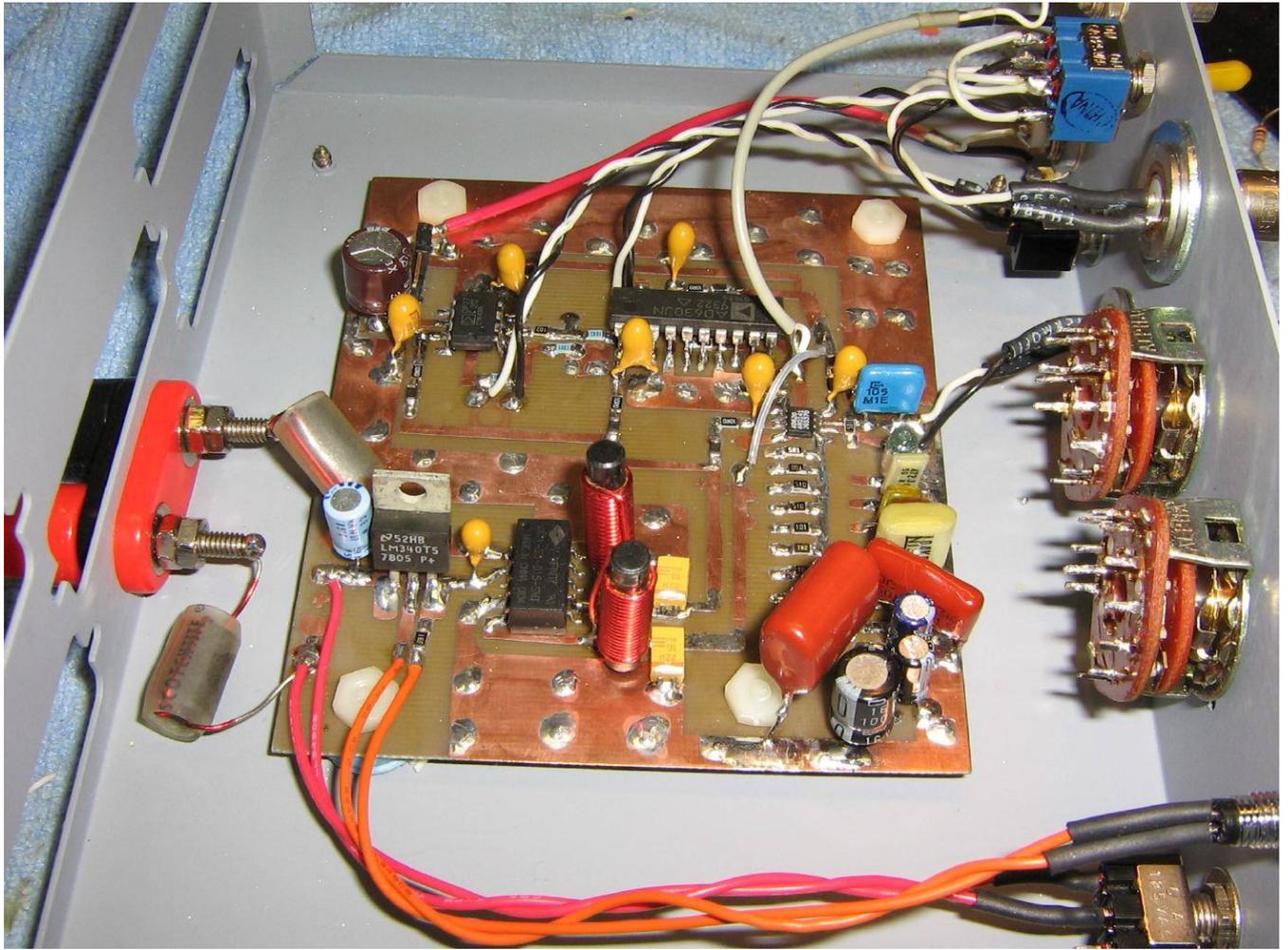
Starting to mount the lock-in amplifier circuit board and panel-mount components.

The case is from an old printer switch box. The circuit board itself is mounted on rubber grommets with nylon hardware to minimize ground loops and prevent the circuit board from picking up microphonic vibrations.

Note that the incoming and reference signals use isolated BNC connectors. This is also to help minimize ground loops. The test and output signals use standard panel-mount BNC connectors.

Two panel-mount 10-position switches allow for selecting the incoming gain and output low-pass filter time constants.

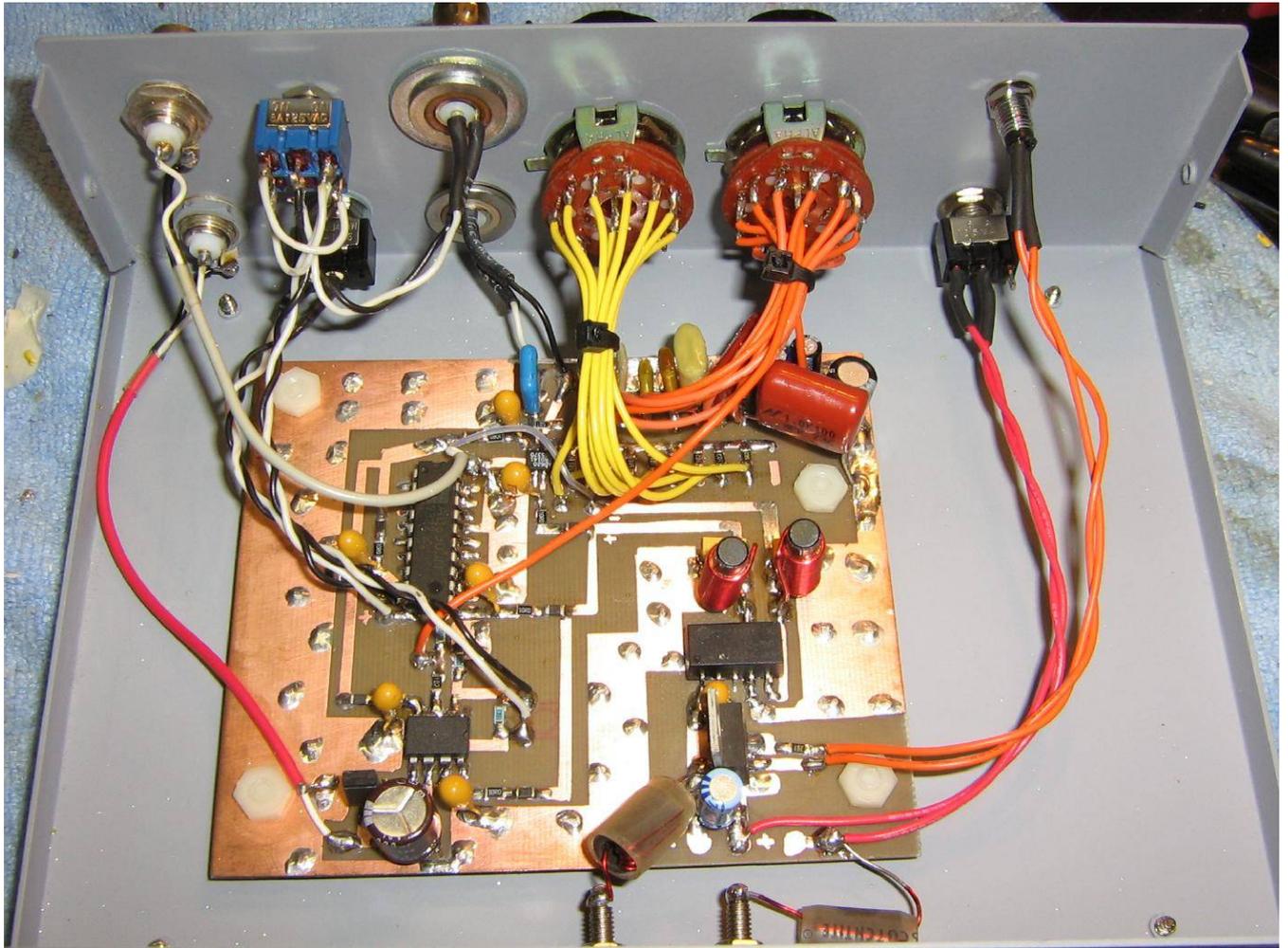
A DPDT switch allows you to flip the AD630's incoming reference signal between the "+" and "-" comparator op-amp inputs. This option is not necessary, but could be handy.



Alternate view.

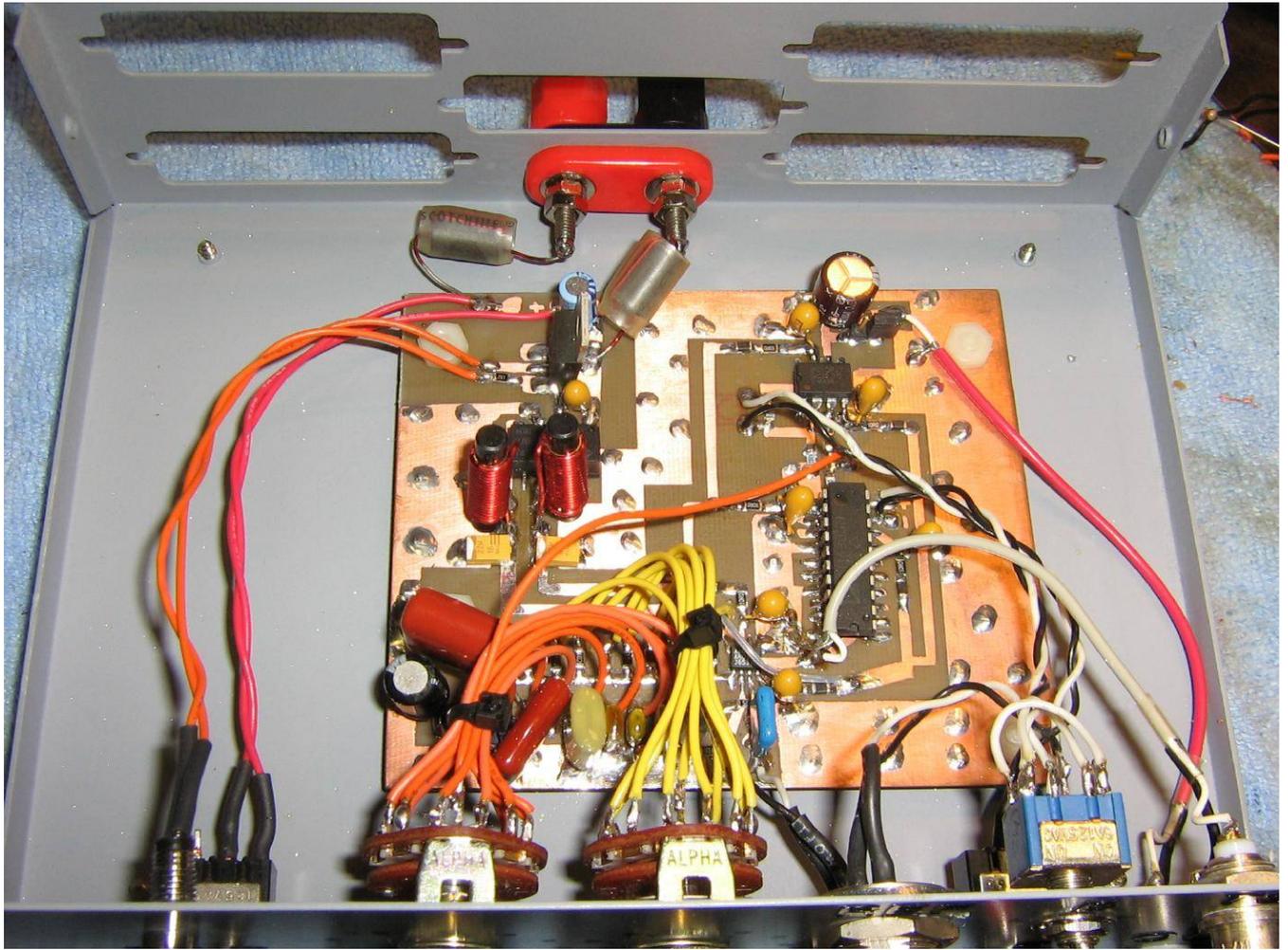
Unregulated DC input comes in via the banana jacks on the left.

Try to use polyfilm capacitors in the low-pass filter time constant section.

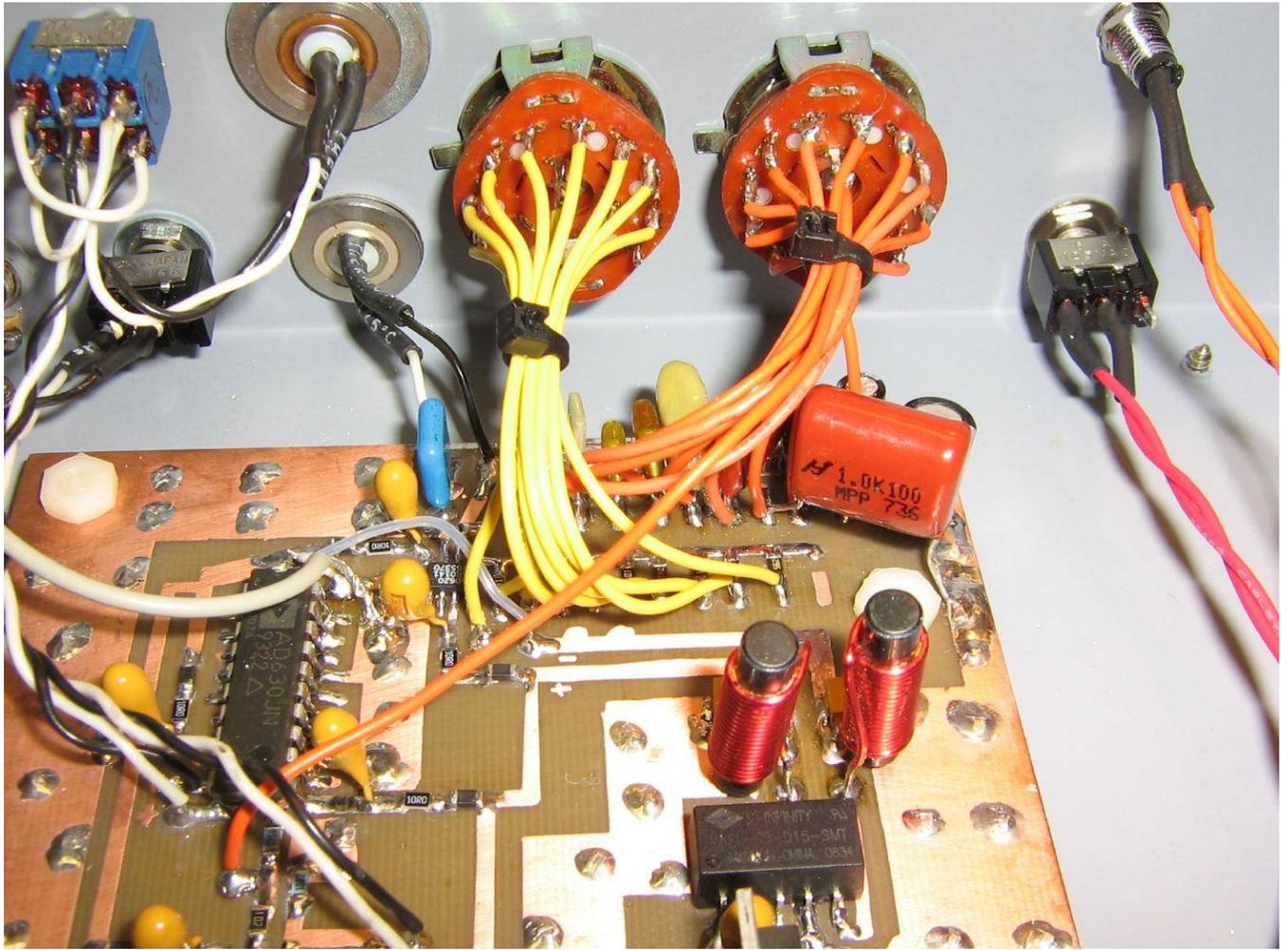


Completed wiring top view.

Power switch and LED are on the right.



Completed wiring alternate view.



Closeup of the selector switch wiring.



Front-panel overview.

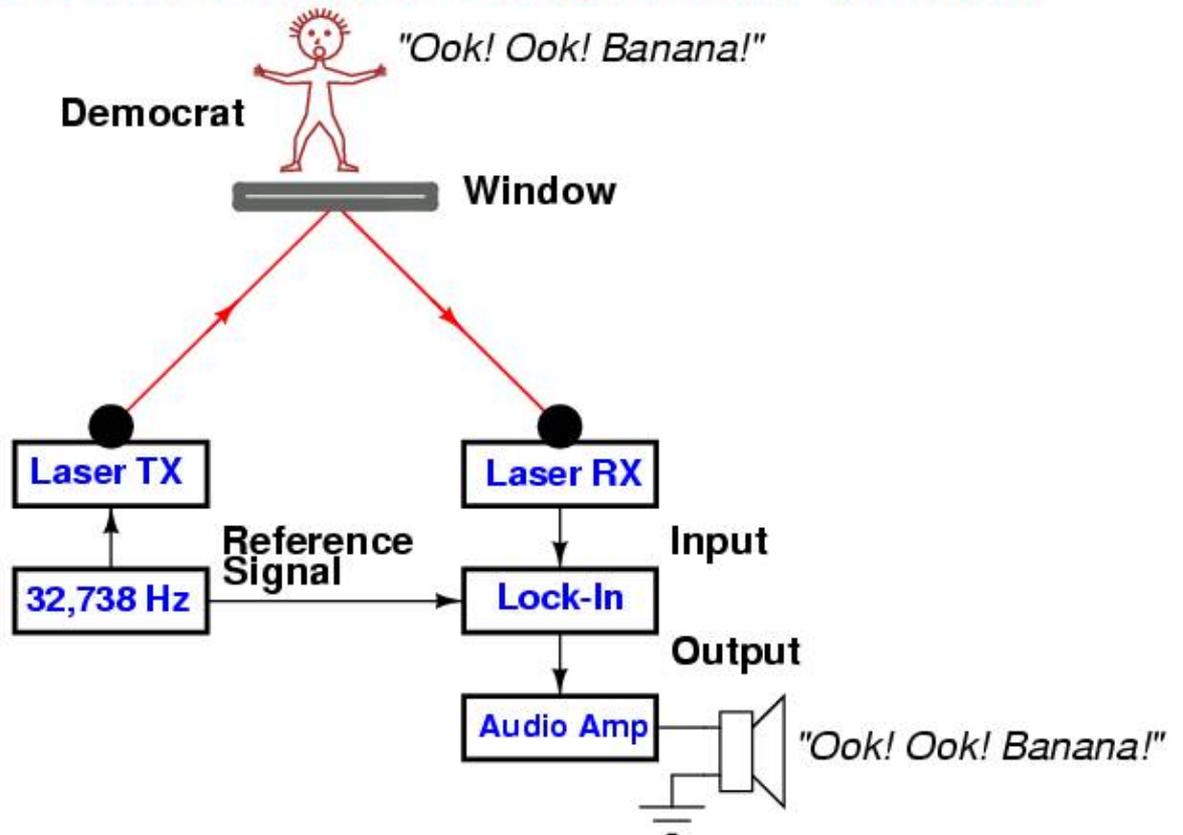
PWR is the power switch and LED, **REF** is the reference signal input, **IN** is for the input signal, **OUT** is the low-pass filtered output, **TST** is a sample of the amplified input signal, **P** is the reference signal phase select switch, and **G** is the output op-amp's gain select switch, which is either 1 or 10.

The 10-position switch on the left selects the time constant and the one next to it is the gain select switch.

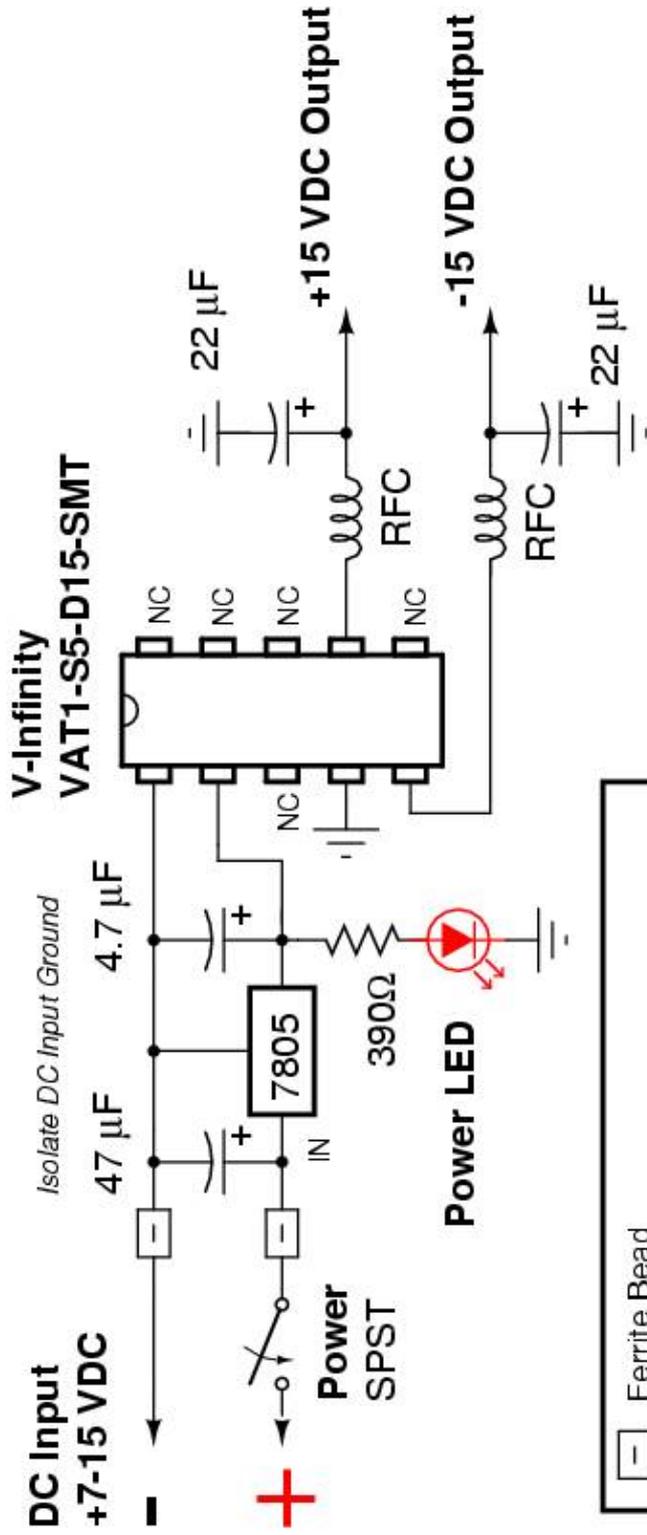
The top label for the rotary switch positions:

<u>TIME</u>	<u>GAIN</u>
1 = 10 μ S	1 = 1x
2 = 50 μ S	2 = 10x
3 = 100 μ S	3 = 50x
4 = 333 μ S	4 = 100x
5 = 1 mS	5 = 200x
6 = 3.3 mS	6 = 500x
7 = 10 mS	7 = 1,000x
8 = 33 mS	8 = 2,000x
9 = 333 mS	9 = 5,000x
10 = 1 S	10 = 10,000x

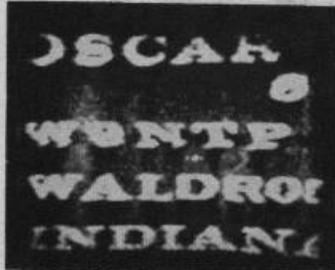
Laser Bounce Listening Device Using Lock-In Amplification



DC-to-DC Converter Schematic



 Ferrite Bead
 Converter is Digi-Key #102-1387-1-ND.
 RFC are inductors from an old power supply.



only one contact per station regardless of mode. This award only applies to the OSCAR 6 satellite.

SSTV: The accompanying pictures were taken from OSCAR 6. All photos were transmitted and received by WA9UHV, except the frame sent by W9NTP.

I noticed the clarity and quality of these photographs. This certainly attests to the performance and stabilization of the satellite. Phil Howlett WA9UHV relates that best pictures are received when overhead passes are used. However, acceptable pictures can also be obtained when maximum elevation is 40°. This would appear to be the minimum orbit required for a full 8 second frame. Of course using 2 second frames, a considerably lower elevation is acceptable. Due to the camera used, he was unable to adequately illustrate the gray scale present in the photographs.

More slow scan tests are scheduled to be held in the near future, operating frequencies have been between 29475–29485 kHz.



Now that OSCAR 6 is a definite success, we are faced with a growing problem—*what next?* AMSAT has the next satellite in line, but what will we do with it? After a while QSO's lose some of their excitement. A few people have written in and suggested ideas, and AMSAT is looking them over. A portion of next month's column will be devoted to what is in the future for amateur satellites. If you have any ideas or suggestions of possible experiments, please drop me



Joe Kasser G3ZC/W3
1701 East West Highway, Apt. 205
Silver Spring MD 20910.

Well, the scene in England is really humming. I received a letter from G3ZGO full of goodies which are now to be passed on to you.

An FM group has been formed in London. There are over 74 members, and in charge is G5AGX, none other than W8TIF. There are over 120 people in 144.48 MHz FM simplex at the present time.

The only repeater in England is a specially licensed experimental unit in Cambridge. It has a license for one year and then the whole question of repeaters will be considered by the licensing authorities. It is operating on 145.15–145.75 MHz with tone burst access as reported in previous issues of 73.

Slow scan TV is going strong, even the police force are getting in on the fun. The Sussex County police use slow scan for base to mobile communication for passing pictures of suspects quickly, so as to facilitate and speed up the identification process.

It seems that in view of the replanning of the two meter band there may be changes in the simplex frequencies in the early months of 1973.

In Europe, the VHF bands are voluntary planned so that stations in a region occupy a section of the band. Stations in a neighboring region occupy a different part of the band. In this way when an opening occurs, they know where to tune for the DX.

This column has been appearing on and off for a few months now, and I have not had any letters offering ideas. Does that mean that everyone is spending their time at home? If so, then this column will have to cease appearing, so 73 can use the space for something that will be of more interest to the readers. How about a column called "The Homebody Ham?"

What do you do if you need more FM frequencies than your 6 channel rig will allow? Do you put in the most used or wait at each street corner and change continuously? Here in the Washington area we need more than the 6 positions than the usual rig contains, yet a synthesizer is too bulky to carry around. One enter-

RTTY PICTURE OF THE MONTH!

Want to see your artwork here?



THIRD PARTY REGS EASED DURING HOLIDAYS

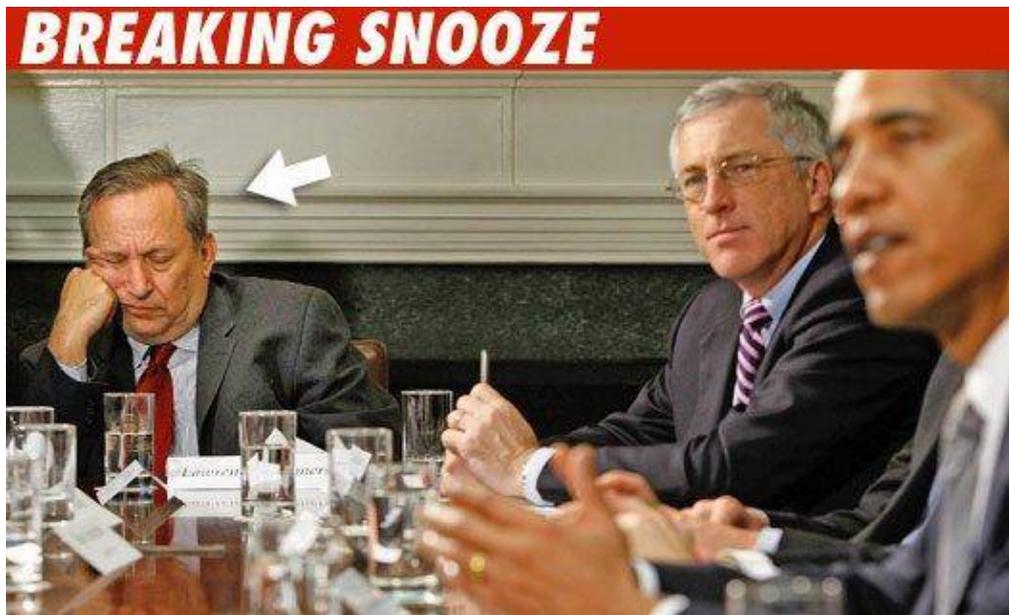
Exchanges of third party traffic were temporarily permitted between The Republic of Korea and the United States during the Christmas-New Year Holidays. Phone patches were allowed between HL9 stations in Korea and amateurs in the continental U.S. and its possessions during the period of Dec. 21, 1972 through Jan. 4, 1973. With good results during this period joined with the possibility of easing political tensions...

End of Issue #61



Any Questions?

Editorial and Rants



We are all going to die.



Maybe there is still hope...

Then: Study hard in school! Get smart and get a good job!

Today: Hey! Whites are outperforming non-Whites. Lets dumb down our schools so we can artificially increase test scores and feel good about ourselves!

Note that the "No Child Left Behind" bullshit is actually Ted Kennedy's pet project.

No Child Law Is Not Closing a Racial Gap

April 29, 2009 – From: www.nytimes.com

By Sam Dillon

The achievement gap between white and minority students has not narrowed in recent years, despite the focus of the No Child Left Behind law on improving the scores of blacks and Hispanics, according to results of a federal test considered to be the nation's best measure of long-term trends in math and reading proficiency.

Between 2004 and last year, scores for young minority students increased, but so did those of white students, leaving the achievement gap stubbornly wide, despite President George W. Bush's frequent assertions that the No Child law was having a dramatic effect.

Although Black and Hispanic elementary, middle and high school students all scored much higher on the federal test than they did three decades ago, most of those gains were not made in recent years, but during the desegregation efforts of the 1970s and 1980s. That was well before the 2001 passage of the No Child law, the official description of which is "An Act to Close the Achievement Gap."

"There's not much indication that N.C.L.B. is causing the kind of change we were all hoping for," said G. Gage Kingsbury, a testing expert who is a director at the Northwest Evaluation Association in Portland. "Trends after the law took effect mimic trends we were seeing before. But in terms of watershed change, that doesn't seem to be happening."

The results no doubt will stoke debate about how to rewrite the No Child law when the Obama administration brings it up for reauthorization later this year. Education Secretary Arne Duncan has said he would like to strengthen national academic standards, tighten requirements that high-quality teachers be distributed equally across schools in affluent and poor neighborhoods, and make other adjustments. "We still have a lot more work to do," Mr. Duncan said of the latest scores. But the long-term assessment results could invigorate those who challenge the law's accountability model itself.

Despite gains that both whites and minorities did make, the overall scores of the United States' 17-year-old students, averaged across all groups, were the same as those of teenagers who took the test in the early 1970s. This was largely due to a shift in demographics; there are now far more lower-scoring minorities in relation to whites. In 1971, the proportion of white 17-year-olds who took the reading test was 87 percent, while minorities were 12 percent. Last year, whites had declined to 59 percent while minorities had increased to 40 percent.

The scores of 9- and 13-year-old students, however, were up modestly in reading, and were considerably higher in math, since 2004, the last time the test was administered. And they were quite a bit higher than those of students of the same age a generation back. Still, the progress of younger students tapered off as they got older.

Some experts said the results proved that the No Child law had failed to make serious headway in lifting academic achievement. "We're lifting the basic skills of young kids," said Bruce Fuller, an education professor at the University of California, Berkeley, "but this policy is not lifting 21st-century skills for the new economy."

But Margaret Spellings, Mr. Duncan's predecessor under President Bush, called the results a vindication of the No Child law.

"It's not an accident that we're seeing the most improvement where N.C.L.B. has focused most vigorously," Ms. Spellings said. "The law focuses on math and reading in grades three through eight — it's not about high schools. So these results are affirming of our accountability-type approach."

Whether anyone knows how to extend the results achieved with younger students through the turbulent high school years remains an open question.

The math and reading test, known as the National Assessment of Educational Progress, Long-Term Trends, was given to a nationally representative sample of 26,000 students last year. It was the 12th time since 1971 that the Department of Education administered a comparable test to students ages 9, 13 and 17. The scores, released on Tuesday in Washington, allow for comparisons of student achievement every few years back to the Vietnam and Watergate years.

The results point to the long-term crisis in many of the nation's high schools, and could lead to proposals for more federal attention to them in the rewrite of the No Child law, which requires states to administer annual tests in grades three to eight, but only once in high school.

The 2008 score gap between black and white 17-year-olds, 29 points in reading and 26 points in math, could be envisioned as the rough equivalent of between two and three school years' worth of learning, said Peggy Carr, an associate commissioner for assessment at the Department of Education.

Freeman A. Hrabowski III, the president of the University of Maryland, Baltimore County, who has written about raising successful black children, said the persistence of the achievement gap should lead policymakers to seek new ways to increase low-performing students' learning time.

"Where we see the gap narrowing, that's because there's been an emphasis on supplemental education, on after-school programs that encourage students to read more and do more math problems," Dr. Hrabowski said. "Where there are programs that encourage that additional work, students of color do the work and their performance improves and the gap narrows."

But he said that educators and parents pushing children to higher achievement often find themselves swimming against a tide of popular culture.

"Even middle-class students are unfortunately influenced by the culture that says it's simply not cool for students to be smart," he said. "And that is a factor here in these math and reading scores."

Michael Casserly, executive director of the Council of the Great City Schools, which represents more than 60 metropolitan school systems, said that much of the progress among the nation's minority students has been the result of hard work by urban educators, not only since the No Child law took effect but for decades before.

"N.C.L.B. did not invent the concept of the achievement gap — much of the desegregation work in the '70s and '80s was in fact about giving poor, Hispanic and African-American kids access to better resources and curriculum," Mr. Casserly said. "You do see from these results that in that period, the gains were steeper. It wasn't being called an achievement gap, but that was what that was about."

Monsters, Inc.

Scare the intractable into obedience!



Howard Dean



Ted Kennedy



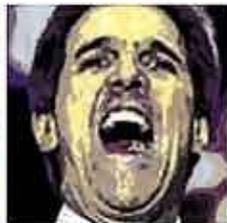
Ward Churchill



Al Gore



Michael Moore



John Kerry



Teresa Heinz Kerry



Louis Farrakhan



Hillary Clinton



James Carville



Al Franken



Chris Fraudoire



Nancy Pelosi



Lynne Stewart



George Soros



Barbara Boxer

ThePeoplesCube.com

This story is missing one little fact. Can you find it?

Hint: In 1959, Miami high schools turned out hard working people. In 2009, they turn out Obama voters.

And remember, the industrial revolution happened during the 1800s. Not exactly a lot of rich people were walking around back then...

3 Men on a Mission to Save Failing School

April 18, 2009 – From: www.miamiherald.com

By Kathleen McGrory

Darryl Holsendolph, class of '81, sometimes wonders what happened to Miami Central Senior High.

When he walked the school's hallways, Central produced some of the brightest minds in Miami-Dade County. Many went on to college. Some won prestigious awards.

But the school Holsendolph was once so proud of fell into a steady decline -- so much so, that the state Department of Education is now threatening to close it.

Central's teachers, its principal, even its students are battling for its survival.

But the effort to make lasting change extends beyond the iron gates surrounding the campus. The North Central community that surrounds the iconic West Little River school has also joined in the fight.

Leading the troops are Holsendolph and two of his closest friends, Kent Pollock and D.C. Clark.

Holsendolph, 46, heads Central's community oversight team, a group of volunteers working with the school district to improve the climate.

Pollock, a father of eight, is president of Central's Parent Teacher Student Association.

And Clark, a 1974 graduate, is working to rally a half-century's worth of proud alumni through the Miami Central Rockets Alumni Association.

Together, the three men -- and their respective organizations -- are on a mission to restore "Rocket pride" with the current generation of Central students and the greater community.

Among their projects so far: making sure that all college-bound students get a free laptop computer, selling Central Rockets gear to raise money for student activities, and planning end-of-the-year events for students, faculty members and alumni.

The three men say they are inspired by the changes put into motion by new Principal Doug Rodriguez, who came to Central in December after the former principal fell ill.

"Mr. Rodriguez is one of the first principals who has come to Central with a true vision," said Pollock, 50. "But he can't do it alone."

"That's where we come in," Clark said.

EARLY SUCCESS

Ask any alumnus: Miami Central Senior High School was once the gem of the North Central Miami–Dade community.

When the school opened in 1959, it appealed to gifted students interested in science and engineering. Central drew top students for nearly two decades, alumni say.

"We had one or two Silver Knight winners each year," said Holsendolph, who was himself a runner–up for the prestigious awards, bestowed on South Florida's top high school seniors for the past 50 years.

Clark, 52, the alumni association president, has vivid memories of the walk to school from his childhood house on Northwest 87th Street.

“Every day, on my way to school, at least five elders would say, ‘Son, how are you doing? We know you're playing good football, but are you keeping your grades up?’

“I had the idea that I wasn't just doing this for me or my parents. I was doing it for my block. I was doing it for my community.”

But in the decades that followed, specialized magnet programs lured talented students away from neighborhood schools like Central.

The demographics of the area changed, too. The 1980s brought an influx of immigrants from Latin America and the Caribbean to West Little River. The average household income dipped significantly.

Like other urban high schools in Miami, Central experienced a steady decline. The building fell into disrepair. And gang violence became part of the culture.

"Miami Central had become the dumping ground for unwanted transfer students," Clark said. “Students with criminal records from as far away as Homestead were coming here.”

By the end of the 2007–08 school year, Central had received its fifth consecutive F school grade from the state — branding it with the worst academic record in Florida.

Now, for Central to remain open as it exists today — that is, without becoming a charter school or undergoing a massive overhaul — it must earn a D grade or better from the state.

Rodriguez, the new principal, wasted no time in establishing order, improving morale and providing students with specialized tutoring services they needed.

Still, by quantitative measures, Central's success will depend on how its students performed on the Florida Comprehensive Assessment Tests, which wrapped up last month.

While the state won't begin to release the scores until May, there are some early indicators of progress.

This year, 99 percent of Central students showed up for the tests — up from 90 percent last year, according to school district records.

That's just the kind of momentum that community members want to seize. They say self-confidence and pride will help propel the students to success.

COMPUTER PURCHASE

Members of the three organizations hope that buying laptops for college-bound seniors will encourage students in all grades to set their sights on furthering their education. The groups are hard at work to raise \$10,000 to buy 50 new computers.

They're hosting a fundraising bazaar at the school on May 2.

The alumni association is also planning an alumni appreciation night to take place the same weekend as the spring football game.

Pollock admits that getting parents involved has been a challenge.

Membership in the PTSA holds steady at about 50 people — a small number, considering that Central has more than 1,500 students.

"Parents in this community are doing their best," Pollock said. "Their plates are full. Many work two or three jobs."

Despite the small membership, the PTSA has raised funds to send students to Central's away games, and raised money for scholarships and school activities.

"We fit in where we are needed, even if that means mopping the floors," Pollock said.

ROLE MODELS

On a personal level, Clark, Holsendolph and Pollock want to be role models for the current generation.

Whenever they visit the school, usually once every two weeks, they make it a point to shake hands with students and ask them about their studies.

"We want them to understand that there's a greater legacy — that they're part of something much larger than themselves," Clark said.

The trio are also hoping to bring the community back to Central.

They want to see Central reborn as a true community school — a place where neighbors walk the track for exercise and gather for community meetings.

Earlier this month, the alumni association, the PTSA and the community oversight group named Central's new outdoor track for longtime coach John Rolle. The three organizations invited community members to attend the dedication ceremony. About 100 showed up — a strong start, Clark said.

"We want them to be proud of Central," he said. "This is their school, too."

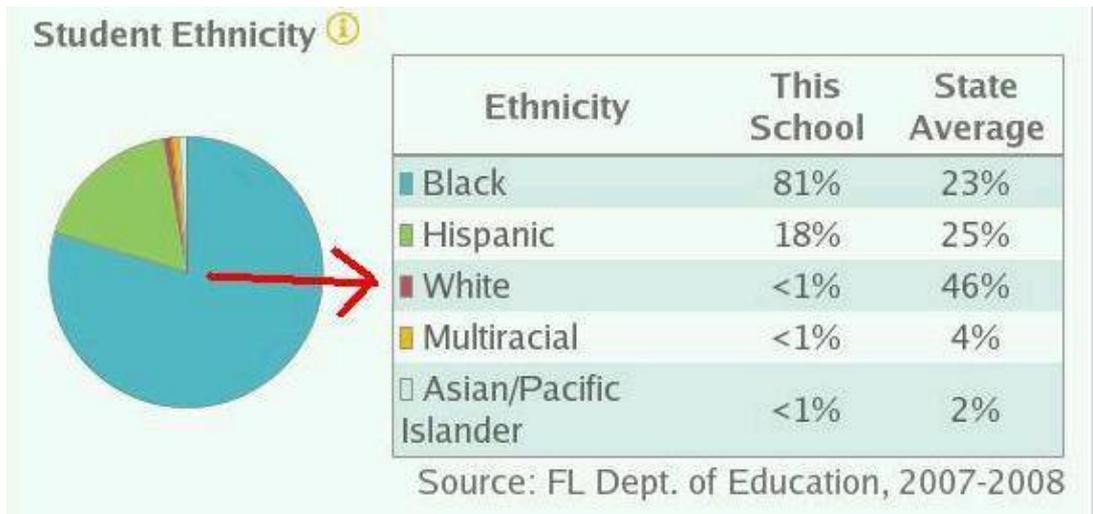
On a recent boiling-hot April afternoon, the three men stood side by side on the track. The topic of conversation was outdoor lighting.

"If Northwestern has lights, we should have lights, too," Holsendolph said, uttering the name of Central's long-despised rival.

"I agree with you," Clark said. ``We gotta get lights."

"How do we do it?" Pollock asked.

"I don't know yet," Holsendolph said. ``But we'll do it."



Miami Central Senior High School – Miami Florida

(<http://www.greatschools.net/cgi-bin/fl/other/796#students>)



Around March of 2009, the Obama goons and affirmative action lesbian at the Department of Homeland Security (DHS) put out a report that establishes a lexicon for what they think constitutes a "terrorist" or an "extremist." One of their little gems was priceless:

"Alternative Media (U//FOUO) – A term used to describe various information sources that provide a forum for interpretations of events and issues that differ radically from those presented in mass media products and outlets."

You see, MSNBC recently had a poll on their website where you could vote on Obongo's first 100 days of disaster.

The poll showed the public giving him a big, fat "F."

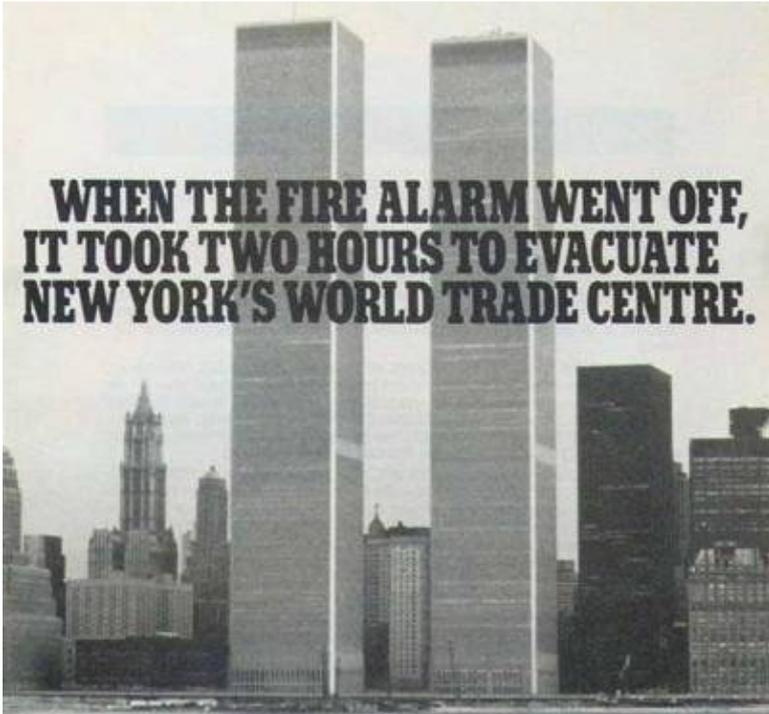
MSNBC, being owned by General Electric and wanting large government grants and tax exemptions from the Obongo Administration, took the poll down and eventually replaced it with one of their stock "Obama is a God" articles.



If you, at anytime, thought "Gee... That's kinda shady!"

Congratulations! You are now an "extremist."

Welcome to the club. Don't forget to pay your dues, but keep the "change."



**WHEN THE FIRE ALARM WENT OFF,
IT TOOK TWO HOURS TO EVACUATE
NEW YORK'S WORLD TRADE CENTRE.**

The bigger the building, the more important fire-proofing becomes.

That's why today's buildings have asbestos-cement walls and even floors containing asbestos.

Asbestos contains fire, cannot burn and holds up after metal and glass have melted down, giving vital time for people to escape.

You'll also find asbestos sealing plumbing joints, insulating heating pipes, electric motors and emergency generators.

Asbestos. We couldn't live the way we do without it.

ASBESTOS

When life depends on it, you use asbestos.

**Asbestos Corporation Limited,
Sun Life Building,
Montréal, Québec H3B 2X6,
Canada.**

Represented by:
Becker & Haag (GmbH & Co.)
P.O. Box 100 548, Spandentelch 1-3
2000 Hamburg 1, Germany (FOR WEST GERMANY,
EAST GERMANY, AUSTRIA AND HUNGARY)
Other representatives world-wide.

looku.com