CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SOUTHWEST REGION

SW 1900.22 CHG 1

3/10/89

SUBJ: NARACS SOUTHWEST REGION DIRECTORY AND USERS MANUAL

1. PURPOSE. This change updates the directory portion of this order.

2. EXPLANATION OF CHANGE. Since we are in the implementation phase of the Southwest Region Frequency Modulation (FM) System, the directory portion of this order requires periodic updating.

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
4 thru 11	8/12/88	4 thru 11	3/10/89
14	8/12/88	14	3/10/89
18 thru 20	8/12/88	18 thru 20	3/10/89

Don P. Watson
Regional Administrator
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Distribution: A-X-2 (less AF); A-X(AF-4); A-FAF-0
A-FFS-7; A-FCS-1 (Limited)

Initiated By: ASW-420

11. BASE STATION LISTING.

Arkansas

	Location	Identifier	Organization	Call Sign	Channel
*	Fayetteville	FYV	SFO	FYV-700B	4
*	Fort Smith	FSM	SFO	FSM-700B	4
	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	2
	Barksdale	BAD	Radar SFU	BAD-700B	4
	Monroe	MLU	SFO	MLU-600B	5
*	New Orleans	NEW	HQ	NEW-500B	1
	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	1
	Gallup	GUP	Radar SFU	GUP-700B	2
*	Hobbs	HOB	SFU	HOB-900B	1
*	Roswell	ROW	SFU (FSS)	ROW-910B	2
*	Roswell	ROW	SFU (ATCT)	ROW-900B	2
*	Silver City	SVC	SFO (ARSR)	SVC-910B	1
*	Silver City	SVC	SFO (Office)	SVC-900B	1
	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	2/4	*
	Amarillo	AMA	SFO II	AMA-500B	4	
*	Andrews	QXS	SFO	QXS-900B	1/7	*
	Anson	QOO	ATCBI	QOO-761B	2	
	Austin	AUS	HQ	AUS-500B	4	
	Austin	AUS	NAV/COMM	AUS-611B	4	
*	Beaumont	BMT	SFU	FAA-2-S4W	5	*
*	College Station	CLL	SFU	CLL-662B	5	*
	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	7/2	*
	Galveston	GLS	SFU	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	2	*
	Longview	GGG	SFO	GGG-500B	5	
*	Lubbock	LBB	SFO II	LBB-900B	3	*
*	Lubbock	LBB	Radar Unit	LBB-910B	3	*
	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	11/4	*
	San Angelo	SJT	SFO	SJT-771B	6	
	San Antonio	SAT	HQ	SAT-500B	6	
*	San Antonio	SAT	SFO	SAT-600B	6	*
	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	5	None	(501) 863-4051	*
*	Fayetteville	FAA-FYV	4	None	(501) 443-3191	*
	Harrison	FAA-HRO	6	None	(501) 935-7972	
*	Hot Springs	FAA-HOT	5	None	(501) 623-9964	*
*	Little Rock	FAA-LIT	1	None	(501) 375-4915	*
*	Mount Magazine	FAA-QXR	2	None	(501) 963-3611	*
*	Pine Bluff	FAA-PBF	4	None	(501) 541-0471	*
	Walnut Ridge	FAA-ARG	5	None	(501) 886-2682	

Louisiana

	Alexandria	FAA-AEX	4	None	None	
*	Baton Rouge	FAA-BTR	5	None	None	*
*	De Ridder	FAA-DRI	1	None	(318) 462-6952	*
*	Driskill Mt.	FAA-MLU	5	None	None	*
*	Grand Isle	FAA-GNI	6	None	(504) 787-3107	*
*	Lafayette	FAA-LFT	2	None	(318) 395-9716	*
*	Lake Charles	FAA-LCH	4	None	None	*
*	New Orleans	FAA-NEW	1	None	(504) 837-3313	*
	Shreveport	FAA-SHV	4	None	(318) 222-5061	

New Mexico

*	Abiquie	FAA-QWX	6	ZAB Switch ext 3017	None	*
*	Apache Springs	FAA-QWB	4	ZAB Switch ext 3013	None	*
*	Farmington	FAA-FMN	1	ZAB Switch ext 3018	(505) 325-0203	*

New Mexico (continued)

	Location	Call Sign	Channel	Phone Numbers Line 3	Line 1	
*	Gallup	FAA-GUP	2	ZAB Switch ext 3012	None	*
*	Hobbs	FAA-HOB	1	None	None	*
*	Jacks Peak	FAA-JKS	4	ZAB Switch ext 3021	None	*
*	Mesa Rica	FAA-QWC	1	ZAB Switch ext 3014	None	*
*	Mount Caballo	FAA-MCB	3	ZAB Switch ext 3022	None	*
	Mount Taylor	FAA-QLM	7	ZAB Switch ext 3010	None	
*	Roswell	FAA-ROW	2	None	(505) 357-2269	*
*	San Antonio	FAA-QXHA	4	None	None	*
	Sandia Crest	FAA-ABQ	1	ZAB Switch ext 3220	(505) 243-7443	
*	Silver City	FAA-SVC	1	ZAB Switch ext 3020	(505) 388-4224	*
	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	(405) 235-1545	*
	Sharon	FAA-GAG	2	None	(405) 866-3540	
	Tulsa	FAA-TUL	5	None	None	

Texas

*	Adrian	FAA-QT3	7	ZAB Switch ext 3015	None	*
*	Albany	FAA-QWP	2	ZFW Switch ext 3090	None	*
*	Amarillo	FAA-AMA	4	ZAB Switch ext 3016	None	*
	Austin	FAA-AUS	4	None	(512) 288-1853	
*	Brownwood	FAA-BWD	4	None	(915) 646-9470	*
	Cedar Hill	FAA-QOB	7	ZFW Switch ext 3325	None	
	College Station	FAA-CLL	5	None	(409) 846-0648	
	Corpus Christi	FAA-CRP	4	None	None	
*	Cotulla	FAA-COT	5	None	(512) 879-2417	*
	El Paso	FAA-ELPA	2	ZAB Switch ext 3357	(915) 772-2262	
	Flatonia	FAA-QYP	1	None	None	
*	Fredericksburg	FAA-FBK	6	None	(512) 997-3375	*
	Fort Stockton	FAA-FST	2	None	(915) 336-8491	
*	Fort Worth	FAA-ZFW	1	ZFW Switch ext 3339	None	*
*	Gail	FAA-QWM	2	ZFW Switch ext 3092	None	*
	Geronimo	FAA-QT5	2	None	None	
*	Guadalupe PK	FAA-GDP	7	ZAB Switch ext 3023	None	*
*	Harlingen	FAA-HRL	6	None	(512) 428-6021	*
	Houston	FAA-HOU	2	None	(713) 438-7235	
	Jacksboro	FAA-QWR	4	ZFW Switch ext 3097	None	
	Keller	FAA-QZM	2	ZFW Switch ext 3106	None	

Texas (continued)

	Location	Call Sign	Channel	Phone Numbers Line 3	Line 1	
*	Lubbock	FAA-LBB	3	None	(806) 762-4304	*
	Midland	FAA-MAF	4	None	None	
*	Munz	FAA-QZG	2	ZFW Switch ext 3024	None	*
*	Oilton	FAA-QZA	2	None	None	*
*	Paducah	FAA-QDP	4	None	(806) 492-2073	*
	Pickton	FAA-QZI	5	ZFW Switch ext 3104	None	
*	Roby	FAA-QWN	5	ZFW Switch ext 3091	None	*
*	San Angelo	FAA-SJT	6	None	(915) 944-1612	*
*	San Antonio	FAA-SAT	6	None	(512) 494-0205	*
*	Sands	FAA-QTQ	7	ZFW Switch ext 3093	None	*
	Sealy	FAA-QYN	4	None	None	
*	Sonora	FAA-SOA	1	None	(915) 387-2066	*
	Waco	FAA-WCO	6	None	(817) 666-2010	
	Wink	FAA-INK	5	None	(915) 527-3336	

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 is 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, or depress a "*" on your touchtone telephone to connect the repeater. *

(2) Through the switch at the ARTCC.

* Dial the telephone number for the 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, or depress a "*" on your touchtone telephone to connect the repeater. *

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

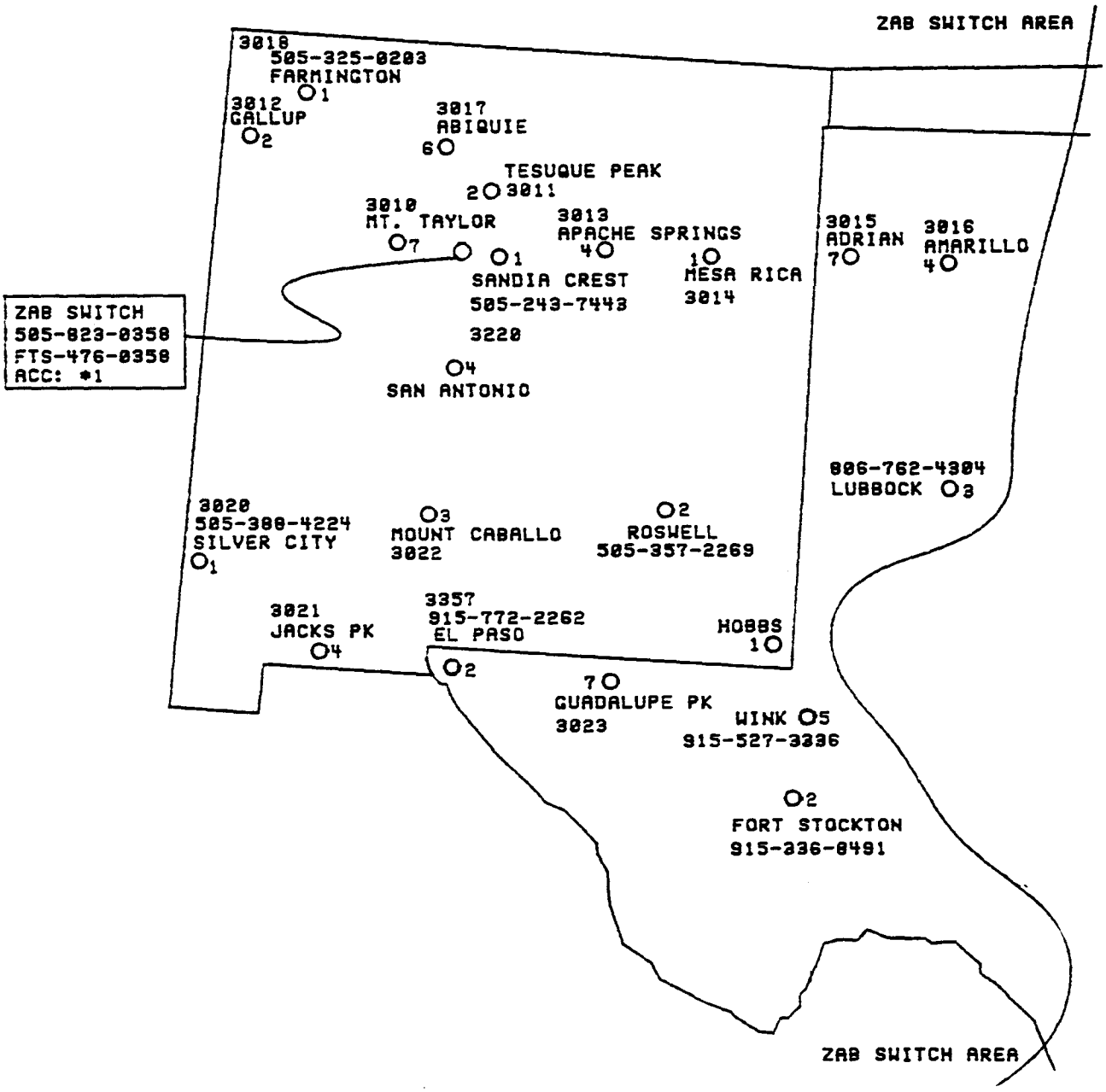
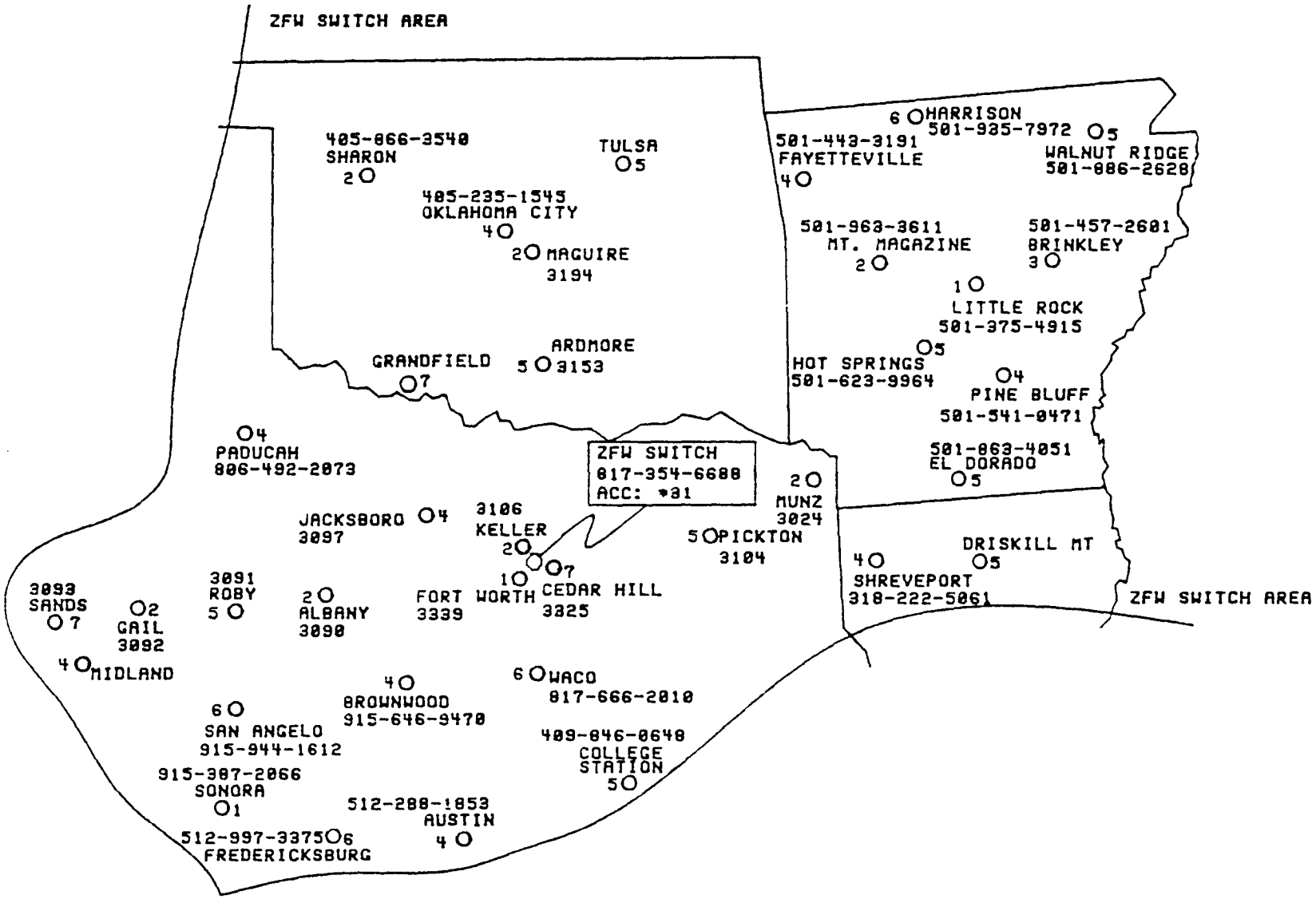


FIGURE 2. Dallas/Fort Worth Switch Area



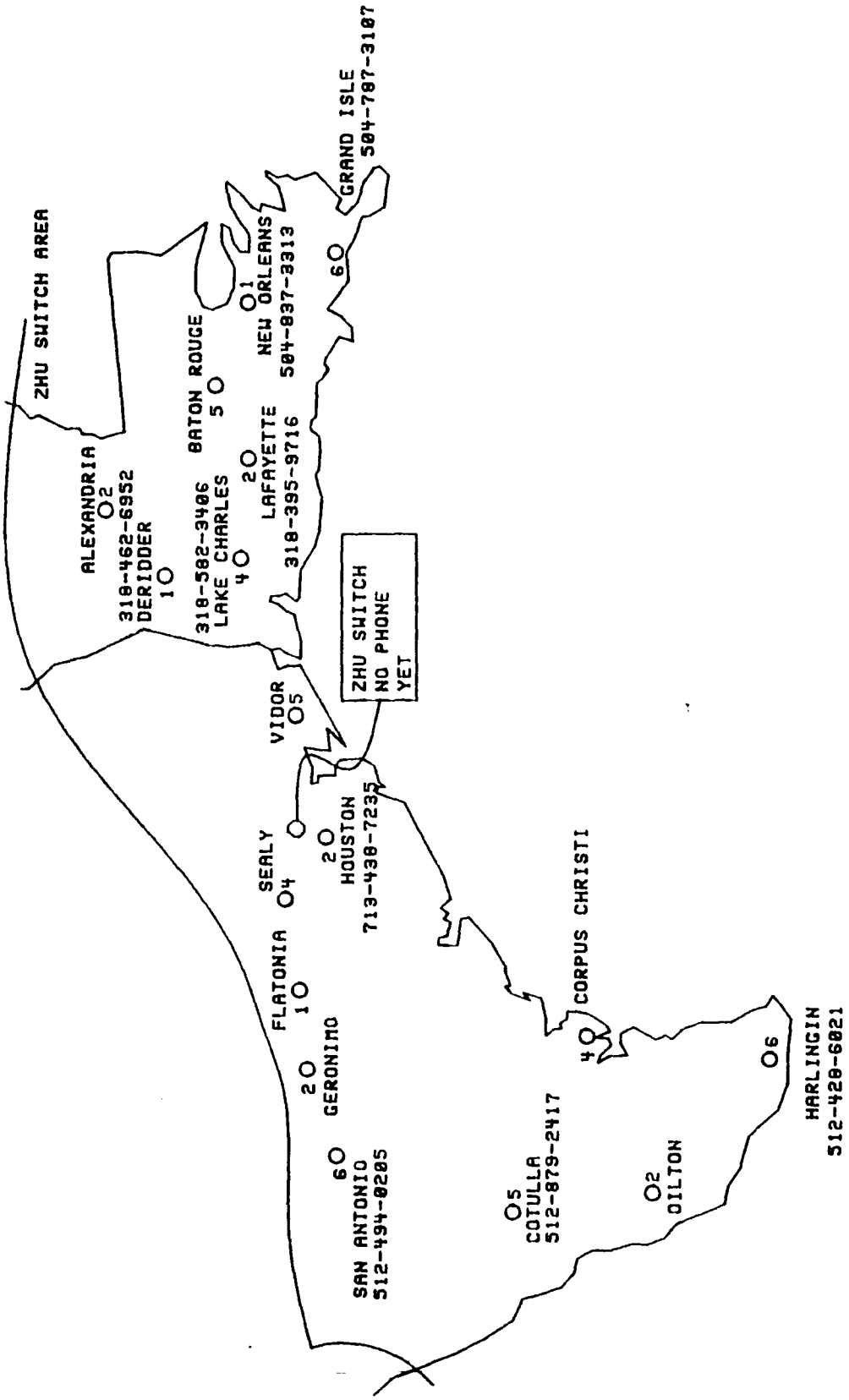


FIGURE 3. Houston Switch Area

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. 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 signal.

(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 touchtone 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 touchtone button * corresponding to the first digit of the desired telephone number. Dial the remaining digits of the telephone number at the rate of approximately one-half second on one-half second off. 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 "*."

(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 21c).

(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 21c 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 21c).

(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 21c 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/MCC	*
	*7	FSS	
	*8	ATCT	
*	*9	SFO Supervisor	*

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 procedure for using AUTO-DIAL is as follows: *

* (a) Perform steps 21c(1) through 21c(4). *

(b) Release the "*" button. Immediately (within one second) depress the touchtone 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 21c(6) through 21c(8). *

22. EMERGENCY OPERATION.

a. Introduction. The primary objective of the regional FM network, which is part of the National Radio Communications 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
National Emergency	Emergency Operating Facility
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 operator 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.