ORDER

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NARACS SOUTHWEST REGION
DIRECTORY AND USERS MANUAL

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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FOREWORD

This order provides direction and guidance for the usage of the Southwest Regional Frequency Modulation (FM) network. It also provides a directory of all base and repeater stations within the Region.

Don L. Watson

ACTING Regional Administrator
Southwest Region

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CHAPTER 1. GENERAL

1. PURPOSE. This manual lists all of the operational VHF/FM base and repeater radio stations in the Southwest Region and provides guidelines for operating procedures.

2. DISTRIBUTION. This directive is distributed to division level in the regional office except Airway Facilities, section level in Airway Facilities, limited distribution to all Airway Facilities field offices, Flight Standards District Offices (FSDO) and Civil Aviation Security Field Offices (CASFO). This directive is of interest to all offices and facilities concerned with operating the FM Network.

3. BACKGROUND. National Radio Communications System (NARACS) System Program Plan and System Implementation Plan, Order 6500.14, dated April 27, 1987, gives guidance on completion of a Regional VHF/FM Radio Communications System Station Directory and Users Manual. This manual has been developed using the guidelines outlined in that order.

4. VHF-FM SYSTEM DESCRIPTION. The basic building block of the system consists of Data Encryption Standard (DES) equipped repeater stations and a mixture of DES and clear voice mobiles, fixed base, and portable stations within the coverage area of their associated repeater.

The proposed locations of repeaters would provide essential coverage of the Southwest Region. A coverage area of 40 statute miles has been used in this system design because of variations in terrain and antenna heights. Areas which will not be covered are where the FAA has minimum or no ongoing activities and therefore will not impact operations.

Portable units for the subsystem will be MX-300X synthesized portable Handi-Talkie radios. There will be a combination of DES equipped and clear voice units. Due to significant difference in price, DES equipped units will not be purchased for sites where they are not needed. Mobile stations for the subsystem will consist of Motorola Converta-Com Mobile Radio Consoles with 35-watt linear amplifiers, MCX-100 35-watt rear mount units, or SYNTOR X 100-watt units. The Converta-Com requires a hand-held unit which is inserted to act as an exciter and receiver for the mobile station. In some remote locations where longer range is needed than will be provided by portable units, Converta-Com consoles with linear amplifiers or MCX-100 front mount units with an appropriate power supply and outside antenna may be installed in a building and function as a base station. MICOR or MSR-2000 100-watt base stations will be used as required.

5-9. RESERVED.

CHAPTER 2. DIRECTORY AND OPERATIONAL PROCEDURES

SECTION 1. DIRECTORY OF STATION LISTINGS

This section identifies the various frequencies used in the Southwest Region VHF/FM radio communications system. Figures 1 through 3 are maps showing the repeater locations, channel numbers, and the repeater radio/telephone interconnect telephone numbers.

10. CHANNEL DESIGNATION.

SYNTOR X Mobile	MCX 100 & Portable 1/	Use	Frequency
A1	1	Repeater Channel 1	169.325/172.925
A2	2	Repeater Channel 2	169.350/172.950
A3	3	Repeater Channel 3	169.375/172.975
A4	4	Repeater Channel 4	169.250/172.850
A5	5	Repeater Channel 5	169.275/172.875
A6	6	Repeater Channel 6	169.300/172.900
A7	7	Repeater Channel 7	169.225/172.825
A8	8	Simplex Channel FSDO	172.125
B1	9	Simplex Channel Security	172.150
B2	10	Simplex Channel AF Maint.	172.175
B3	11	Simplex Channel National	166.175
B4	12	Simplex Channel 1 Talk around	172.925
B5	13	Simplex Channel 2 Talk around	172.950
B6	14	Simplex Channel 3 Talk around	172.975
B7	15	Simplex Channel 4 Talk around	172.850
B8	16	Simplex Channel 5 Talk around	172.875
C1	17	Simplex Channel 6 Talk around	172.900
C2	18	Simplex Channel 7 Talk around	172.825

1/ Portables do not transmit after Channel 11. Channels 18-32 on the mobile are on 172.825.

11. BASE STATION LISTING.

Arkansas

Location	Identifier	Organization	Call Sign	Channel
Fayetteville	FYV	SFO	FYV-700B	2
Fort Smith	FSM	SFO	FSM-700B	2
Harrison	HRO	SFU	HRO-700B	6
Little Rock	LIT	HQ	LIT-900B	1
Russellville	QXR	SFO	QXR-700B	2
Texarkana	TXK	SFO	TXK-600B	5
Texarkana	TXK	LRR	TXK-700B	5

Louisiana

Alexandria	AEX	SFO	AEX-900B	4
Barksdale	BAD	Radar SFU	BAD-700B	4
Monroe	MLU	SFO	MLU-600B	5
New Orleans	NEW	HQ	NEW-500B	7
Shreveport	SHV	SFO II	SHV-600B	4

New Mexico

Albuquerque	ABQ	HQ	ABQ-500B	1
Albuquerque (ARTCC)	ZAB	HQ	ZAB-500B	1
Albuquerque	ABQ	NAV/COM UNIT	ABQ-600B	1
Carlsbad	CNM	SFO	CNM-900B	7
Farmington	FMN	Radar SFO	FMN-700B	2
Gallup	GUP	Radar SFU	GUP-700B	2
Hobbs	HOB	SFU	HOB-900B	11
Roswell	ROW	SFU (FSS)	ROW-910B	11
Roswell	ROW	SFU (ATCT)	ROW-900B	11
Silver City	SVC	SFO (ARSR)	SVC-910B	5
Silver City	SVC	SFO (Office)	SVC-900B	5
Tucumcari	TCC	NAV/COM SFU	TCC-600B	1
Tucumcari (Mesa Rica)	QWC	Radar SFO	QWC-700B	1
West Mesa	QSA	Radar SFO	QSA-700B	7

Oklahoma

Clinton-Sherman	CSM	SFO	CSM-910B	2
Oklahoma City	OKC	HQ	OKC-600B	4
Tulsa	TUL	SFO II	TUL-810B	5
Tulsa	QAF	Radar/Com Unit	QAF-820B	5

Texas

Location	Identifier	Organization	Call Sign	Channel
Abilene	ABI	NAV/COMM	ABI-741B	4
Amarillo	AMA	SFO II	AMA-500B	4
Andrews	QXS	SFO	QXS-900B	2
Anson	Q00	ATCBI	Q00-761B	2
Austin	AUS	HQ	AUS-500B	4
Austin	AUS	NAV/COMM	AUS-611B	4
Beaumont	BMT	SFO	FAA-2-S4W	11
College Station	CLL	FSS	CLL-662B	2
Conroe	CXO	AFSS	FAA-2-S3F	2
Corpus Christi	CRP	SFO II	CRP-700B	4
Dallas	DAL	SFO II	DAL-500B	7
Dallas	DAL	SFO	DAL-501B	7
Dallas	RBD	Redbird SFO	RBD-500B	7
Dallas	ADS	Addison SFO	ADS-500B	7
Dallas-Fort Worth	DFW	CASFO	DFW-200B	9/1
Dallas-Fort Worth	DFW	SFO II	DFW-500B	7/1
Dallas-Fort Worth	DFW	SM	DFW-501B	7
Dyess	DYS	RAD/COMM	DYS-761B	5
El Paso	ELP	HQ	ELP-900B	2
El Paso	ELP	SFO (ATCT)	ELP-910B	2
El Paso	ELP	ESU (Tram)	ELP-920B	2
Fort Worth	FTW	SFO (AFSS)	FTW-500B	7
Galveston	GLS	SFO	FAA-2-S4V	2
Houston	HOU	HQ	FAA-2-S1D	2
Houston	IAH	CASFO	IAH-200B	9/2
Houston	IAH	SFO II	FAA-2-S3B	2
Houston	IAH	ESU	FAA-2-S3C	2
Houston	HUB	SFO II	FAA-2-S4T	2
Keller	FTW	ARSR SFO	FTW-501B	2
Laredo	LRD	SFO	LRD-900B	5
Longview	GGG	SFO	GGG-500B	5
Lubbock	LBB	SFO II	LBB-900B	5
Lubbock	LBB	Radar Unit	LBB-910B	5
Lufkin	LFK	FSS	FAA-2-S3G	11
Midland	MAF	SFO II	MAF-700B	4
Midland	MAF	ATCT	MAF-711B	4
Midland	MAF	FSS	MAF-712B	4
Rogers	QYS	ARSR	QYS-661B	11
San Angelo	SJT	SFO	SJT-771B	6
San Antonio	SAT	HQ	SAT-500B	6
San Antonio	SAT	SFO	SAT-600B	7
Sonora	SOA	ARSR	SOA-766B	1

Texas (continued)

Location	Identifier	Organization	Call Sign	Channel
Sulphur Springs	SLR	SFU (VORTAC)	SLR-500B	5
Temple	TPL	VOR	TPL-620B	11
Tyler	TYR	SFO	TYR-500B	5
Waco	ACT	SFO	ACT-641B	6
Wichita Falls	SPS	SFO	SPS-700B	7

Note: Selective calling codes are not installed in any radios in the Southwest Region at this time.

12. REPEATER STATION LISTING.

Arkansas

Location	Call Sign	Channel	Phone Numbers Line 3	Line 1
Brinkley	FAA-QBK	3	None	(501) 457-2601
El Dorado	FAA-ELD	7	None	(501) 863-4051
Fayetteville	FAA-FYV	2	None	(501) 443-3191
Harrison	FAA-HRO	6	None	(501) 935-7972
Hot Springs	FAA-HOT	5	None	None
Little Rock	FAA-LIT	1	None	None
Mount Magazine	FAA-QXR	2	None	None
Pine Bluff	FAA-PBF	4	None	None
Walnut Ridge	FAA-ARG	5	None	(501) 886-2682

Louisiana

Alexandria	FAA-AEX	4	None	None
Baton Rouge	FAA-BTR	4	None	None
De Ridder	FAA-DRI	1	None	None
Grand Isle	FAA-GNI	6	None	None
Lafayette	FAA-LFT	6	None	None
Lake Charles	FAA-LCH	1	None	None
New Orleans	FAA-NEW	7	None	None
Shreveport	FAA-SHV	4	None	(318) 222-5061

New Mexico

Albiquin	FAA-QWX	6	None	None
Apache Springs	FAA-QWB	4	None	None
Farmington	FAA-FMN	1	None	(505) 325-0203
Gallup	FAA-GUP	2	None	None
Jacks Peak	FAA-JKS	4	None	None
Mesa Rica	FAA-QWC	1	None	None
Mount Cabello	FAA-MCB	3	None	None

New Mexico (continued)

Location	Call Sign	Channel	Phone Numbers Line 3	Line 1
Mount Taylor	FAA-QLM	7	ZAB Switch ext 3010	None
Roswell	FAA-ROW	2	None	None
Sandia Crest	FAA-ABQ	1	ZAB Switch ext 3320	(505) 243-744
Tesuque Peak	FAA-QOW	2	ZAB Switch ext 3011	None
		Oklahoma		
Ardmore	FAA-QOA	5	ZFW Switch ext 3153	None
Grandfield	FAA-SPS	7	None	None
Maguire	FAA-QOH	2	ZFW Switch ext 3194	None
Oklahoma City	FAA-OKC	4	None	None
Sharon	FAA-GAG	2	None	(405) 866-354
Tulsa	FAA-TUL	5	None	None
		Texas		
Abilene	FAA-ABI	4	None	None
Adrian	FAA-QT3	7	None	None
Albany	FAA-QWP	2	ZFW Switch ext 3197	None
Amarillo	FAA-AMA	4	None	None
Austin	FAA-AUS	4	None	(512) 288-185
Bastrop	FAA-BST	7	None	None
Cedar Hill	FAA-QOB	7	ZFW Switch ext 3325	None
College Station	FAA-CLL	5	None	(409) 846-064
Corpus Christi	FAA-CRP	4	None	None
El Paso	FAA-ELPA	2	ZAB Switch ext 3357	(915) 772-226
Flatonia	FAA-QYP	1	None	None
Fort Stockton	FAA-FST	2	None	(915) 336-849
Geronimo	FAA-QT5	2	None	None
Guadalupe PK	FAA-GDP	7	None	None
Houston	FAA-HOU	2	None	(713) 438-723
Jacksboro	FAA-QWR	4	ZFW Switch ext 3097	None
Keller	FAA-QZM	2	ZFW Switch ext 3106	None
Lamesa	FAA-QWL	2	ZFW Switch ext 3196	None
Laredo	FAA-LRD	5	None	None
Midland	FAA-MAF	4	None	None
Munz	FAA-QZG	2	None	None
Paducah	FAA-QDP	4	None	None
Pickton	FAA-QZI	5	ZFW Switch ext 3104	None
Roby	FAA-QWN	5	ZFW Switch ext 3096	None
San Angelo	FAA-SJT	6	None	(915) 883-5444
San Antonio	FAA-SAT	6	None	None
San Antonio	FAA-SATA	7	None	None
Sealy	FAA-QYN	4	None	None
Sonora	FAA-SOA	1	None	None
Waco	FAA-WCO	6	None	(817) 666-201
Wink	FAA-INK	5	None	(915) 527-333

a. The phone lines from the switches in the ARTCC's are connected to Line 3 at the repeater and the phone numbers are listed below.

ARTCC	FTS NUMBER	COMMERCIAL NUMBER	ACCESS CODE
Albuquerque	476-0358	(505) 823-0358	*1
Fort Worth	None	(817) 354-6688	*31
Houston	None	None	*1

b. Line 1 at the repeaters are connected to the local telephone line if it is available.

13. REPEATER AUTOMATIC PHONE PATCH. Detailed dialing instructions are in Section 2 titled Radio Telephone Operation. This section is for quick reference showing connect and disconnect codes.

a. Dial In Mode.

(1) Direct from telephone system.
Dial the commercial phone number listed next to the repeater. Wait for the radio operator to answer call.

(2) Through the Mitel switch at the ARTCC.
Dial the telephone number for the Mitel switch. Once a dial tone is heard dial the access code for the switch. After another dial tone is heard, dial the four-digit station identification number to access the repeater. Wait for the radio operator to answer the call.

b. Dial Out Mode.

(1) To local telephone number.
Dial a * to access line 1. This will return a local number dial tone if it is available.

(2) To ARTCC switch.
Dial a 3* to access line 3. This will return an ARTCC switch dial tone.

c. Disconnect.

(1) Sign off with proper call sign.

(2) Dial a # to disconnect the line.

14-19. RESERVED.

FIGURE 1. Albuquerque Switch Area

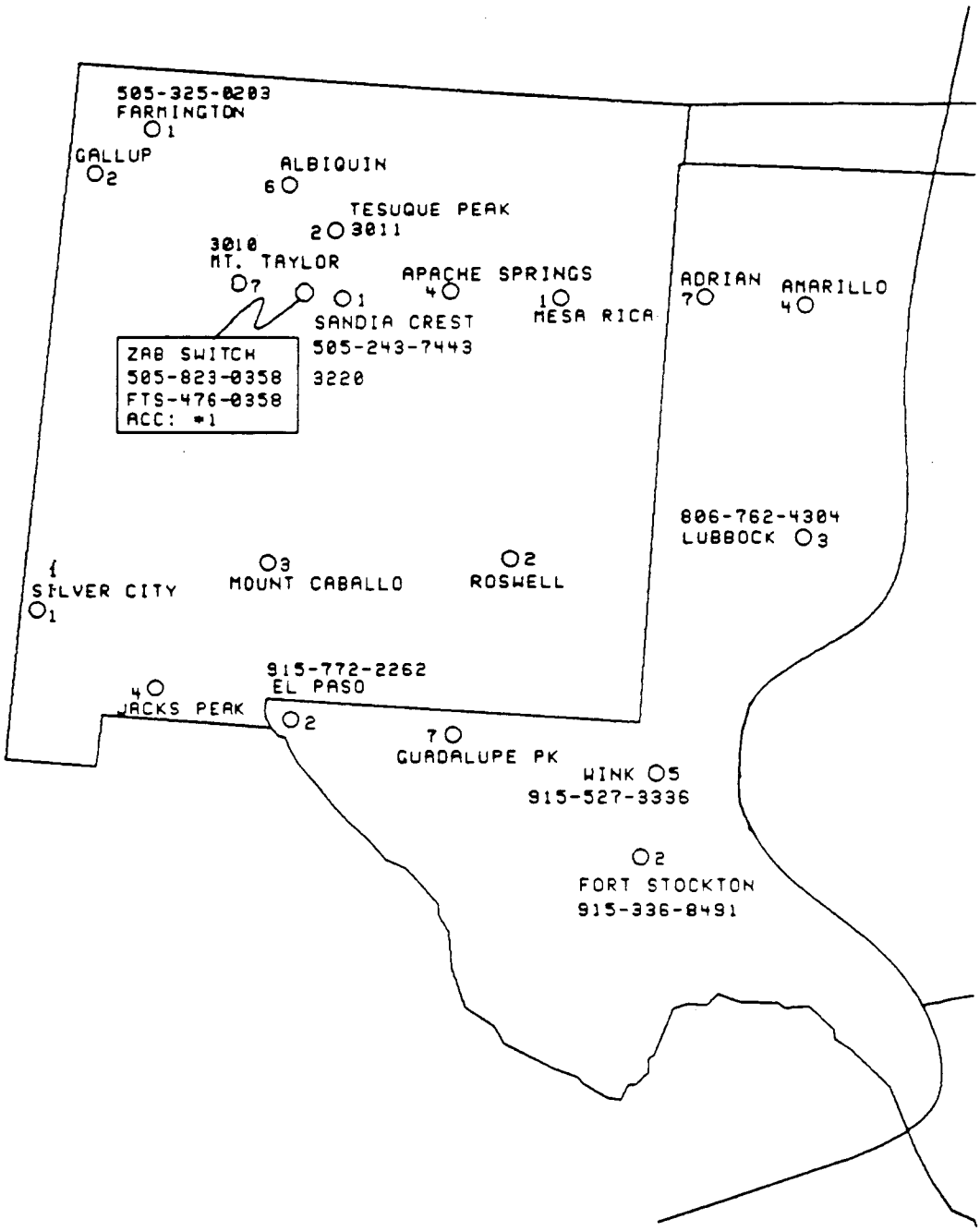


FIGURE 2. Dallas/Fort Worth Switch Area

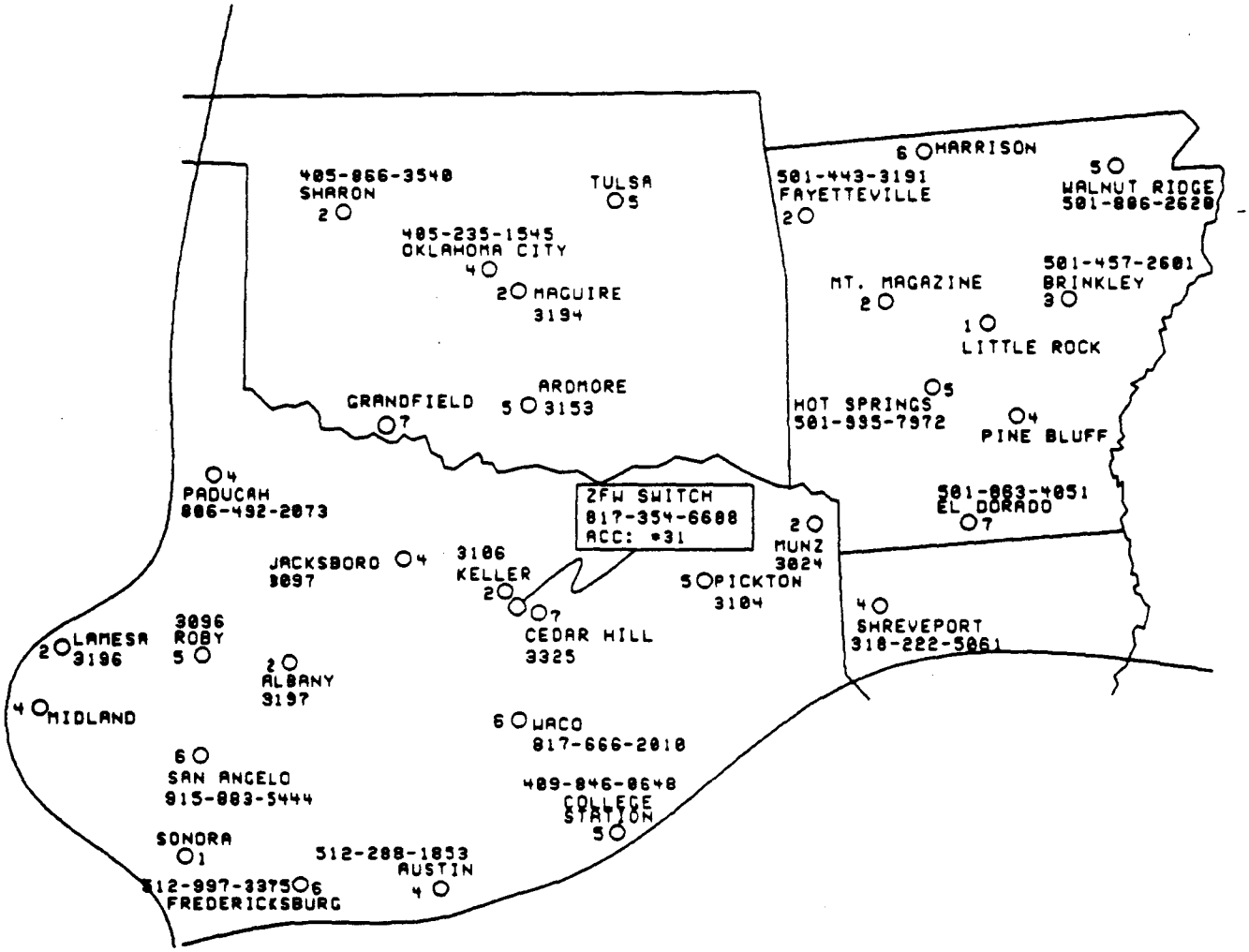
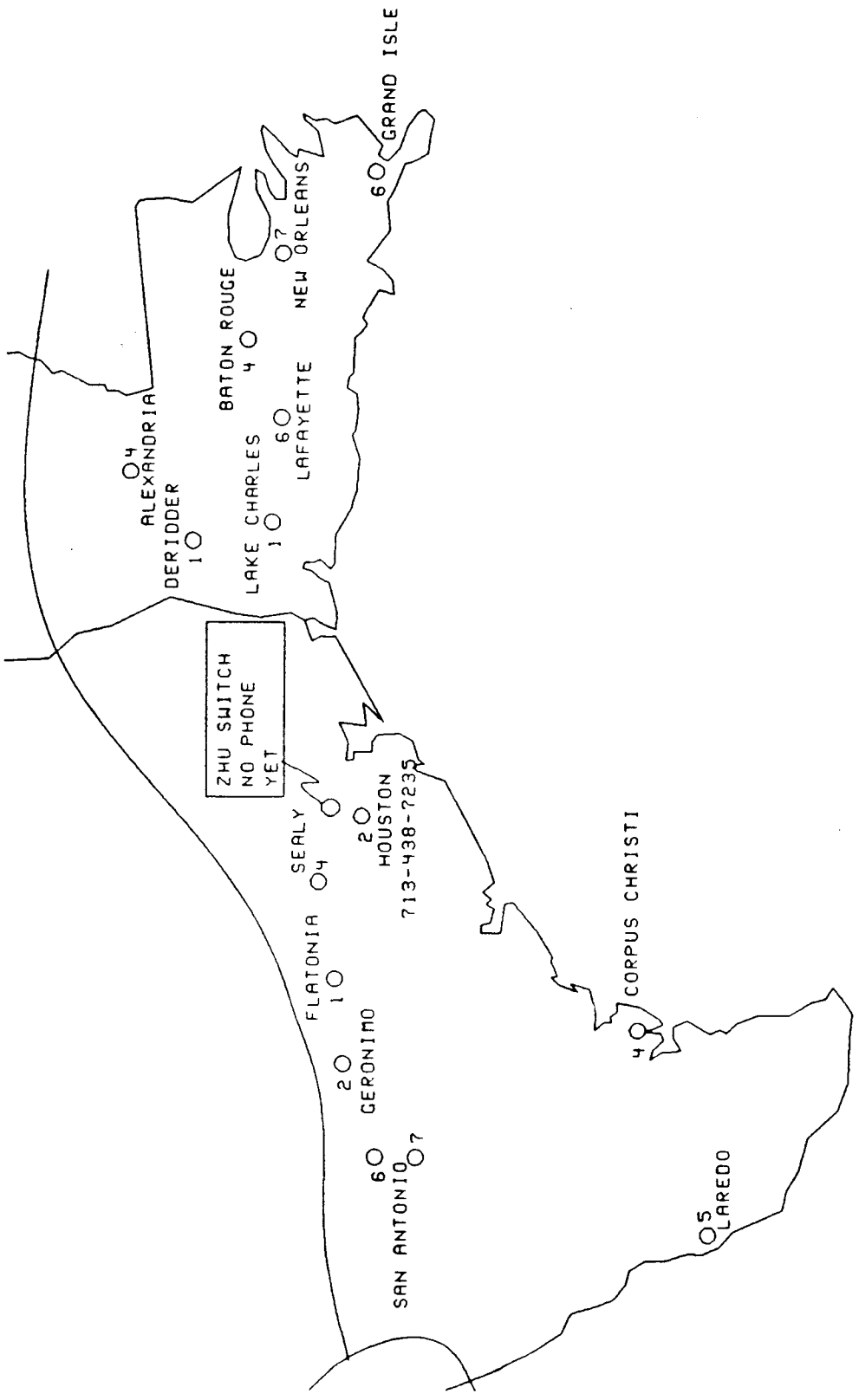


FIGURE 3. Houston Switch Area



SECTION 2. OPERATIONAL PROCEDURES

20. GENERAL RADIO OPERATION.

a. Introduction. This section provides basic guidelines for operating radio stations in the Southwest Region VHF/FM Radio Communications Systems. Information provided herein is intended for ready reference by radio operators; hence, it is in a simplified and condensed form. It should be understood by all radio operators that instructions contained herein have their basis in International Treaties, Laws of the United States and related departmental and agency regulations. They, therefore, are not to be ignored or treated lightly by FAA employees operating radio stations in this system.

b. Station Call Signs. The aforementioned treaties, laws and regulations all require that radio stations be properly identified when transmitting on the air. This is prescribed to be accomplished through the use of a highly structured system of station call signs. In establishing the call sign system for the VHF/FM radio system, the most liberal interpretation possible has been made of the regulations in order to simplify operating procedures and to encourage use of the radio system. There is, therefore, NO LATITUDE for further simplification of the procedures.

(1) Base Station Call Signs. The official call sign for a base station in this system is composed of the prefix three-letter Location Identifier (LID) followed by a three-digit number and the letter "B." For example, the call sign for a base station is "DFW-602B."

This official call sign MUST be transmitted by each base station at least once during each exchange of communications or once each hour of communications. To facilitate the establishment of communications with base stations by mobile or portable stations which might not be familiar with the official call sign of the base station, a plain language or "phonetic" can be used. These phonetic identifiers should be carefully chosen to be readily identifiable with the physical location of the base station such as the name of the city, street or office where the base station is located.

Base stations may use their phonetic identifier to establish communications; however, the official call sign MUST be transmitted at least once during the exchange of communications. The best way to meet this requirement is illustrated by the following example:

Initiating a call	"Fort Worth Base calling NAV/COMM Unit - OVER!"
Answering a call	"This is Fort Worth Base - OVER!"
Ending the Communications	"Fort Worth Base Clear - DFW 602B!"

(2) Mobile/Portable Station Call Signs. Each vehicle with a two-way FM radio and each FM two-way portable radio is assigned an official call sign. This official call sign is composed of the home station LID followed by a three-digit number and the letter M for mobile or P for portable. The official call sign MUST be transmitted at the end of communications. These procedures are illustrated by the following examples:

Initiating a call	"LIT 572M calling Fort Worth Base - OVER!"
Answering a call	"This is LIT 572M - OVER!"
Ending Communication	"LIT 572M CLEAR!" or "LIT 572M OUT!"

To facilitate the establishment of communications when a mobile or portable station's official call sign is not familiar to the calling station, it is permissible to initially use an individual's name or a general term that might apply to any mobile/portable station in the area. In such cases, the person or station responding MUST identify their station by the official call sign. For example:

Initiating a call	"Downtown Base calling Jack Jones - OVER!"
	"Downtown Base calling any mobile - OVER!"
Answering a call	"This is Jack Jones, OKC 749M - OVER!" or "This is Butler mobile OKC 749M - OVER!"
Ending Communication	"OKC 749M CLEAR!"

21. RADIO TELEPHONE OPERATION.

a. Introduction. The Southwest Region VHF/FM Radio Communications Systems Plan provides for all of the system repeater stations to be provided with automatic radio/telephone interconnect equipment commonly called "AUTO-PATCH." The "AUTO-PATCH" used in this system is a Microprocessor-controlled Radio Telephone Interconnected (MRTI). The purpose of the AUTO-PATCH equipment is to extend the functional capabilities of the two-radio system by interconnecting the radio system with the public-switched telephone network. Such interconnection allows a mobile radio station to communicate with almost any location having a telephone, even when such location is considerably outside the coverage area of the radio system.

b. Modes of Operation. The AUTO-PATCH system has essentially two modes of operation. In the first mode, the mobile radio operator initiates the patch telephone call via the radio system. This mode is called DIAL OUT. The second mode is where a telephone party initiates a patch which will interconnect the telephone system with the radio system so that the telephone party can place a radio call. This mode is called DIAL IN. The DIAL IN mode does not automatically allow the telephone party access to the radio system. Detailed instructions for operating the AUTO-PATCH in both modes are provided below.

c. Dial Out Operation.

Mobile Radio Operator:

(1) Select the proper repeater channel.

(2) Monitor the channel to listen for a busy channel.

(3) When the channel is clear, transmit the following phrase, "This is (call sign) making a phone patch. Please stand by."

(4) Depress the "*" button on the telephone touch tone pad. When using a CES microphone the "*" button must be depressed twice. (On portables - depress the push-to-talk switch at the same time.)

(5) Release the "*" button. The MRTI will respond with "connecting line 1" and then telephone dial tone should be heard on the radio speaker. When the dial tone is heard, depress the touch tone button corresponding to the first digit of the desired telephone number. Dial the remaining digits of the telephone number in rapid succession. If there is any appreciable delay (more than 2 seconds) between the dialing of each of the remainder of the telephone digits, it may be necessary to hang up by depressing the "#" button and reinitiate the entire telephone number sequence starting with the "*."

(6) The telephone ringing sound will be heard in the radio speaker. When the telephone party answers, the mobile radio operator should transmit the following phrase: "This is (call sign). I am on a radio patch;" then continue with the message. If the person on the telephone is not familiar with the term "radio patch," then the mobile operator should add the following to the opening phrase before continuing with their message: "and I will not be able to hear you until you hear a beep."

(7) When the conversation is completed and the telephone party hangs up, the mobile radio operator MUST depress the "#" button on the telephone touch tone pad for a short period to disconnect the "AUTO-PATCH." The "#" button must be depressed twice on the CES microphone touch tone pad. The MRTI will respond with "Releasing Line 1, the system is idle" before hanging up the line. Failure to disengage the AUTO-PATCH will result in the repeater being locked up until automatic timers disconnect the patch.

(8) After disconnecting the AUTO-PATCH, the mobile operator should transmit "(CALL SIGN) CLEAR OF THE PATCH."

d. Dial-in Operation.

(1) Dial the telephone number assigned to the AUTO-PATCH for the desired repeater station. You will hear the usual telephone ringing sound. The MRTI will answer the phone and respond with "Please Stand by" until the mobile operator answers the call.

(2) Any mobile or portable station operator hearing the MRTI producing a ring and stating "Call on Line 1," should complete the AUTO-PATCH connection by momentarily depressing the "*" button on the telephone touch tone pad. The "*" must be depressed twice when using the CES microphone in the same manner as if the mobile was initiating the patch.

(3) Immediately after releasing the "*" button, the MRTI will respond with "Connecting Line 1," and the mobile operator should transmit the following phrase:

"This is (call sign). What station are you calling - OVER?"

(4) At this point, the mobile station that completed the AUTO-PATCH may not be the station the telephone party wishes to communicate with. Consequently, all other mobile/portable stations hearing the calling signal and the completion of the AUTO-PATCH should continue to monitor until the telephone party identifies the station he/she wishes to communicate with.

(5) Upon hearing that the AUTO-PATCH connection has been completed, the telephone party should identify themselves and indicate whom they are calling. A typical phrase would be:

"This is Jack Jones in the El Paso Sector Office. I am calling Bill Smith."

(6) If the person being called hears the telephone party, he/she should respond with:

"This is Bill Smith ELP 582M, OVER."

(7) If the person being called does not respond to the telephone party, the mobile operator originally completing the patch should complete the call with the telephone party and then disconnect the AUTO-PATCH by momentarily depressing the "#" button, twice for CES microphone. The MRTI will respond with "Releasing Line 1, the system is idle" before disconnecting the line.

(8) After the patch is disconnected, the mobile operator should transmit the following phrase:

"(Call sign) CLEAR OF THE PATCH."

e. Ground Rules. The AUTO-PATCH, when properly used, can be a very useful tool for extending the functional capabilities of the FM Communications System. Used improperly, it can be a serious annoyance to those who want to use the radio system for its intended purpose. To assure proper use of the AUTO-PATCH, it is necessary to establish the following ground rules which are to be observed by ALL users of the system.

(1) The AUTO-PATCH is to be used for official business only. It is not to be used for personal calls except in certain instances covered by current policy. It shall not be used to access recorded announcements, such as time and temperature, weather, etc.

(2) Use of the AUTO-PATCH during the administrative workday shall be held to the absolute minimum consistent with necessary communications. It shall not be used as a substitute for the regular telephone system or the normal two-way radio.

(3) Conversations on both the AUTO-PATCH or regular radio are not private. In fact, they are very public since all other stations in the network can monitor the conversations. Additionally, any person (including the news media) can readily monitor the conversations with inexpensive scanning receivers obtainable everywhere. All conversations on both the radio and AUTO-PATCH should therefore be very brief and sound like the professional organization that the FAA is. CITIZEN BAND (CB) TYPE PHRASEOLOGY SHOULD NOT BE USED AT ANY TIME.

(4) The AUTO-PATCH telephone number SHALL NOT be disclosed over the radio. This is to prevent its disclosure to unauthorized parties and resultant unauthorized telephone calls charged to the AUTO-PATCH number.

(5) Telephone callers will occasionally misdial and reach the AUTO-PATCH number by mistake. Mobile operators should politely advise them they have a wrong number and then promptly disconnect the AUTO-PATCH by depressing "#."

(6) Any radio station in the network which hears an AUTO-PATCH conversation which is obviously unauthorized, contains obscene or offensive language, or is otherwise unsuitable for radio broadcast on the FAA system, should immediately transmit the "#" signal to disconnect the patch.

(7) The AUTO-PATCH may be used in emergency situations such as automobile accidents, fires, tornadoes, etc., to obtain assistance from law enforcement agencies or to report emergency conditions. When used for such purposes, the mobile operator should properly identify himself/herself to the party called and should be sure that they give them all the required information (location, etc.) before disconnecting the patch. Special precautions should be observed when using the AUTO-PATCH to dial the 911 emergency number used in some cities to report an emergency. The 911 system will read out the location of the repeater site to the emergency operator. The mobile radio operator MUST inform the 911 emergency operator of the EXACT location of the emergency which may be quite some distance from the location of the repeater site.

f. Back-to-Back AUTO-PATCH Operation. The FM system has the capability for operation in the back-to-back AUTO-PATCH mode. This feature permits the extension of communication capability such that a mobile/portable station operating within one repeater subsystem may communicate with another mobile/portable station operating within another repeater subsystem. In this mode of operation, the AUTO-PATCH at one repeater is connected by the public-switch telephone or FAA microwave network to the AUTO-PATCH at another repeater.

(1) Procedure for Telephone Network.

(a) The mobile/portable station operator, who desires to communicate with a mobile/portable station operating in another repeater subsystem, accesses the AUTO-PATCH on the nearest repeater by depressing a "*." The MRTI will respond with "Connecting Line 1" (see paragraph c).

(b) After accessing the AUTO-PATCH and receiving the telephone dial tone, the mobile operator dials the number "1" followed by the area code and telephone number of the AUTO-PATCH for the desired repeater subsystem. Refer to paragraph c above for dialing instructions and the FM system station directory for the telephone number of the AUTO-PATCH at the desired repeater.

(c) After several rings, the distant AUTO-PATCH will send out the telephone rings to the mobile stations operating within that repeater's area of coverage.

(d) It will be necessary to access the patch in the manner previously described. Once the patch is completed on the distant subsystem, communications can be carried on between the two subsystems.

(e) At the conclusion of communications, the mobile/portable station operators in each subsystem must transmit "#" to disconnect their respective AUTO-PATCHES. Both should also then transmit "LID-XXXM CLEAR OF THE PATCH."

(2) Procedure for FAA Microwave Network.

(a) The mobile/portable station operator who desires to communicate with a mobile/portable station operating in another repeater subsystem accesses the AUTO-PATCH on the nearest repeater by depressing a 3*. The MRTI will respond with "Connecting Line 3" and connect the ARTCC switch through the RCL/RML to the repeater (see paragraph c).

(b) After accessing the AUTO-PATCH and receiving the telephone dial tone, the mobile operator dials the four-digit number of the desired repeater station if that station is within the mobile operator's switch area. (See Figures 1 through 3, Section 1.) Refer to paragraph c above for dialing instructions.

(c) Refer to (c) through (e) above.

g. AUTO-DIAL. The repeaters have an automatic telephone dial feature known as AUTO-DIAL. This feature provides a quick and simple method of dialing certain frequently called offices/facilities.

The following are the offices/facilities and their assigned digits:

Auto Dial	Office	Phone Number
*1	Regional Duty Officer	(817) 624-5006
*2	Flight Standards Duty Officer	(817) 624-5006
*3	Aviation Security Duty Officer	(817) 624-5006
*4	Sector Duty Officer	
*5	ARTCC	
*6	NAPRS	
*7	FSS	
*8	ATCT	
*9	MCC	

The location of the office/facility dialed will depend on the location of the repeater. For example: The repeater located at Fort Worth, Texas, will be programmed to dial the Fort Worth ARTCC when the symbol "*" and the digit "5" are depressed.

The MCC number will be the Sector Office telephone number of the Sector in which the repeater is located until the MCC becomes operational.

The procedure for using AUTO-DIAL is as follows:

(a) Perform steps c(1) through c(4).

(b) Release the "*" button. Immediately (within one second) depress the touch tone button corresponding to the AUTO-DIAL digit representing the telephone number of the location being called. The radio operator should hear the AUTO-PATCH dialing the number being called.

(c) Perform steps c(6) through c(8).

22. EMERGENCY OPERATION.

a. Introduction. The primary objective of the regional FM network, which is part of the National Radio Communication System (NARACS), is to provide emergency communications. This paragraph will provide procedures for operation during an emergency condition.

b. Types of Emergency Conditions. Listed below are some types of emergency conditions, along with the office that should be in control of the network in the affected area.

Emergency Condition	Office
Aircraft Accident	Flight Standards/FAA Coordinator
Bomb Threat	Security
Hijacking	Security
Hostage Situation	Security
Sabotage	Security
Aircraft Investigation	Flight Standards
Emergency Exercises	Security

c. Declaring an Emergency. If a radio operator has an emergency need for the system, the operator must announce it over the air in the clear voice mode of operation. The operater must state that there is an emergency, how long the condition will exist, if known, and his call sign. Once the emergency condition is over, the radio operator must, in the clear voice mode, announce that the emergency is over.

d. Use of the System During an Emergency. All radio operations that are not directly related to the emergency condition shall cease until such a time that the emergency condition has ended.

23. EQUIPMENT MAINTENANCE AND TRANSFER.

a. Introduction. This section pertains to the methods and procedures which should be used for maintaining and transferring equipment used in the VHF/FM systems.

b. Transfer (Mobile Radios). The transfer of mobile equipment from one vehicle to another is the responsibility of the user organization. Costs for this transfer shall be the responsibility of the manager of the office to which the equipment is assigned.

c. Maintenance. Maintenance is the responsibility of the manager of the office to which the equipment is assigned.

24-29. RESERVED.