

FILED FOR RECORD: 6-23 19 83 at 9:30 o'clock A M
 DULY RECORDED: 7-19 19 83 at 9:00 o'clock A M
 INSTRUMENT NO. _____
 GRACE BOSTICK, TYLER CO. CLK.
 BY: Jean Phillips Deputy
 JEAN PHILLIPS

TYLER COUNTY COMMISSIONER'S COURT
 SPECIAL MEETING
 JUNE 17, 1983

VOL 008 PAGE 267

A Special Meeting of the Commissioners Court met on Friday, June 17, 1983 at 10:00 A. M. All members being present except Commissioner Berton A. Odom. The meeting was opened with prayer by County Judge Allen Sturrock.

A motion was made by Commissioner Riley and seconded by Commissioner Lowe to approve paying bills, as submitted by County Auditor Ann Nichol. All voted yes and none no. See Attached.

A motion was made by Commissioner Mahan and seconded by Commissioner Lowe to approve the acquisition of Right of Way on Highway 92 South, located in Precinct III, with condemnation suits to be filed against two (2) property owners, D. F. Sanders and Bill J. Sanders, 967 Orleans, Beaumont, Texas, 77701, who have refused to grant Right of Way. All voted yes and none no. See Attached.

A motion was made by Commissioner Riley and seconded by Commissioner Lowe to approve the Auditors monthly report, as presented by the County Auditor, Ann Nichol. All voted yes and none no. See Attached.

A motion was made to table accepting the one bid received from Motorola Communications and Electronics, Inc., P. O. Drawer 899, Huntington, Texas 75959, for further discussion, until a meeting can be called at a later date. All voted yes and none no. See Attached.

A motion was made by Commissioner Mahan and seconded by Commissioner Lowe to deny requests from Reverend Lum Butler for reimbursement on food and travel expense to Deep East Texas Council of Governments' meetings. This decision was reached after discussing the matter with Tyler County Attorney Joe Smith, since Reverend Butler is not a representative of Tyler County. All voted yes and none no.

A motion was made by Commissioner Riley and seconded by Commissioner Lowe to designate County Judge Allen Sturrock to represent Tyler County in applying for Aging Services for the County. All voted yes and none no.

There being no further business, the meeting adjourned.

SIGNED Allen Sturrock Allen Sturrock, County Judge

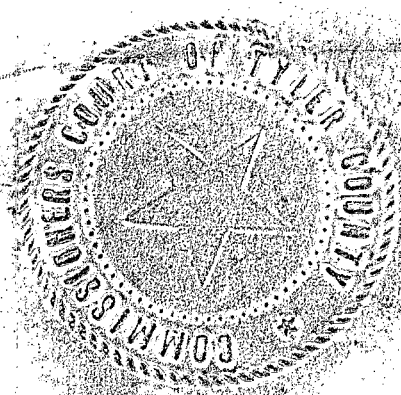
Maxie Riley Maxie Riley, Comm. Pct. #1

H. K. Lowe H. K. Lowe, Comm. Pct. #2

Jerry Mahan Jerry Mahan, Comm. Pct. #3

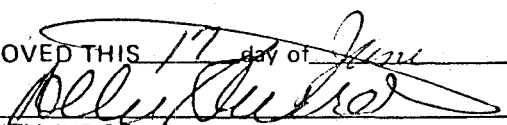
absent Berton A. Odom, Comm. Pct. #4

ATTEST Grace Bostick Grace Bostick, County Clerk



Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim
	<u>SHERIFF'S DEPARTMENT</u>		
22570	Conoco, Inc. ---	Gas	\$ 105.81
22572	Exxon Co.	Gas	298.71
22573	Gulf Oil Corp.	Gas	92.47
22581	Jackson Petroleum-Gulf	Gas	530.45
22580	J.E. Gardner Oil Co.	Gas	766.84
22603	Texaco Inc.	Gas	131.39
22582	Knapp Ford Sales	Repairs to Vehicles	173.97
22599	Smith's Service Center	Repairs to Vehicles	30.00
22611	Woodville Auto Parts	Repairs to Vehicles	485.85
22564	Bob's Prescription Shop	Photos	7.91
22610	Wal-Mart	Film & Photos	126.66
22578	Jarrots Pharmacy	Photos	4.31
22610	Wal-Mart	Jail Supplies	59.07
22578	Jarrots Pharmacy	Prisoners RX	18.56
22604	Tyler Uniform Co. Inc.	Uniforms	403.25
22565	Big Thicket Communications	Radio Maintenance	203.25
22590	Racal-Milgo	Maintenance on Teletype	147.00
22622	Southwestern Bell	Telephone	385.02
22622	Southwestern Bell	Telephone-Fire Dept.	33.59
22616	Story-Wright	Office Supplies	72.85
22633	Brookshire Bros.	Groceries-Prisoners Meals	1,138.35

5,215.31

APPROVED THIS 17 day of June, 1983

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

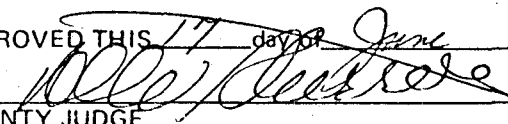
COMMISSIONER'S COURT OF June 17, 1983

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CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, General FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT BUILDING MAINTENANCE	NATURE OF CLAIM	Amount of Claim	Date Allowed
22574	Gulf States Utilities	Utilities-Radio Tower	\$ 77.42	✓
22566	City of Woodville	Courthouse Utilities	134.93	✓
22569	City of Woodville	Courthouse Utilities	248.28	✓
22521	Shepherd's Linen Supply	Janitors Uniforms	37.00	✓
22595	Sullivan's Hardware	Janitors Supplies	51.63	✓
22617	Conklin Products	Janitors Supplies	88.10	✓
22588	Phillips Heating & Aircond.	Repairs to Dist. Clerk & Tax Off.	120.44	✓
22568	Consolidated Marketing	Restroom Supplies	135.23	✓
22563	Allied Elevators, Inc.	Reparis to Elevator	440.80	✓
22571	Colliers Insurance Agency	Binder on Courthouse Insurance	59.00	✓
22635	Brookshire Bros	Janitors Supplies	213.92	✓
<u>MISCELLANEOUS</u>				
22594	Southwestern Bell Telephone	Probation Telephone-Service Chg.	48.90	✓
22602	Tyler County Booster	Advertising re Sheriff's Sale	158.13	✓
22600	Tyler County Tax Appraisel Dist.	Third Quarter Payment	11,571.54	✓
22568	Consolidated Marketing	Memo Paper	795.00	✓
22632	National Association of Counties	Association Dues	230.00	✓
<u>FOSTER CHILD CARE</u>				
22584	Mr. & Mrs. Wayne Lee	re Lorenze & Winn Childern-Care	682.00	✓

15,092.32

APPROVED THIS 17 day of June, 1983

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

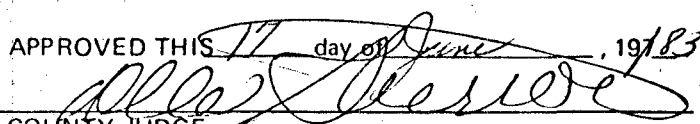
COMMISSIONER'S COURT OF June 17, 1978

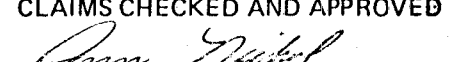
Page 3 of

CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, General FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Date Allowed
<u>AIRPORT MAINTENANCE</u>				
22597	Sam Houston Electric	Airport Utilities	\$ 221.86	✓
22622	Southwestern Bell	Telephone @ Airport	12.39	✓
<u>AGEING DEPARTMENT</u>				
22607	Woodville Auto Parts	Repairs to Mini-Bus	272.10	✓
22601	Transfer to R&B I.	Mini-Bus Gas for May	200.90	✓
22622	Southwestern Bell	Telephone	25.09	✓
<u>ALL OTHER LAW ENFORCEMENT</u>				
22574	Gulf States Utilities	Utilities @ DPS Office	49.90	✓
22622	Southwestern Bell	Telephone-DPS	122.33	✓
22622	Southwestern Bell	Telephone- P&W	22.48	✓
22586	Office Supply Center	Office Supplies	11.30	✓
22623	Rogers Office Supplies	Office Supplies	11.69	✓
<u>AUDITOR'S OFFICE</u>				
22586	Office Supply Center	Office Supplies	7.58	✓
22606	Tyler County Hospital	Binder Rings	3.80	✓
22578	Jarrotts Pharmacy	Office Supplies	1.59	✓

963.01

APPROVED THIS 17 day of June, 1978

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

COMMISSIONER'S COURT OF June 17, 1983

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CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, General FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Date Allowed
<u>AUDITOR'S OFFICE cont'd</u>				
22576	Impact Printing & Advertising	Letter head Stationary	\$ 34.25 ✓	
22616	Story-Wright	Office Supplies	10.08 ✓	
22622	Southwestern Bell	Telephone	46.10 ✓	
<u>TREASURER</u>				
22616	Story-Wright	Office Supplies	\$ 82.28 ✓	
22576	Impact Printing & Advertising	Envelopes	219.50 ✓	
22583	Lufkin Typewriter	Supplies	35.00 ✓	
22622	Southwestern Bell	Telephone	204.78 ✓	(2 mos)
<u>COUNTY ATTORNEY</u>				
22616	Story-Wright	Office Supplies	9.00 ✓	
22623	Rogers Office Supply	Office Supplies	50.40 ✓	
22579	Information Guide on Co. Govt.	Up-Date on Manual	45.00 ✓	
22618	Hart-Graphics	Printed Forms	168.89 ✓	
22583	Lufkin Typewriter	Correction Tape	11.00 ✓	
22608	West Publishing Co.	Law Books	11.00 ✓	
22622	Southwestern Bell	Telephone	64.25 ✓	
<u>COUNTY COURT</u>				
22591	Robert Mann, Atty	Court Appt'd for C. Williams	75.00 ✓	

APPROVED THIS 17 day of June, 1983

COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

COUNTY AUDITOR

1066-50

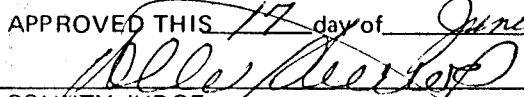
COMMISSIONER'S COURT OF June 17, 1983

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CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, General FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Date Allowed
<u>COUNTY CLERK</u>				
22623	Rogers Office Supply	Office Supplies	\$ 65.00 ✓	
22593	Stafford-Lowden Co.	Office Supplies	495.82 ✓	
22614	Xerox Corp.	Montly Lease (2 mos)	468.43 ✓	
22585	3M	Camera Cards for Machine	1,375.00 ✓	
22575	Hill Printing	Deed Recrod Binder	134.24 ✓	
22622	Southwestern Bell	Telephone	68.81 ✓	
<u>DISTRICT CLERK</u>				
22618	Hart-Graphics	Printed Forms	\$ 129.54 ✓	
22615	Xerox Corp.	Monthly Lease-Copy Machine	315.00 ✓	
22612	Walraven	Fee Books	402.59 ✓	
22593	Stafford-Lowden Co.	Office Supplies	59.05 ✓	
22623	Rogers Office Supply	Office Supplies	43.70 ✓	
22622	Southwestern Bell	Telephone	80.78 ✓	
<u>J.P. #I</u>				
22623	Rogers Office Supply	Office Supplies	\$ 111.70 ✓	
22587	Clemmons Ins. Agency	Notary Bond re J. Hart	48.00 ✓	
22583	Lufkin Typewriter	Supplies	32.00 ✓	
22622	Southwestern Bell	Telephone	83.87 ✓	

3913.53

APPROVED THIS 17 day of June, 1983

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

COMMISSIONER'S COURT OF June 17, 1978

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CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, General FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Date Allowed
22622	Southwestern Bell	Telephone- J.P. #II	\$ 15.21	
	<u>J.P. #III</u>			
22608	West Publishing Co.	Law Books	\$ 32.50	
22589	Robert James	Receipt Books	66.33	
22612	Walraven	Docket Books	375.09	
22567	Colmesneil Telephone Co.	Telephone	12.90	
22622	Southwestern Bell	Telephone-J.P. # IV	97.04	(2 mos)
	<u>DIST. ATTORNEY</u>			
22598	Shebby County Dist. Clerk	Certified Copy of Judgement & Sentence	6.00	
22622	Southwestern Bell	Telephone	120.31	
22623	Rogers Office Supply	Office Supplies	26.80	
	<u>88th JUDICIAL DIST. COURT</u>			
22622	Southwestern Bell	Dist. Judge Telephone	40.57	
22591	Robert Mann, Atty.	Court Appt'd for W.G. Sanguin	100.00	
22596	Shirley Powers	Mileage Court Reporter-1-A Jud. Dist.	319.00	
	<u>TAX OFFICE</u>			
22609	Western Data Services, Inc.	Lease of Equip-366.00, Rept-37.54	403.54	

1615.29

APPROVED THIS 17 day of June, 1978

COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

COUNTY AUDITOR

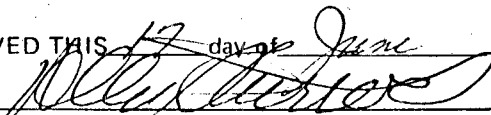
COMMISSIONER'S COURT OF June 17, 1983

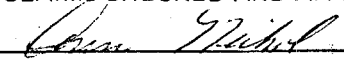
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CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, General FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Da Allow
	<u>TAX OFFICE cont'd</u>			
22623	Rogers Office Supply	Office Suppleis	327.70	✓
22622	Southwestern Bell	Telephone	108.33	✓
	<u>COUNTY EXTENSION</u>			
22622	Southwestern Bell	Telephone	149.65	✓
22623	Rogers Office Supply	Office Supplies	19.43	✓
22630	Clinton Currie	Travel Expense Jan thru May	916.43 620.00	App
22622	Southwestern Bell	Telephone-Veteran Service	23.05	✓
22622	Southwestern Bell	Telephone-Library	22.91	✓
22622	Southwestern Bell	Telephone-County Judge	138.25	✓
			1705.75	

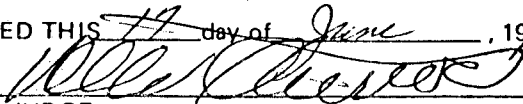
TOTAL 29,571.74

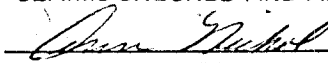
APPROVED THIS 17 day of June 1983

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, Road & Bridge I FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Da: Allow
22520	Freeman's	Culverts	\$ 749.16	
22512	Oil City Tractor	Parts	331.11	
22513	Tyler County Tractor	Parts	33.77	
22514	Durham Electric Co.	Repars & Parts	82.50	
22515	Woodville Auto Parts	Parts & Labor	497.78	
22516	Mill Master Machine Works	Parts	53.28	
22521	George P. Bane, Inc.	Parts & Freight	219.38	
22518	Jim Mahan Plumbing	Repair to busted water line	49.00	
22519	South Magnolia Gro.	Ice	25.74	
22517	Seneca Water Supply Crop.	Water @ Co. Barn	8.50	
22522	Gulf States Utilities Co.	Utilities @ Co. Barn	31.17	
22511	Jackson Petroleum-Gulf	Fuel & Oil	1,478.30	
22620	Holderman's Bldg. Center	Shovel	10.31	
		TOTAL	3,570.00	

APPROVED THIS 17 day of June, 1978

 COUNTY JUDGE

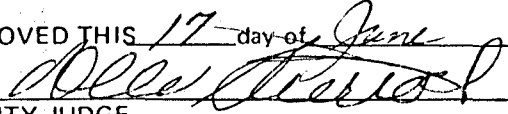
CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

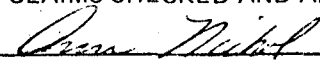
COMMISSIONER'S COURT OF June 17, 1983

Page 1 of 1

CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, Road & Bridge II FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Date Allowed
22523	Freeman's	Culverts	\$ 758.10	
22535	Jasper Creosoting Co.	Lumber & Piling	8,638.64	
22533	Thornton Hardware	Nails & Supplies	141.15	
22531	Sam Houston Electric	Utilities @ Co. Barn	7.52	
22526	Chester Water Supply	Water @ Co. Barn	9.00	
22515	Birdwell's Welding	Welding on Machinery	19.24	
22527	Woodville Auto Parts	Parts	137.50	
22528	Allen Machinery Co.	Filters	64.18	
22529	Gulf Welding Supply Co.	Rent on Bottles	61.84	
22524	J.E. Gardner Oil Co.	Fuel & Oil	1,207.91	
22534	Texaco Inc.	Gas	18.66	
22532	Hensarling's Auto Service	Tire Repair	28.10	
22530	Bob's Prescription Shop	Photo & Film	6.96	
22619	Goodyear	Tires	403.98	
		TOTAL	11,502.78	

APPROVED THIS 17 day of June, 1983

 COUNTY JUDGE

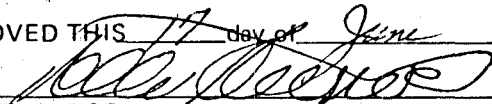
CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

COMMISSIONER'S COURT OF June 17, 1978

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CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, Road & Bridge III FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Da Allo
22537	Freeman's	Culverts	\$2,083.93	
22539	A-Z Discount Auto Parts	Parts	65.18	
22542	Mustang Tractor	Batteries	120.00	
22543	Woodville Auto Parts	Parts & Labor	129.41	
22544	Simmons Garage	Rear End & Booster Brakes	1,208.60	
22545	Jimmy's Auto Parts	Parts	63.68	
22550	Allison Chevrolet Inc.	Parts	4.32	
22536	Goodyear Auto Service Center	Tire	62.20	
22538	Owens Exxon	Tire Repair-20.00, Ice-3.00	23.00	
22548	Hensarling's Auto Service	Tire Repair	33.95	
22541	Gulf States Utilities	Utilities @ Co. Barn	48.32	
22546	Colmesneil Telephone Co.	Telephone @ Co. Barn	66.79	
22547	J.E. Gardner Oil Co.	Fuel	1,078.71	
22549	Martins Hardware	Misc. Supplies	47.53	
22540	Sullivans Hardware	Tools	41.07	
		TOTAL	5,076.69	

APPROVED THIS 17 day of June, 1978

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

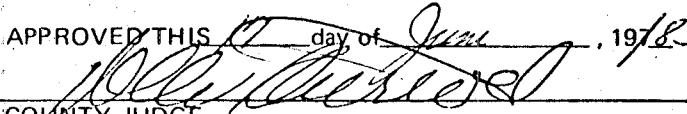
 COUNTY AUDITOR

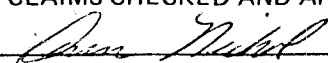
COMMISSIONER'S COURT OF June 17, 1983

Page 1 of 1

CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, Road & Bridge IV FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Date Allowed
22553	Freeman's	Culverts	\$ 312.96	
22562	Samuel Bell	Culvert	100.00	
22556	Tyler Co. Water Supply	Water @ Co. Barn	26.00	
22555	Southwestern Bell	Telephone @ Co. Barn	24.27	
22551	McInnis Hardware	Supplies	72.85	
22552	Spurger Gulf Station	Parts-80.45, Gas -14.50, Sup-16.60	111.55	
22557	J.E. Gardner Oil Co.	Gas & Oil	889.35	
22554	Fogle Equipment Co.	Parts & Supplies	34.80	
22558	Woodville Auto Parts	Parts & Repairs	396.76	
22559	Gulf Welding Supply	Oxygen & Supplies	72.32	
22560	Jasper Ford Tractor & Equip.	Parts	25.52	
22561	George P. Bane Inc.	Repairs to Equip.	125.08	
		Total	2191.46	

APPROVED THIS 17 day of June, 1983

 COUNTY JUDGE

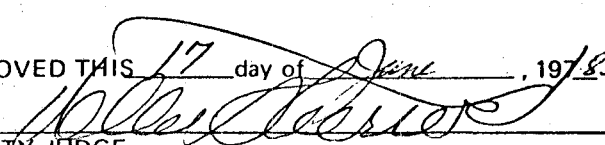
CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

COMMISSIONER'S COURT OF June 17, 1983

Page 1 of

CLAIM REGISTER AND MINUTES OF ACCOUNTS ALLOWED, See Below FUND TYLER COUNTY, TEXAS

Claim Number	NAME OF CLAIMANT	NATURE OF CLAIM	Amount of Claim	Disallowed
	<u>FEDERAL REVENUE SHARING</u>			
1658-a	Government Information Services	Subscription Renewal	58.00	
		TOTAL	58.00	
	<u>COUNTY WIDE ROW</u>			
22613	Woodville Abstract & Title Co.	Legal Services re Eaves Purchase	168.00	
22605	Tyler County Abstract Co.	Legal Services re Johnson Purchase	157.00	
22605	Tyler County Abstract Co.	Legal Services re Howard Purchase	150.00	
		TOTAL	475.00	
	<u>DIST ATTORNEY PROCESS. FUND</u>			
22625	Rogers Office Supply	Secretary Chairs	135.20	
		TOTAL	135.20	
	<u>ADULT PROBATION</u>			
22624	Rogers Office Supply	Office Supplies	19.05	
22592	Story-Wright	Office Supplies	3.24	
22577	Industrial Education Dept.	Registration to Seminar	95.00	
22594	Southwestern Bell	Telephone-Long Dist. Calls only	32.95	
		TOTAL	150.24	
	<u>JUVENILE PROBATION</u>			
22594	Southwestern Bell	Telephone-Long Dist. Calls only	29.65	
		TOTAL	29.65	

APPROVED THIS 17 day of June, 1983

 COUNTY JUDGE

CLAIMS CHECKED AND APPROVED

 COUNTY AUDITOR

TYLER COUNTY, TEXAS
WOODVILLE, TEXAS 75979
06-17-, 1983

8020-1-29

State Highway 92

Tyler County

Parcel No. 11 Pt. 1 Pt. 2 and 11(E)

VOL 008 PAGE 280

RE: Purchase of R.O.W

92 South

Dear Mr. Sanders ;

As you know, it is necessary for the State of Texas, acting through the State Department of Highways and Public Transportation, to construct a highway which requires the purchase of your property referred to above. Inasmuch as negotiations by Tyler County to purchase this property have not been successful to date, a final offer is being submitted. According to authorization by the Commissioners Court of Tyler County, Texas and the State Department of Highways and Public Transportation, you are hereby offered the total sum of \$ 2700.00 for your property rights, save and except oil, gas and sulphur rights with no right of exploration on the above described property. Any compensation that may be due you from the State Department of Highways and Public Transportation's relocation program is not included in this above figure. Such funds are paid to eligible persons separately by the Department.

If you desire to accept this offer, please advise me as soon as possible. If this offer is not accepted within five (5) days from the date of this letter, it must be considered as having been rejected. If you elect to reject this offer, eminent domain proceedings will be initiated by Tyler County. Thereafter, the Court will appoint three disinterested freeholders to serve as Special Commissioners, a date will be set for the hearing, and you will be notified of the time and place set for the hearing at which the Special Commissioners will hear the evidence presented and arrive at an award which will be filed with the Court. Tyler County may then deposit the amount of the award with the Court at which time the State will be entitled to take possession of the property involved. After the deposit is made, you may withdraw your share of the award. If either you or Tyler County is dissatisfied with the amount of the award, objections may be filed within the time prescribed by law and the case subsequently tried before the Court as in other civil cases.

Yours very truly,

Allen Starrock
for Tyler County

cc: F.C. Young
District Engineer
P.O. Box 3468
Beaumont, Texas 77704

Land Value

F.M. Hwy. 92

From F.M. 1746 North to U.S. 190

Parcel No. 11(E), D.F. SANDERS ET AL.

The value of Parcel No. 11(E) is \$ 94.50 for 0.063

acres of land and \$ 0.00 for 00.00 feet for fencing.

Land value has been determined from comparable sales submitted to Tyler County by East Texas Land Company, a copy of which is in Tyler County, Precinct III files.

Passed by Tyler County Commissioners Court this 4 day of _____
APRIL, 1983.

Land Value
F.M. Hwy. 92
From F.M. 1746 North to U.S. 190

Parcel No. 11 P1+P2, D.F. SANDERS ET AL

The value of Parcel No. ^{11 PT. 1} 11 PT. 2 is \$ ^{943.50} ~~1750.16~~ ^{62.50} ~~270~~ for ^{0.629 AC.} 0.950 AC.
acres of land and \$ ^{0.00} 0.00 for ^{11 PT. 1} 11 PT. 2 feet for fencing.

Land value has been determined from comparable sales submitted to Tyler County by East Texas Land Company, a copy of which is in Tyler County, Precinct III files.

Passed by Tyler County Commissioners Court this 4 day of _____
APRIL, 1983.

11(E)

CHANNEL EASEMENT (D.F. SANDERS ET AL)
Centerline of Channel Opposite Sta. 1146+87 Lt.
and Containing 0.063 Acres, and Recorded in
Volume

11 PT. 1

D.F. SANDERS ET AL
Sta. 1148+74 to Sta. 1151+04.17
DEED

Vol.
0.629 Acres New R.O.W.

11 PT. 2

D.F. SANDERS ET AL
Sta. 1154+80.9 to Sta. 1159+05.6
DEED

Vol.
0.950 Acres New R.O.W.

TOTAL AC. = 20.180 AC.
NEW R.O.W. = 1.579 AC.
REMAINDER = 18.601 AC.

O.P. Little Jr. to R.S. Coe and D.F. Sanders
Vol. 199 - Page 9f - September 19, 1962

R.B. Barclay to R.R. Allton
Vol. 261 - Page 709 - Aug. 5, 1969

R.R. Allton undivided 1/2 Int. to D.F. Sanders & Bill J. Sa
Vol. 262 - Page 78 - Sept. 12, 1969

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12(E) AS FOLLOWS

date Minutes
Records

tion Deed

POSED R.O.W. LINE

5.41°-08'E. 913.624'

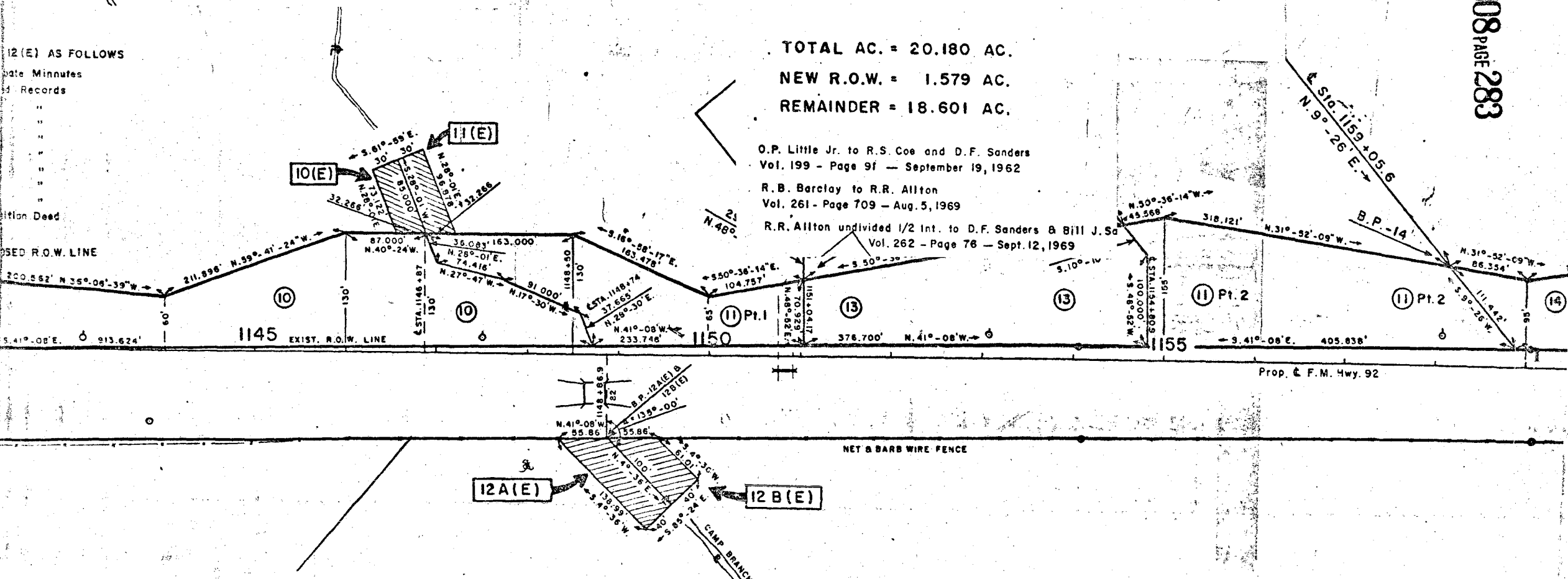
1145 EXIST. R.O.W. LINE

Prop. & F.M. Hwy. 92

NET & BARB WIRE FENCE

12A(E)

12B(E)



COUNTY AUDITORS MONTHLY REPORT
STATEMENT OF REVENUE, EXPENDITURES & CASH BALANCES
FOR THE MONTH OF May 1983

Fund	Cash Balance 5-1-83	Total Revenue	Transfers		Personel Expenditures	Operating Expenditures	Indebtedness	Cash Balance 5-31-83
			In	Out				
OPERATING FUNDS:								
General Fund.....	515,378.26	61,599.18	2936.00	178.69	73,798.14	33,582.89		472,353.72
Road & Bridge I.....	94,818.56	260.08	28,279.50	.....	10,004.87	4931.11		108,422.16
Road & Bridge II.....	119,546.19	248.53	23,821.00	.....	8380.40	6771.29		128,464.03
Road & Bridge III.....	66,803.00	340.57	33,279.61	.....	10,122.78	7540.69		82,759.71
Road & Bridge IV.....	126,294.03	409.28	30,154.50	.....	12,792.93	8036.16		136,028.72
General Road & Bridge.....	.....	24,249.72	91,106.20	115,355.92	.....	.....		.....
SPECIAL REVENUE FUNDS:								
Library Fund.....	13,339.95	122.00	.....	.....	.....	274.50		13,187.45
Revenue Sharing, General.....	37,893.73	42,997.00	.....	38,112.55	177.21	100.00		42,500.97
Revenue Sharing, Pct. I.....	(17,347.01)	.....	6918.22	.....	.....	.....		(10,428.79)
Revenue Sharing, Pct. II.....	(9,004.06)	.....	6918.22	.....	.....	.....		(2,055.84)
Revenue Sharing, Pct. III.....	(16,066.94)	.....	6918.22	.....	.....	.....		(9,148.72)
Revenue Sharing, Pct. IV.....	6,509.20	.....	6918.22	.....	.....	.....		13,427.42
Revenue Sharing, Solid Waste.....	(1,446.40)	.....	10,439.67	.....	2704.80	.....		6,288.47
CAPITOL PROJECTS FUNDS:								
Capitol Improvements fund.....	93,548.77	.....	.....	.....	.....	5024.00		88,524.77
County Wide Right-of-Way.....	44,843.40	21,603.17	.....	.....	.....	7044.90		59,401.67
DEBT SERVICE FUNDS:								
Solid Waste.....	4,152.68	83.95	.....	.....	.....	.....		4,236.63
TRUST & AGENCY FUNDS:								
County Atty. Check Proc. Fund.....	300.13	225.00	.....	.....	284.25	.....		240.88
Dist. Atty. Check Proc. Fund.....	1,155.87	165.00	.....	.....	.....	.....		1,320.87
State Cost.....	7,105.10	2376.00	.....	.....	.....	.....		9,481.10
State CVC.....	130.25	360.00	.....	.....	.....	251.75		238.50
Auto Registration.....	99,415.47	26,286.47	.....	94,042.20	.....	874.50		30,785.24
Adult Probation Fund.....	30,541.03	6,215.10	.....	.....	5760.81	254.83		30,740.49
Juvenile Probation Fund.....	2,480.85	40.05	.....	.....	1864.00	206.03		450.87
TOTAL ALL FUNDS:	1,220,392.06	187,581.10	247,689.36	247,689.36	125,890.19	74,892.65	1,207,190.32

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I hereby certify that this report is correct to the best of my knowledge and belief, according to records of my office.

Ann Nichol
Ann Nichol, Tyler County Auditor

Tyler County, Texas

General Fund

Comparison of Estimated Revenue with Actual
1983 Budget

	1983 <u>Appropriations</u>	Actual <u>Revenue</u>	Over (Under) <u>Appropriation</u>
<u>General Property Taxes:</u>			
Current Ad Valorem Taxes.....	\$ 861,905.00	\$ 828,840.92	\$ (33,064.08)
<u>Inter-Governmental Revenue:</u>			
In Lieu of Taxes.....	22,000.00	1,654.95	(20,345.05)
Voter Registration.....	8,000.00	408.40	(7,591.60)
Dept. of Public Welfare.....	5,000.00	3,322.00	(1,678.00)
COG/Ageing.....	9,000.00	4,817.40	(4,182.60)
Dist. Atty. Reimbursements...	.....	2,520.00	2,520.00
Alcoholic Beverage Tax Reimb.	.....	683.64	683.64
O.J.T. Reimbursements.....	.....	138.75	138.75
City of Woodville Reimb.....	7,500.00	366.93	(7,133.07)
Hardin Co. Contributions.....	.....	30.00	30.00
<u>Fees of Office:</u>			
Sheriff Fees.....	3,500.00	2,209.00	(1,291.00)
County Clerk Fees.....	90,000.00	39,016.15	(50,983.85)
Tax Assess/Ad Valorem Fees...	30,000.00	46,929.69	16,929.69
Tax Assess/Auto Reg. Fees....	10,000.00	-0-	(10,000.00)
Tax Assess/Sales Tax Fees....	15,000.00	7,317.09	(7,682.91)
Tax Assess/Titles.....	4,000.00	2,132.65	(1,867.35)
Dist. Clerk Fees.....	20,000.00	7,945.25	(12,054.75)
Justice-of-Peace I Fees.....	70,000.00	37,926.65	(32,073.35)
Justice-of-Peace II Fees.....	6,500.00	2,577.50	(3,922.50)
Justice-of-Peace III Fees....	14,000.00	1,675.40	(12,324.60)
Justice-of-Peace IV Fees.....	9,000.00	3,786.35	(5,213.65)
Constable Fees.....	20.00	65.00	45.00
Sanitary Landfill Fees.....	10,000.00	3,790.00	(6,210.00)
<u>Miscellaneous Revenue:</u>			
Interest on Investments.....	49,000.00	12,402.29	(36,597.71)
Impoundment of Livestock.....	.....	120.00	120.00
Petit Juror Refunds.....	.....	2,160.00	2,160.00
Ant Poison Revenue.....	.....	2,310.00	2,310.00
Payroll Deductions.....	.....	12,358.78	12,358.78
Hot Check Replacements.....	.....	5,461.09	5,461.09
Coin Station Revenue.....	33.00	21.58	(11.42)
Refunds, Sundry.....	16,000.00	1,051.78	(14,948.22)
Discontinued Funds.....	.....	39.00	39.00
Federal Reimb.-Airplane Wreck	.....	342.00	342.00
TOTAL REVENUE.....	<u>1,260,458.00</u>	<u>1,034,420.24</u>	<u>(226,037.76)</u>
<u>TRANSFERS TO:</u>			
County ROW.....	.....	( 90,000.00)	(90,000.00)
Road & Bridge I (Gas).....	.....	( 920.99)	(920.99)
<u>TRANSFERS FROM:</u>			
State Cost.....	.....	-0-	-0-
Auto Registration.....	3,000.00	11,827.00	8,827.00
TOTAL AVAILABLE RESOURCES....	<u>\$1,263,458.00</u>	<u>\$ 955,326.25</u>	<u>\$(308,131.75)</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Expenditures</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
LAW ENFORCEMENT:			
<u>Sheriff Department:</u>			
Salary, Official.....	\$ 22,047.00	\$ 9,185.00	\$ 12,862.00
Salary, Deputies.....	111,948.00	44,813.50	67,134.50
Salary, Ch. Dep. & Invest...	18,132.00	7,555.00	10,577.00
Salary, Secretary.....	9,348.00	2,906.25	6,441.75
Salary, Dispatchers.....	29,971.00	12,799.84	17,171.16
Salary, Jailers.....	26,232.00	10,823.65	15,408.35
Salary, Vac. Relief.....	2,000.00	1,101.80	898.20
Salary, Stockman.....	10,068.00	4,315.94	5,752.06
Social Security.....	15,313.00	6,298.77	9,014.23
Retirement.....	15,998.00	6,918.90	9,079.10
Hospitalization.....	17,791.00	9,718.33	8,072.67
Office Supplies.....	3,000.00	578.32	2,421.68
Gas, Oil, Grease.....	25,000.00	9,662.24	15,337.76
Tires & Tubes.....	3,000.00	618.96	2,381.04
Prisoners Meals.....	7,000.00	2,306.56	4,693.44
Repairs to Vehicles.....	6,000.00	1,937.31	4,062.69
Medical & Misc. Jail Exp....	1,500.00	667.76	832.24
Laundry, etc.....	1,000.00	80.00	920.00
Telephone.....	5,000.00	2,250.36	2,749.64
Teletype Lease.....	1,000.00	546.00	454.00
Radio Repairs.....	4,000.00	1,231.25	2,768.75
Out-of-County Travel.....	3,000.00	1,826.40	1,173.60
Liability Ins. on Vehicles...	1,000.00	1,958.00	(958.00)
Sheriffs Car Allow & Exp....	3,600.00	1,500.00	2,100.00
Uniforms.....	2,200.00	1,592.81	607.19
Film, Cameras.....	2,000.00	976.46	1,023.54
Patrol Cars.....	20,000.00	21,254.00	(1,254.00)
Grant, Law Enforcement.....	2,000.00	693.91	1,306.09
Neighborhood Watch	-0-	51.00	(51.00)
Total Sheriff Dept.....	<u>369,148.00</u>	<u>166,168.32</u>	<u>202,979.68</u>

General Fund
Statement of Estimated Expenditures with Actual

	1983 <u>Appropriation</u>	Actual <u>Expenditures</u>	(Over) Under <u>Appropriation</u>
LAW ENFORCEMENT CONTD:			
<u>Constables:</u>			
Salaries, Officials.....	\$ 10,608.00	\$ 4,420.00	\$ 6,188.00
Social Security.....	710.00	296.20	413.80
Retirement.....	743.00	350.20	392.80
Hospitalization.....	4,744.00	1,644.30	3,099.70
Car Allowance.....	7,200.00	3,000.00	4,200.00
Bond Premiums.....	100.00	85.50	14.50
Badges, Uniforms, Decals...	500.00	98.15	401.85
Emergency Equipment.....	500.00	.....	500.00
Total Constables.....	<u>25,105.00</u>	<u>9,894.35</u>	<u>15,210.65</u>
<u>All Other Law Enforcement:</u>			
Salary, Secretary.....	8,898.00	3,469.21	5,428.79
Social Security.....	596.00	232.47	363.53
Retirement.....	623.00	242.92	380.08
Hospitalization.....	1,093.00	.....	1,093.00
Telephone, DPS & P&W.....	1,500.00	712.01	787.99
Office Supplies, DPS.....	300.00	179.15	120.85
Radar Units.....	5,000.00	.....	5,000.00
Utilities	1,800.00	211.81	1,588.19
Total All Other Law.....	<u>19,810.00</u>	<u>5,047.57</u>	<u>14,762.43</u>
<u>GENERAL ADMINISTRATION:</u>			
<u>County Clerk:</u>			
Salary, Official.....	21,947.00	9,085.00	12,862.00
Salary, Chief Deputy.....	10,128.00	4,220.00	5,908.00
Salaries, Deputies.....	37,392.00	15,580.00	21,812.00
Social Security.....	4,581.00	1,935.44	2,645.56
Retirement.....	4,786.00	2,387.75	2,398.25
Hospitalization.....	7,116.00	3,088.55	4,027.45
Office Supplies.....	3,500.00	1,606.61	1,893.39
Machine Rental & Supplies..	12,000.00	3,137.44	8,862.56
Bond Premiums & Ins.....	2,000.00	611.44	1,388.56
Telephone.....	1,000.00	449.08	550.92
Travel Reimbursement.....	1,000.00	336.70	663.30
Office Equipment, Typewritr	1,000.00	.....	1,000.00
Total County Clerk.....	<u>106,450.00</u>	<u>42,438.01</u>	<u>64,011.99</u>

General Fund
Statement of Estimated Expenditures Compared with Actual
Thru the Month of May 1983

	1983 <u>Appropriations</u>	Actual <u>Expenditures</u>	(Over) Under <u>Appropriation</u>
<u>GENERAL ADMINISTRATION CONTD:-</u>			
<u>Civil Defense:</u>			
Out of County Travel.....	\$ 600.00	\$ 172.46	\$ 427.54
Purchases.....	500.00	.....	500.00
Total Civil Defense.....	<u>1,100.00</u>	<u>172.46</u>	<u>927.54</u>
<u>Veterans Service Office:</u>			
Salary, Service Officer.....	5,064.00	2,110.00	2,954.00
Social Security.....	349.00	141.35	207.65
Retirement.....	365.00	174.60	190.40
Hospitalization.....	1,186.00	348.85	837.15
Office Supplies.....	100.00	30.78	69.22
Telephone.....	200.00	133.91	66.09
Travel Reimbursement.....	300.00	48.00	252.00
Total Veterans Service.....	<u>7,564.00</u>	<u>2,987.49</u>	<u>4,576.51</u>
<u>Commissioners Court:</u>			
<u>Appropriations:</u>			
Probation Telephone.....	.....	485.53	(485.53)
Workers Compensation.....	6,890.00	2,871.20	4,018.80
Unemployment Insurance.....	10,000.00	2,284.01	7,715.99
Maternity Benefits.....	1,400.00	.....	1,400.00
DETCOF Expense.....	500.00	307.05	192.95
Adding Machine & Mimeo Paper...	1,400.00	795.00	605.00
Election Expense.....	2,500.00	.....	2,500.00
Association Dues.....	2,500.00	645.00	1,855.00
Rural Fire Protection.....	13,500.00	5,625.00	7,875.00
Advertising.....	500.00	530.15	(30.15)
Birth & Death Registrar.....	600.00	250.00	350.00
Service Contracts.....	3,000.00	3,722.10	(722.10)
Tyler Co. Appraisal Dist.....	48,000.00	23,143.08	24,856.92
Juvenile Probation Match.....	4,000.00	.....	4,000.00
Office Equipment.....	5,000.00	1,846.22	3,153.78
Repairs to Vol. Fire Equip....	2,000.00	.....	2,000.00
Hot Check Replacements.....	.....	5,461.09	(5,461.09)
Misc. Expenditures.....	.....	63.50	(63.50)
Total Commissioners App.....	<u>101,790.00</u>	<u>48,028.93</u>	<u>53,761.07</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
<u>JUDICIAL ADMINISTRATION:</u>			
District Clerk:			
Salary, Official.....	\$22,047.00	\$ 9,185.00	\$12,862.00
Salary, Chief Deputy.....	10,128.00	4,220.00	5,908.00
Salary, Deputy.....	9,348.00	3,895.00	5,453.00
Social Security.....	2,701.00	1,159.12	1,541.88
Retirement.....	2,822.00	1,431.74	1,390.26
Hospitalization.....	3,558.00	1,709.56	1,848.44
Office Supplies.....	4,000.00	755.29	3,244.71
Telephone.....	750.00	336.10	413.90
Travel.....	1,500.00	.....	1,500.00
Bond, Insurance.....	1,400.00	319.50	1,080.50
Machine Lease.....	3,200.00	1,575.00	1,625.00
Coffee for Jurors.....	200.00	30.39	169.61
Office Equipment.....	750.00	.....	750.00
Bind Books.....	1,000.00	.....	1,000.00
Total District Clerk.....	<u>63,404.00</u>	<u>24,616.70</u>	<u>38,787.30</u>
<u>88th Judicial District Court:</u>			
Salary, Juvenile Judge.....	3,348.00	700.00	2,648.00
Salary, Dist. Judge Sec.....	4,494.00	1,797.50	2,696.50
Salary, Court Reporter.....	6,936.00	2,765.00	4,171.00
Salary, Court Reporter Vac..	500.00	.....	500.00
Social Security.....	1,129.00	374.19	754.81
Retirement.....	1,179.00	444.80	734.20
To Be Appropriated.....	1,116.00	.....	1,116.00
Office Supplies.....	100.00	.....	100.00
Telephone.....	400.00	225.10	174.90
Jury Commission.....	100.00	.....	100.00
Petit Jurors.....	3,000.00	2,280.00	720.00
Grand Jurors.....	1,500.00	850.00	650.00
Judicial Dist. Expense.....	525.00	.....	525.00
Court Appointed Attys.....	3,500.00	5,139.05	(1,639.05)
Court Reporter Travel.....	400.00	.....	400.00
Court Bailiff.....	300.00	145.00	155.00
Legal Expenses.....	.....	159.00	(159.00)
Total 88th Jud. Dist.....	<u>28,527.00</u>	<u>14,879.64</u>	<u>13,647.36</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
JUDICIAL ADMINISTRATION CONTD:			
1-A Judicial District:			
Salary, Dist. Juvenile Judge...	\$ 2,832.00	\$ 1,408.00	\$ 1,424.00
Salary, Court Reporter.....	5,292.00	2,015.00	3,277.00
Salary, Court Rept. Vac. Rel...	500.00	.....	500.00
Social Security.....	544.00	229.33	314.67
Retirement.....	569.00	274.71	294.29
Office Supplies.....	100.00	.....	100.00
Court Reporter Travel.....	500.00	510.50	(10.50)
Court Bailiff.....	800.00	300.00	500.00
Petit Jurors.....	6,000.00	2,466.00	3,534.00
Court Appt. Attorneys.....	750.00	.....	750.00
Total 1-A Jud. District.....	<u>17,887.00</u>	<u>7,203.54</u>	<u>10,683.46</u>
District Attorney:			
Salary, Asst. D.A.....	6,300.00	2,362.50	3,937.50
Salary, Investigator.....	6,888.00	1,564.50	5,323.50
Salary, Bi-Co. Secretary.....	3,726.00	1,477.50	2,248.50
Salary, Tylør Co. Secty.....	4,674.00	1,947.50	2,726.50
Social Security.....	1,511.00	492.62	1,018.38
Retirement.....	1,578.00	551.91	1,026.09
Office Supplies.....	1,200.00	1,074.84	125.16
Telephone.....	1,900.00	695.03	1,204.97
Monthly Travel Allowance.....	2,400.00	750.00	1,650.00
Total Dist. Attorney.....	<u>30,177.00</u>	<u>10,916.40</u>	<u>19,260.60</u>
Justice-of-Peace, Pct. I:			
Salary, Official.....	15,216.00	6,340.00	8,876.00
Salary, Secretary.....	9,348.00	3,725.18	5,622.82
Social Security.....	1,646.00	660.32	985.68
Retirement.....	1,719.00	835.63	883.37
Hospitalization.....	2,372.00	1,100.83	1,271.17
Office Supplies.....	2,500.00	1,102.36	1,397.64
Bond Premium.....	50.00	103.50	(53.50)
Car Allowance.....	690.00	287.50	402.50
Training & Education.....	500.00	185.21	314.79
Telephone.....	900.00	437.66	462.34
Petit Jurors.....	200.00	126.00	74.00
Total J.P. I.....	<u>35,141.00</u>	<u>14,904.19</u>	<u>20,236.81</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
JUDICIAL ADMINISTRATION CONTD:			
<u>Justice-of-Peace, Pct. II:</u>			
Salary, Official.....	\$ 8,184.00	\$ 3,410.00	\$ 4,774.00
Social Security.....	548.00	228.45	319.55
Retirement.....	573.00	.....	573.00
Hospitalization.....	1,186.00	796.05	389.95
Office Supplies.....	300.00	47.90	252.10
Postage.....	90.00	.....	90.00
Bond Premium.....	36.00	106.50	(70.50)
Telephone.....	225.00	106.49	118.51
Office & Car Allowance.....	1,890.00	787.50	1,102.50
Training & Education.....	300.00	80.00	220.00
Total J.P. II.....	<u>13,332.00</u>	<u>5,562.89</u>	<u>7,769.11</u>
<u>Justice-of-Peace, Pct. III:</u>			
Salary, Official.....	8,184.00	3,410.00	4,774.00
Social Security.....	548.00	228.45	319.55
Retirement.....	573.00	279.45	293.55
Hospitalization.....	1,186.00	797.40	388.60
Office Supplies.....	600.00	92.92	507.08
Postage.....	90.00	.....	90.00
Bond Premium.....	36.00	106.50	(70.50)
Telephone.....	300.00	120.58	179.42
Office Allowance.....	1,200.00	500.00	700.00
Car Allowance.....	690.00	287.50	402.50
Training & Education.....	300.00	.....	300.00
Total J.P. III.....	<u>13,707.00</u>	<u>5,822.80</u>	<u>7,884.20</u>
<u>Justice-of-Peace, Pct. IV:</u>			
Salary, Official.....	8,184.00	3,410.00	4,774.00
Social Security.....	548.00	228.45	319.55
Retirement.....	573.00	279.45	293.55
Hospitalization.....	1,186.00	797.40	388.60
Office Supplies.....	300.00	135.10	164.90
Bond Premium.....	36.00	106.50	(70.50)
Telephone.....	350.00	176.87	173.13
Office Allowance.....	1,200.00	500.00	700.00
Car Allowance.....	690.00	287.50	402.50
Training & Education.....	300.00	77.50	222.50
Postage.....	90.00	40.00	50.00
Total J.P. IV.....	<u>13,457.00</u>	<u>6,038.77</u>	<u>7,418.23</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
<u>County Court:</u>			
Salary, Juvenile Judge.....	\$ 1,632.00	680.00	952.00
Autopsies.....	2,000.00	600.00	1,400.00
Jurors.....	450.00	140.00	310.00
Commitment Hearings.....	250.00	246.00	4.00
Court Appointed Attorneys....	500.00	250.00	250.00
Miscellaneous.....	.....	653.80	(653.80)
State of Texas vs Cain.....	.....	2,175.82	(2,175.82)
Total County Court.....	<u>4,832.00</u>	<u>4,745.62</u>	<u>86.38</u>
 <u>LEGAL ADMINISTRATION:</u>			
<u>County Attorney:</u>			
Salary, Official.....	20,847.00	8,685.00	12,162.00
Salary, Secretaries.....	14,022.00	5,842.50	8,179.50
Social Security.....	2,649.00	963.35	1,685.65
Retirement.....	2,768.00	1,180.85	1,587.15
Hospitalization.....	3,558.00	1,818.82	1,739.18
Office Supplies.....	2,000.00	495.98	1,504.02
Telephone.....	800.00	353.97	446.03
Bond Premium.....	37.00	70.00	(33.00)
Training & Education.....	400.00	.....	400.00
Total County Attorney.....	<u>47,081.00</u>	<u>19,410.47</u>	<u>27,670.53</u>
 <u>FINANCIAL ADMINISTRATION:</u>			
<u>Tax Collector:</u>			
Salary, Official.....	21,947.00	9,085.00	12,862.00
Salary, Chief Deputy.....	10,128.00	3,992.77	6,135.23
Salary, Deputies.....	37,392.00	18,823.00	18,569.00
Salary, Pt. Time.....	1,500.00	1,340.02	159.98
Social Security.....	4,581.00	2,227.25	2,353.75
Retirement.....	4,786.00	2,423.90	2,362.10
Hospitalization.....	7,116.00	3,345.45	3,770.55
Office Supplies.....	2,000.00	769.86	1,230.14
Bond Premiums.....	500.00	482.50	17.50
Telephone.....	1,200.00	584.24	615.76
Travel & Education.....	1,000.00	61.75	938.25
Data Processing Lease.....	18,000.00	2,691.15	15,308.85
Association Dues.....	200.00	145.00	55.00
Office Equipment.....	1,500.00	.....	1,500.00
Total Tax Collector.....	<u>111,850.00</u>	<u>45,971.89</u>	<u>65,878.11</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

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	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
<u>FINANCIAL ADMINISTRATION CONTD:</u>			
<u>County Judge:</u>			
Salary, Official.....	\$22,047.00	\$ 9,185.00	\$ 12,862.00
Salary, Secretary.....	9,348.00	3,895.00	5,453.00
Social Security.....	2,103.00	922.34	1,180.66
Retirement.....	2,198.00	1,137.01	1,060.99
Hospitalization.....	2,372.00	1,146.25	1,225.75
Office Supplies.....	400.00	184.80	215.20
Bond Premiums.....	100.00	106.50	(6.50)
Telephone.....	1,000.00	535.29	464.71
Out of County Travel.....	2,000.00	188.19	1,811.81
Car Allowance.....	4,200.00	1,750.00	2,450.00
Total County Judge.....	<u>45,768.00</u>	<u>19,050.38</u>	<u>26,717.62</u>
<u>County Auditor:</u>			
Salary, Official.....	21,947.00	9,085.00	12,862.00
Salary, Assistant.....	9,348.00	3,895.00	5,453.00
Social Security.....	2,023.00	869.70	1,153.30
Retirement.....	2,114.00	1,072.55	1,041.45
Hospitalization.....	2,372.00	1,589.30	782.70
Office Supplies.....	700.00	285.35	414.65
Telephone.....	700.00	190.82	509.18
Training & Education.....	800.00	520.56	279.44
Association Dues.....	50.00	75.00	(25.00)
Total County Auditor.....	<u>40,054.00</u>	<u>17,583.28</u>	<u>22,470.72</u>
<u>County Treasurer:</u>			
Salary, Official.....	21,947.00	9,085.00	12,862.00
Salary, Secretary.....	9,348.00	3,895.00	5,453.00
Social Security.....	2,023.00	869.70	1,153.30
Retirement.....	2,114.00	1,072.55	1,041.45
Hospitalization.....	2,372.00	797.40	1,574.60
Office Supplies.....	500.00	298.74	201.26
Bond Premiums.....	100.00	177.50	(77.50)
Telephone.....	600.00	361.03	238.97
Trainign & Education.....	800.00	331.61	468.39
Payroll Expense.....	600.00	.....	600.00
Postage.....	12,000.00	7,277.80	4,722.20
Total County Treasurer.....	<u>52,404.00</u>	<u>24,166.33</u>	<u>28,237.67</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
<u>HEALTH & SANITATION:</u>			
<u>County Health:</u>			
County Health Officer.....	\$ 2,400.00	\$ 1,000.00	\$ 1,400.00
Aide to Citizens.....	1,000.00	891.78	108.22
MH-MR Share of Program.....	7,067.00	7,067.00	.....
Total County Health.....	<u>10,467.00</u>	<u>8,958.78</u>	<u>1,508.22</u>
<u>Foster Child Care:</u>			
Clothing.....	1,000.00	.....	1,000.00
Court Expense.....	400.00	75.00	325.00
Room & Board.....	5,000.00	3,322.00	1,678.00
Medical Expense.....	500.00	.....	500.00
Allowance for Co. Attorney...	2,400.00	1,000.00	1,400.00
Total Foster Child Care.....	<u>9,300.00</u>	<u>4,397.00</u>	<u>4,903.00</u>
<u>Ageing Service:</u>			
Salary, Program Co-Ordinator.	5,428.00	1,625.00	3,803.00
Salary, Bus Driver.....	8,882.00	3,740.52	5,141.48
Salary, Secretary.....	4,441.00	1,836.07	2,604.93
Salary, Vac. Rel., Bus Dr....	700.00	.....	700.00
Social Security.....	1,303.00	482.55	820.45
Hospitalization.....	2,100.00	1,304.57	795.43
Office Supplies.....	300.00	42.32	257.68
Gas & Oil.....	3,000.00	101.35	2,898.65
Repairs to Vehicles.....	2,000.00	408.98	1,591.02
Medical Exams.....	20.00	.....	20.00
Training & Education.....	200.00	173.79	26.21
Utilities.....	2,000.00	759.71	1,240.29
Insurance,.....	372.00	286.00	86.00
RSVP Program.....	1,000.00	1,000.00	.....
Total Ageing Service.....	<u>31,746.00</u>	<u>11,760.86</u>	<u>19,985.14</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
<u>CONSERVATION:</u>			
<u>County Extension Office:</u>			
Salary, Farm Demon. Agent.....	\$ 3,924.00	\$ 1,635.00	\$ 2,289.00
Salary, Home Demon. Agent.....	3,924.00	1,635.00	2,289.00
Salary, Secretary	9,348.00	3,895.00	5,453.00
Social Security	626.00	234.90	391.10
Retirement	654.00	322.00	332.00
Hospitalization	1,186.00	.....	1,186.00
Office Supplies	400.00	160.03	239.97
Travel, Farm Agent	1,500.00	625.00	875.00
Travel, Home Agent	1,500.00	625.00	875.00
Telephone	1,000.00	497.66	502.34
Out-of-County Travel	1,000.00	374.95	625.05
Demonstration Supplies	240.00	45.07	194.93
Total County Extension	<u>25,302.00</u>	<u>10,049.61</u>	<u>15,252.39</u>
<u>PUBLIC FACILITIES:</u>			
<u>Building Maintenance:</u>			
Salary, Janitors.....	21,600.00	8,300.00	13,300.00
Social Security	1,447.00	556.80	890.20
Retirement	1,512.00	698.30	813.70
Hospitalization	2,372.00	1,413.00	959.00
Janitors Supplies	4,500.00	1,547.59	2,952.41
Building Insurance	5,000.00	2,436.00	2,564.00
Courthouse Utilities	15,000.00	10,830.64	4,169.36
Repairs to Building	5,000.00	1,206.07	3,793.93
Repairs to Boiler	250.00	709.24	(459.24)
Repairs to Elevator	2,500.00	736.30	1,763.70
Repairs to Jail	1,000.00	1,787.32	(787.32)
Total Building Maintenance.....	<u>60,181.00</u>	<u>30,221.26</u>	<u>29,959.74</u>
<u>Tyler County Airport:</u>			
Utilities	2,500.00	907.05	1,592.95
Insurance	600.00	525.00	75.00
Repairs	3,500.00	3,127.11	372.89
Mowing	500.00	.....	500.00
Total Airport.....	<u>7,100.00</u>	<u>4,559.16</u>	<u>2,540.84</u>

General Fund
 Comparison of Estimated Expenditures with Actual
 Thru the Month of May 1983

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	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Expenditures</u>	<u>(Over) Under</u> <u>Appropriation</u>
<u>PROBATION SERVICES:</u>			
<u>Community Services:</u>			
Gasoline.....	\$ 100.00	\$ 72.50	\$ 27.50
Liability Insurance.....	155.00	152.49	2.51
Equipment & Supplies.....	500.00	127.18	372.82
Total Community Services.....	755.00	352.17	402.83
TOTAL GENERAL FUND.....	<u>\$1,293,439.00</u>	<u>\$65,908.87</u>	<u>\$727,530.13</u>

General Road & Bridge
 Comparison of Estimated Revenue & Expenditures with Actual
 Thru the Month of May 1983

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	<u>1983</u> <u>Appropriation</u>	<u>Actual</u> <u>Revenue</u>	<u>Over (Under)</u> <u>Appropriation</u>
REVENUE:			
In Lieu of Taxes.....	860.55	860.55
Ad Valorem Taxes, Co. Special...	\$448,190.00	<u>423,478.77</u>	<u>(24,711.23)</u>
Boat Registration.....	.....	<u>55.40</u>	<u>55.40</u>
District Clerk Fines.....	13,000.00	<u>6,823.00</u>	<u>(6,177.00)</u>
County Clerk Fines.....	80,000.00	<u>36,583.75</u>	<u>(43,416.25)</u>
Interest on Investment .....	.....	3,006.28	3,006.28
TRANSFERS FROM:			
Auto Registration.....	250,000.00	<u>188,896.60</u>	<u>(61,103.40)</u>
TOTAL AVAILABLE RESOURCES.....	<u>791,190.00</u>	<u>659,704.35</u>	<u>(131,485.65)</u>
TRANSFERS TO:			
Road & Bridge I.....	192,734.68	<u>160,704.68</u>	<u>(32,030.00)</u>
Road & Bridge II.....	163,380.74	<u>136,228.94</u>	<u>(27,151.80)</u>
Road & Bridge III.....	228,254.36	<u>190,321.39</u>	<u>(37,932.97)</u>
Road & Bridge IV.....	206,820.22	<u>172,449.34</u>	<u>(34,370.88)</u>
TOTAL TRANSFERS.....	<u>\$791,190.00</u>	<u>659,704.34</u>	<u>(131,485.65)</u>

Road & Bridge I
 Comparison of Appropriations with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriations</u>	<u>Actual</u> <u>Revenue</u>	<u>Over (Under)</u> <u>Appropriation</u>
REVENUE:			
Lateral Road.....	\$ 6,820.00	\$ -0-	\$ (6,820.00)
Interest on Investments....	6,000.00	-0-	(6,000.00)
Refunds, Sundry.....	500.00	-0-	(500.00)
Payroll Deductions.....	.....	1,223.16	1,223.16
Delinquent Taxes (Sp R&B)..	.....	279.47	279.47
TRANSFERS FROM:			
From General Fund.....	.....	920.99	920.99
From General Road & Bridge.	192,734.00	160,704.68	(32,029.32)
TOTAL REVENUE COLLECTED....	<u>206,054.00</u>	<u>163,128.30</u>	<u>(42,925.70)</u>
EXPENDITURES:			
Salary, Official.....	22,047.00	9,185.00	12,862.00
Salary, Foreman.....	14,736.00	6,140.00	8,596.00
Salary, Operators (4).....	57,408.00	24,270.00	33,138.00
Social Security.....	6,311.00	2,767.77	3,543.23
Hospitalization.....	7,116.00	2,328.23	4,264.77
Retirement.....	6,593.00	3,315.94	3,800.06
Workers Compensation.....	2,000.00	1,296.30	703.70
Unemployment Insurance.....	1,200.00	196.06	1,003.94
Maternity Benefits.....	700.00	-0-	700.00
Administration.....	1,000.00	151.35	848.65
Tires, Tubes & Repairs.....	5,000.00	842.56	4,157.44
Gas, Oil, Grease.....	17,000.00	7,578.42	9,421.58
Machinery Maintenance.....	19,000.00	12,153.73	6,846.27
Culverts.....	6,000.00	5,256.53	743.47
Lumber & Hardware.....	2,000.00	43.47	1,956.53
Asphalt & Road Oil.....	10,000.00	2,567.43	7,432.57
Utilities.....	1,000.00	223.68	776.32
Miscellaneous Supplies.....	800.00	247.40	552.60
Contingency Fund.....	17,000.00	-0-	17,000.00
Truck Allowance.....	4,800.00	2,000.00	2,800.00
Liability Insurance.....	700.00	822.00	(122.00)
Sanitary Landfill.....	5,000.00	2,707.00	2,293.00
New Equipment.....	10,464.00	5,464.00	5,000.00
Interest on Equipment.....	7,008.00	7,007.96	.04
Grant Expenses.....	.....	225.00	(225.00)
TOTAL EXPENDITURES.....	<u>\$224,883.00</u>	<u>\$ 96,789.83</u>	<u>\$128,093.17</u>

Road & Bridge II
 Comparison of Estimated Revenue & Expenditures with Actual
 Thru the Month of May 1983

	<u>1983</u> <u>Appropriation</u>	<u>Actual</u> <u>Revenue</u>	<u>Over (Under)</u> <u>Appropriation</u>
<u>REVENUE:</u>			
Lateral Road.....	\$ 5,782.00	\$ -0-	\$(5,782.00)
Interest on Investments.....	6,500.00	-0-	(6,500.00)
Revenue, Sundry.....	600.00	-0-	(600.00)
Payroll Deductions.....	.....	1,101.71	1,101.71
Delinquent Taxes (Sp. R&B).....	.....	279.46	279.46
<u>TRANSFERS FROM:</u>			
General Road & Bridge.....	163,380.00	136,228.94	(27,151.06)
TOTAL AVAILABLE RESOURCES...	176,262.00	137,610.11	(38,651.89)
<u>TRANSFERS TO:</u>			
Road & Bridge III.....	.....	.....	.....
<u>EXPENDITURES:</u>			
Salary, Official.....	22,047.00	9,185.00	12,862.00
Salary, Foreman.....	14,736.00	5,980.00	8,756.00
Salary, Operators (3).....	43,056.00	17,030.00	26,026.00
Social Security.....	5,349.00	2,157.22	3,191.78
Retirement.....	5,589.00	2,682.25	2,906.75
Hospitalization.....	5,930.00	3,118.95	2,811.05
Workers Compensation.....	2,000.00	1,183.20	816.80
Unemployment Insurance.....	1,200.00	190.60	1,009.40
Maternity Benefits.....	700.00	-0-	700.00
Asphalt & Road Oil.....	2,200.00	1,031.53	1,168.47
Lumber & Hardware.....	13,200.00	1,803.00	11,397.00
Culverts.....	7,700.00	1,501.75	6,198.25
Machinery Maintenance.....	30,800.00	3,507.16	27,292.84
Gas, Oil, Grease.....	19,800.00	4,826.45	14,973.55
Tires, Tubes, Repairs.....	3,300.00	1,304.15	1,995.85
Administrative.....	2,750.00	227.25	2,522.75
Truck Allowance.....	4,800.00	2,000.00	2,800.00
Contract Labor.....	2,200.00	-0-	2,200.00
Liability Insurance.....	1,100.00	914.00	186.00
Utilities.....	770.00	213.13	556.87
Miscellaneous Supplies.....	825.00	122.98	702.02
New Equipment.....	3,850.00	2,134.50	1,715.50
Interest on Mach. Warrants..	2,828.00	1,359.57	1,468.43
Principle on Mach. Warrants.	8,084.00	-0-	8,084.00
TOTAL EXPENDITURES.....	\$204,814.00	\$ 62,472.69	\$ 142,341.31

Road & Bridge III
 Comparison of Estimated Revenue & Expenditures with Actual
 For the Month of May 1983

	1983 Appropriation	Actual Expenditure	Over (Under) Appropriation
REVENUE:			
Lateral Road.....	\$ 8,078.00	\$ -0-	\$ (8,078.00)
Interest on Investments....	6,100.00	-0-	(6,100.00)
Refunds, Sundry.....	600.00	23.00	(577.00)
Payroll Deductions.....	.....	1,566.92	1,566.92
Delinquent Taxes.....	.....	279.44	279.44
TRANSFERS FROM:			
General Road & Bridge.....	228,254.00	190,321.39	(37,932.61)
Road & Bridge II.....	.....	.....	.....
Road & Bridge IV.....	.....	.....	.....
TOTAL AVAILABLE RESOURCES..	<u>243,032.00</u>	<u>192,190.75</u>	<u>(50,841.25)</u>
EXPENDITURES:			
Salary, Official.....	22,047.00	9,185.00	12,862.00
Salary, Foreman.....	14,736.00	6,140.00	8,596.00
Salary, Operators (5).....	74,081.00	33,356.90	40,724.10
Social Security.....	8,234.00	3,268.58	4,965.42
Retirement.....	8,603.00	3,312.26	5,290.74
Hospitalization.....	8,302.00	4,095.02	4,206.98
Workers Compensation.....	4,000.00	2,166.00	1,834.00
Unemployment Insurance.....	2,000.00	277.44	1,722.56
Maternity Benefits.....	700.00	-0-	700.00
Asphalt & Road Oil.....	4,000.00	1,990.00	2,010.00
Lumber & Hardware.....	3,000.00	757.36	2,242.64
Culverts.....	5,989.00	3,253.59	2,735.41
Machinery Maintenance.....	20,000.00	8,306.19	11,693.81
Tires, Tubes, Repairs.....	3,000.00	2,959.56	40.44
Administrative.....	1,500.00	99.73	1,400.27
Contract Labor.....	.....	-0-	-0-
Liability Insurance.....	3,500.00	2,181.00	1,319.00
Gas, Oil, Grease.....	30,000.00	12,258.19	17,741.81
Truck Allowance.....	4,800.00	2,000.00	2,800.00
Utilities.....	1,700.00	775.43	924.57
Miscellaneous Supplies.....	1,200.00	116.85	1,083.15
Interest on Mach. Warrants.	8,229.00	8,228.38	.62
Principle on Machine Warr..	4,542.00	4,542.00	-0-
New Equipment .....	.....	1,586.11	(1,586.11)
TOTAL EXPENDITURES.....	<u>\$234,163.00</u>	<u>\$110,855.59</u>	<u>\$123,307.41</u>

Road & Bridge IV
 Comparison of Estimated Revenue & Expenditures with Actual
 For the Month of May 1983

	1983 <u>Appropriation</u>	Actual <u>Revenue</u>	Over (Under) <u>Appropriation</u>
REVENUE:			
Lateral Road.....	\$ 7,319.00	\$ -0-	\$ (7,319.00)
Interest on Investments....	12,000.00	-0-	(12,000.00)
Refunds, Sundry.....	1,500.00	200.00	(1,300.00)
Payroll Deductions.....	.....	1,371.26	1,371.26
Delinquent Taxes.....	.....	279.44	279.44
TRANSFERS FROM:			
General Road & Bridge.....	206,820.00	172,449.34	(34,370.66)
TOTAL AVAILABLE RESOURCES..	<u>227,639.00</u>	<u>174,300.04</u>	<u>(53,338.96)</u>
TRANSFERS TO:			
Road & Bridge III.....	.....	.....	.....
EXPENDITURES:			
Salary, Official.....	22,047.00	9,185.00	12,862.00
Salary, Foreman.....	14,736.00	6,140.00	8,596.00
Salary, Operators (6).....	86,112.00	34,684.00	51,428.00
Social Security.....	8,234.00	3,350.86	4,883.14
Retirement.....	8,603.00	4,079.93	4,523.07
Hospitalization.....	9,488.00	3,480.64	6,007.36
Workers Compensation.....	3,000.00	2,170.10	829.90
Unemployment Insurance.....	1,500.00	216.14	1,283.86
Maternity Benefits.....	700.00	-0-	700.00
Asphalt & Road Oil.....	3,000.00	1,599.14	1,400.86
Lumber & Hardware.....	2,500.00	987.70	1,512.30
Culverts.....	3,500.00	713.20	2,786.80
Machinery Maintenance.....	20,000.00	5,853.48	14,146.52
Gas, Oil, Grease.....	20,000.00	6,967.23	13,032.77
Tires, Tubes, Repairs.....	3,500.00	453.32	3,046.68
Contingency Fund.....	10,000.00	-0-	10,000.00
Administrative.....	1,000.00	106.50	893.50
Truck Allowance.....	4,800.00	-0-	4,800.00
Misc. & Utilities.....	1,500.00	570.56	929.44
Liability Insurance.....	1,200.00	1,011.00	189.00
Contract Labor.....	1,500.00	368.00	1,132.00
New Equipment.....	32,000.00	34,134.50	(2,134.50)
Interest on Machin. Warrants	3,392.00	3,391.20	.80
TOTAL EXPENDITURES.....	<u>\$262,312.00</u>	<u>\$119,462.50</u>	<u>\$142,849.50</u>

RADIO COMMUNICATIONS
SYSTEM BID FOR
TYLER COUNTY
COMMISSIONERS COURT



MOTOROLA Communications and Electronics Inc.

Address Reply to:
MOTOROLA C&E, INC.
Attention: KEITH DENBY
P. O. Drawer 899
HUNTINGTON, TX. 75949

June 16, 1983

Tyler County Commissioners Court
100 Courthouse
Woodville, Texas 75979

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Gentlemen:

Motorola Communications and Electronics, Inc. is pleased to submit the attached response to your request for bids for a two-way radio system for Tyler County. Motorola's turn-key bid price for the Tyler County Commissioners Court system as specified is \$23,984.30. Motorola's bid is to supply a complete turn-key system, and is composed of 1) an equipment list and bid price, 2) terms and conditions, and 3) technical brochures and warranty information. Motorola has provided an alternate bid price on item #2 for your consideration, and also requests that side arm extension bracket distance be reduced from 6 feet to 3 feet to reduce tower loading.

Parts and labor warranty repair service will be provided by Big Thicket Communications, P. O. Box 5939, 103 West Houston, Jasper, Texas 75951 which is owned and operated by Mr. Ed Phillips. Big Thicket Communications is authorized by Motorola to provide installation, warranty repair and parts replacement, general service and ongoing maintenance service of Motorola two-way FM radio equipment.

Thank you for your consideration of this bid proposal.

Respectfully yours,
MOTOROLA COMMUNICATIONS AND
ELECTRONICS, INC.

Keith Denby, Account Executive
Government Markets Division

KD/pd

CC. Jim Murphy, District Sales Manager, Motorola, Houston

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MOTOROLA

World Leader in Electronic Communication Systems for Public Service and Industry



EQUIPMENT LIST AND BID PRICE FOR TYLER COUNTY COMMISSIONERS RADIO SYSTEM

<u>Item#</u>	<u>Quantity</u>	<u>Model# and Description</u>	<u>Unit Price</u>	<u>Extended Price</u>	<u>Remarks</u>
1	1	C73GSB3105-T/C182/C149/ TDN6597-220/TDD6760/ TLN5935/C71 MOTOROLA 110 watt VHF MSR2000 D.C. remote control repeater with PRIVATE-LINE tone-coded squelch, time-out-timer, duplexer, 220' of 1/2" low density foam coaxial transmission line, side mount bracket for extension three feet from side of tower, metering kit, 6dB gain omni-directional base station antenna, installation of all items, 1 year parts and labor warranty on repeater and duplexer, and 1 year parts warranty on antenna, coaxial transmission line, and base station antenna.	\$5,444.55	\$5,444.55	
2	1-4	T83SRA3800-K/W83/W357/ W429/W544 MOTOROLA 110 watt VHF SYNTOR 12 channel mobile radio with 12 channels active, MULTIPLE PRIVATE-LINE tone- coded squelch, wide space transmit capacity, 8 channel non-priority channel scan, 15 watt receive audio at less than 3% distortion, speaker, heavy duty microphone, mounting accessories, 3dB gain heavy duty spring loaded antenna, installation, and 1 year parts and labor warranty.*	\$1,559.00	\$6,236.00	extended price is based on 4 units, unit price is valid for as many units as are required.



<u>Item#</u>	<u>Quantity</u>	<u>Model# and Description</u>	<u>Unit Price</u>	<u>Extended Price</u>	<u>proposal Remarks</u>
2A	1-4	Same as item# 2, but with single PRIVATE-LINE	\$1,504.00	\$6,016.00	
3	7-10	T83JJA3900-K/W544 MOTOROLA 110 watt VHF MITREK 4 channel mobile radio with 2 channels active, PRIVATE-LINE tone- coded squelch, 10 watt receive audio at less than 3% distortion, weatherproof speaker, microphone control head and radio, 3dB gain heavy duty spring loaded mobile antenna, installation and 1 year parts and labor warranty.*	\$1,121.00	\$7,847.00	extended price is based on 7 units, unit price is valid for as many units as are required
4	1	H33HMB3124-N/H202/ NLN7646 MOTOROLA 5 watt VHF HT90 2 channel radio with 2 channels active, PRIVATE-LINE tone-coded squelch, heliflex antenna, urethane carrying case, 1 hour charge nickel- cadmium rechargeable battery, 1 hour rapid rate desktop charger, and 1 year parts and labor warranty.	\$750.00	\$750.00	
5	1	MBT43CUA7A00-K/ MBTKN8199/TDN6597-80/ TDD6730/TPN1154 MOTOROLA 30 watt VHF MCX100 control station with 9 channel capacity, 9 channels installed, wide-space transmit capability, PRIVATE-LINE tone-coded squelch, desk microphone, power supply, 3dB gain base station antenna, 120' of 1/2" low density foam coaxial transmission line, installation, 1 year parts and labor warranty on control station, and 1 year parts warranty on coaxial transmission line and base station antenna.	\$2,266.75	\$2,266.75	



<u>Item#</u>	<u>Quantity</u>	<u>Model# and Description</u>	<u>Unit Price</u>	<u>Extended Price</u>	<i>proposal</i> <u>Remarks</u>
6	1	Radio tower space rental at the 200 foot level to meet provisions of FCC license. See attached contract for 3 year period. Rental shall include tower space, building space and electricity, and proper maintenance of the radio tower by Rental Towers, Inc. It is understood that Tyler County shall be responsible for maintenance and repair of radio equipment per costs quoted in this bid or through other means, and for all labor costs associated with maintenance, repair or replacement of coaxial transmission line, mounting and fastening items and radio antennas.	\$1,440.00	\$1,440.00	

SUBTOTAL USING ITEM 2	\$23,984.30
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SUBTOTAL USING ITEM 2A	\$23,764.30
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DELIVERY	NO CHARGE
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TAX	<u>EXEMPT</u>
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TOTAL USING ITEM 2	\$23,984.30
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TOTAL USING ITEM 2A	\$23,764.30
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* One year parts and labor warranty provides no insurance to cover loss due to theft, abuse, or Acts of God. One year parts and labor warranty does not cover replacement of damaged mobile or portable radio antennas.

Under this proposal, work on mobile and portable radios will be performed by Big Thicket Communications in Jasper during normal working hours - Monday through Friday, 8:00 a.m. til 4:30 p.m. Mobiles and portables are to be brought to the shop for service.



Also, Big Thicket Communications will provide service on the repeater and control station. Work on the repeater will be performed on a 24 hour-a-day, seven days a week basis, while work on the control station will be Monday through Friday, 8:00 a.m. til 4:30 p.m. Work will be performed on site if possible, but major repair may require that the units be taken back to the shop. Every effort will be made to try to keep downtime to the minimum possible.

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MOTOROLA

World Leader in Electronic Communication Systems for Public Service and Industry



TERMS AND CONDITIONS

proposal

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A. Delivery

All items will be delivered F.O.B. Destination to Big Thicket Communications in Jasper, Texas, within 70 days after receipt of order. Shipment will be via best way surface.

B. Payment Terms

Motorola's requested terms of payment are net 30 days items as shipped.

C. Installation

Installation of repeater, control station and mobile radios will be performed by Big Thicket Communications of Jasper. Repeater and control station will be installed at sites designated by Tyler County Commissioners Court. Installation of mobile radios will be performed at Big Thicket Communications of Jasper, except maintainers will be installed at designated Precinct Barns. Installation of coaxial transmission line and antenna for control station and repeater will be performed by Tower Specialists, Inc. of Nacogdoches. Installation will commence upon receipt of all equipment, and will be completed in a timely fashion with consideration for scheduling of vehicle availability, and weather conditions. Installation should be completed within three weeks after receipt of all equipment.

Price of installation of control station assumes that coaxial cable can be routed to roof of courthouse through a window opening.

D. Warranty

Motorola's Standard Commercial Warranty is attached. Additional Parts and Labor Warranty will be provided via a Motorola Service Agreement, a copy of which is attached.

E. Radio Tower Rental Agreement

See Attachment

F. Price Validity

Price quoted in this proposal shall remain open to Tyler County Commissioners Court for purchase of additional units as required for a period of 90 days from June 17, 1983, or for a period of 30 days after system installation is complete, whichever is longer. However, this period shall not extend past October 31, 1983 without Motorola's written consent.

Commercial Warranty

(STANDARD)

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Motorola radio communications products are warranted to be free from defects in material and workmanship for a period of ONE (1) YEAR, except for crystal devices and channel elements which are warranted for a period of ten (10) years, from the date of shipment. Parts, including crystals and channel elements, will be replaced free of charge for the full warranty period but the labor to replace defective parts within the original shipped products plus travel costs for work on non-movable installed equipment will only be provided for One Hundred Twenty (120) days from the date of shipment. After said 120 days, Buyer must pay for the labor involved in repairing the product or replacing the parts at the prevailing rates together with any travel or transportation charges to or from the place where warranty service is provided. This express warranty is extended by Motorola Communications and Electronics, Inc., 1301 E. Algonquin Road, Schaumburg, Illinois 60196, to the original buyer only, and only to those purchasing for purpose of leasing or solely for commercial, industrial, or governmental use.

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED WHICH ARE SPECIFICALLY EXCLUDED, INCLUDING WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL MOTOROLA BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.

In the event of a defect, malfunction or failure to conform to specifications established by Seller, or if appropriate, to specifications accepted by Seller in writing, during the applicable periods stated above, Seller, at its option, will either repair or replace the product or refund the purchase price thereof, and such action on the part of Seller shall be the full extent of Seller's liability hereunder, and Buyer's exclusive remedy. This warranty shall automatically terminate if:

- a. the product is used in other than its normal and customary manner;
- b. the product has been subject to misuse, accident, neglect or damage;
- c. improper alterations or repairs have been made, or if nonconforming parts are used in the product unless done by a service facility authorized by Seller to perform warranty service.

This warranty extends only to individual products; frequency sensitive components, towers, vidicon tubes, test equipment, and batteries are excluded but carry their own separate limited warranty. Because each radio system is unique, Seller disclaims liability for range, coverage, or operation of the system as a whole under this warranty except by a separate written agreement signed by an officer of Seller.

Non-Motorola manufactured products are excluded from this warranty (unless bearing a Motorola Part Number in the form of an "alpha-numeric number"; i.e. TDE6030B) but such products are subject to the warranty provided by their manufacturers, a copy of which will be supplied to Buyer on specific written request.

Any claim for breach of this warranty shall be waived unless Buyer notifies Seller's salesperson or Seller at the above address, Attention: Quality Assurance Department, within the applicable warranty period.

This warranty applies only within the 50 United States.

Revised date: 5/1/81
RO-O-10A
54C82256B88



MOTOROLA

Communications and Electronics Inc.

RADIO TOWER RENTAL AGREEMENT

STATE OF Texas

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COUNTY OF Nacogdoches

In consideration of the covenants herein contained between Rental Towers, Inc., herein referred to as "Owner", and Tyler County, herein referred to as "User", and the rentals agreed to be paid, the parties mutually agree as follows:

I.

Owner hereby grants permission to install and operate the following described radio communications equipment on or in Owner's radio tower facility located 3.5 miles North of Woodville, TX & .5 miles West of HWY 69 (premises).

- A. A ASP712 (type and size) antenna at the 200 foot AGL level of the tower.
- B. Flexible coaxial transmission line between antenna and radio equipment which shall be anchored firmly to the tower.
- C. Radio communications equipment consisting of transmitter, receiver and accessories to be installed in Owner's equipment house near base of tower, such transmitter to be a Motorola operating on a frequency of 156.195 and using call letters KNGA 813 assigned by the Federal Communications Commission.

II.

Owner agrees that, during the term of this contract, User shall have reasonable ingress and egress to said tower for the purpose of maintenance and repair to said equipment. It is further agreed, however, that only qualified contractors approved by Owner, or persons under Owner's direct supervision, will be permitted to install or remove antenna or coax cable.

III.

User covenants and agrees that User's equipment, its installation, and maintenance will:

- A. In no way damage the building or tower structure and accessories thereto.
- B. Not interfere with the maintenance of Owner's tower and the tower lighting system.
- C. Not interfere with the operation of Owner's radio equipment or the radio equipment of other Users on said tower. In the event there is interference, User will promptly take all steps necessary to correct and eliminate such interference. If said interference cannot be eliminated within a reasonable period of time, User agrees to remove his equipment from Owner's property and this agreement shall thereupon be terminated.
- D. Comply with all applicable rules and regulations of the Federal Communications Commission, and electrical codes of the City and/or State concerned.
- E. Special Conditions:

IV.

The term of this agreement shall commence on the VOL 008 PAGE 314 1st day of August, 19 83, and run for a period of 3 years/0 months, and shall continue thereafter until terminated by either party upon the giving of at least 90 days written notice of termination to the other party. Should User desire to terminate this Rental Agreement at the end of the initial term or thereafter, User shall give the notice aforesaid and will remove all properties installed on Owner's premises and leave said premises in substantially the same condition existing as of the date of this agreement, ordinary wear and tear and occurrences for which User is not responsible hereunder excepted.

V.

User hereby covenants and agrees to pay as rental during the initial term of this agreement the total sum of \$1,440.00, payable monthly in advance in the amount of \$ 40.00 each the first such payment due upon the execution hereof and a like payment due on each and every month of the term of the agreement. User agrees that the rental payments shall be due and paid without the necessity of demand of invoice from Owner, and User further agrees to pay an additional charge of \$ 5.00 for each payment made after due date.

The rental payments provided for hereunder will include the furnishing of power to User's equipment. In the event said payments include the furnishing of power, then the User agrees that the Owner will in no way be responsible for power interruptions or outages.

VI.

During the term of this Rental Agreement, Owner will not grant a similar radio tower rental agreement to any other party if such grant would in any way affect or interfere with User's use of said radio equipment. User shall not assign or sublet its rights hereunder, nor change the frequency power or character of its equipment without first obtaining the written consent of Owner.

VII.

User does hereby agree to indemnify and save Owner harmless from any claims, demands, or causes of action for property damage or personal injuries caused by the User, the User's officers, agents, employees, subcontractors, and customers, arising out of User's occupancy of the premises or the installation, maintenance and operation of User's equipment except only damages caused solely by the negligence of Owner. The parties hereto agree that Owner shall in no way be liable for loss of use or other damage of any nature arising out of the loss, destruction or damage to the premises, the tower, equipment building or to User's equipment located thereon, by fire, explosion, windstorms, water or any other casualty or acts of third parties. In the event the tower or other portions of the premises are destroyed or so damaged as to be unusable the Owner shall be entitled to elect to cancel and terminate this agreement, or in the alternative may elect to restore the premises in which case the User shall remain bound hereby but shall be entitled to an abatement of rentals during the loss of use.

VIII.

The following shall be considered events of default by the Users:

- A. The failure to pay rentals required hereunder when due.
- B. The failure to cure, within 30 days after written notice thereof, any breach of the promises, undertakings and terms and conditions in this agreement.
- C. The filing of a voluntary petition under the bankruptcy laws, a composition or arrangement of creditors, an assignment for the benefit of creditors, or any other act reasonably indicating equitable or legal insolvency.
- D. Abandonment of the premises.

In the event an event of default shall occur or in the event the User shall otherwise breach or fail any of its undertakings or obligations hereunder, Owner shall be entitled, at Owner's option, to remove all property and equipment of User which may be situated upon the premises, without notice and without being guilty or liable in any manner for trespass, thereby terminating this agreement, or the Owner, at its option, may elect to treat this agreement in full force and effect and shall be entitled to collect the rentals provided for hereunder; cumulative and in addition to the foregoing, the Owner shall be entitled to enforce all other remedies provided at law or in equity. To secure the performance of its undertakings hereunder, User hereby grants to Owner a landlord's lien and security interest in and to User's property and equipment situated upon the premises, and agrees that in the event of default and foreclosure of such lien and security interest, such property may be disposed of in any commercially reasonable manner and the proceeds distributed in accordance with Chapter 9 of the Uniform Commercial Code.

IX.

All notices and other communications required or permitted hereunder and tender of payment of rentals due hereunder shall be considered properly given or made when deposited with the U.S. Postal Service, properly addressed and bearing sufficient postage, but shall only be considered to be effective when actually received. The addresses of the parties for all purposes hereof shall be as follows:

Owner: RENTAL TOWERS, INC.
2729 Douglass Rd.
Nacogdoches, Texas 75961

User: _____

EXECUTED AT _____, this _____ day of _____, 19_____.

OWNER: Rental Towers, Inc.
By: _____

Title

USER: _____
By: _____

Title

This SERVICE AGREEMENT is subject to these terms and conditions:

(1) **Definitions.** For the purpose of brevity and uniformity all references to Motorola in this agreement will be construed to mean Motorola Communications & Electronics, Inc. All references to Licensee shall be construed as meaning and applying to FCC Licensee, or the User, or the Purchaser of the equipment to be serviced by the terms of this agreement.

(2) **Work.** Motorola Communications & Electronics, Inc. (herein called Motorola) agrees to provide service for the Licensee of the equipment described on the sales order number referenced on the reverse side of this agreement beginning and ending on the dates indicated if the Licensee makes the payments herein specified. Mobile units will be removed and reinstalled in different vehicles at Licensee's request at the prices prevailing at that time. This agreement does not include service of any transmission line, antenna, tower or tower lighting, unless such work is described on the reverse side of this agreement. Such service may be furnished upon request at mileage, material and labor rates prevailing at the time of each call. Service shall include the labor and parts required to repair equipment which has become defective through normal wear and usage. Service does not include the repair or replacement of equipment which has otherwise become defective, including, but not limited to, damage caused by accidents, physical abuse or misuse of the equipment, acts of God, and fires. Upon receipt of a written request from Licensee, Motorola will maintain units identical with any units covered by this agreement for the same monthly service fees and on the same terms and conditions set forth herein. In the event of loss, damage or theft or removal from service of any units, the Licensee shall immediately report said loss, damage or theft or removal to Motorola. In this event Licensee's obligation to pay service fees with respect thereto shall terminate at the end of the month in which Motorola receives said report.

(3) **Service standards.** The equipment will be serviced by Motorola or its subcontractor in accordance with these standards; (i) Motorola parts or parts of equal quality will be used; (ii) oil, water, dust and foreign substances will be removed from the equipment; (iii) the equipment will not be subject to mechanical abuse; (iv) the equipment will be serviced at levels necessary to provide the required communications; (v) routine service procedures prescribed from time to time by Motorola for its equipment will be followed; and (vi) all service work will be done by a qualified person or agency. The equipment will be inspected and adjusted periodically and as often as required.

(4) **Time and place of service work.** Service work on the base stations and other fixed equipment shall be performed at the location of the equipment, and the Licensee shall furnish heat, light and power at these locations. Mobile units and removable equipment shall be delivered by the Licensee to the place of service indicated on the reverse side of this agreement. The Licensee shall give the Motorola Service Station at least two days' notice prior to delivery of a mobile unit for reinstallation.

(5) **Payment.** On or about the date each payment is due as set forth on the reverse side of this agreement Motorola will send the Licensee an invoice covering the monthly service fees for the next Payment Period plus all other charges for the preceding Payment Period, and the Licensee shall pay the amount of said invoice within ten (10) days of its date to Motorola at the Motorola Area Office. Each invoice shall be due and payable whether or not the equipment is operating, and Motorola may terminate this agreement by giving the Licensee ten (10) days notice by certified mail if the Licensee defaults in its payment to Motorola. The Licensee shall reimburse Motorola for all property taxes, sales and use taxes, excise taxes, and other taxes or assessments now or hereafter imposed by authority of any Federal, State or local law, rule or regulation with respect to the service of the equipment except Federal income and profits taxes of Motorola and State income and franchise taxes of Motorola.

(6) **Revision of fees.** After the "Date Service Ends" indicated on the reverse side of this agreement, Motorola may at any time revise the monthly service fees set forth on the reverse side hereof by giving the Licensee written notice of the amount of the increase at least 60 days in advance of the date on which the increased fees are to become effective.

Upon receipt of any such notice, Licensee may terminate this agreement as provided herein; otherwise the new fees shall become effective on the date specified in any such notice. In the event of termination as herein provided, all accrued and unpaid charges shall be due and payable forthwith.

(7) **Right to subcontract.** Motorola shall have the right to subcontract in whole or in part the service work called for by this agreement. However, Motorola shall not be relieved of any liability under this agreement on account of a subcontract. Motorola will notify the Licensee of the name and address of each subcontractor.

(8) **FCC records.** Applications and statements of facts when required by the Federal Communications Commission must be subscribed and sworn to by the Licensee, and the Licensee is responsible for meeting FCC requirements. However, Motorola will provide the Licensee with forms, advice, and technical assistance, including frequency, modulation and power measurements, to aid in meeting these requirements.

(9) **Automatic Renewal.** After the "Date Service Ends" indicated on the reverse side of this agreement, this agreement shall continue for successive additional periods of 1 month, provided that either Motorola or the Licensee may terminate this agreement on the "Date Service Ends" or thereafter upon 30 days written notice to the other party sent by certified mail to the address indicated hereon.

(10) **Interruption of service.** The Licensee shall notify the subcontractor in the event of the failure of any unit. If the subcontractor fails to repair the unit within a reasonable time, the Licensee shall notify the Motorola Area Office in writing. After said notice from the Licensee to the subcontractor and to the Motorola Area Office, Motorola shall be liable for any interruption or interference affecting the use of or transmission through the equipment maintained to the extent of a pro rata allowance based on the monthly service fee for the time such interruption or interference is attributable to the fault of Motorola or its subcontractor. Motorola does not assume and shall have no liability under this agreement for failure to provide or delay in providing service for the equipment due directly or indirectly to causes beyond the control and without the fault or negligence of Motorola, including, but not restricted to, acts of God, acts of the public enemy, acts of the United States, any State, Territory of the United States, or any political subdivision of the foregoing, or the District of Columbia, acts of the Licensee, its agents, employees, or subcontractors, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather conditions, or defaults of Motorola subcontractors due to any such causes.

(11) **Laws and Regulations.** This agreement and the rights and obligations of the parties under it are subject to present and future valid orders and valid laws, rules and regulations of duly constituted authorities having jurisdiction.

(12) **Waiver.** Failure or delay on the part of Motorola or the Licensee to exercise any right, power or privilege hereunder shall not operate as a waiver thereof.

(13) **Prior negotiations.** This contract constitutes the entire agreement of the parties hereto and shall supersede all prior offers, negotiations and agreements.

(14) **Amendment.** No revision of this agreement shall be valid unless made in writing and signed by an Area Service Manager of Motorola and an authorized agent of the Licensee.

(15) **Assignment.** No assignment or transfer in whole or in part of this agreement shall be binding upon Motorola without its written consent. Licensee agrees and consents to the assignment of this agreement by Motorola Communications and Electronics, Inc., to Motorola Inc., and Motorola Communications and Electronics, Inc. hereby makes such assignment. All references to "Motorola" shall include Motorola, Inc.



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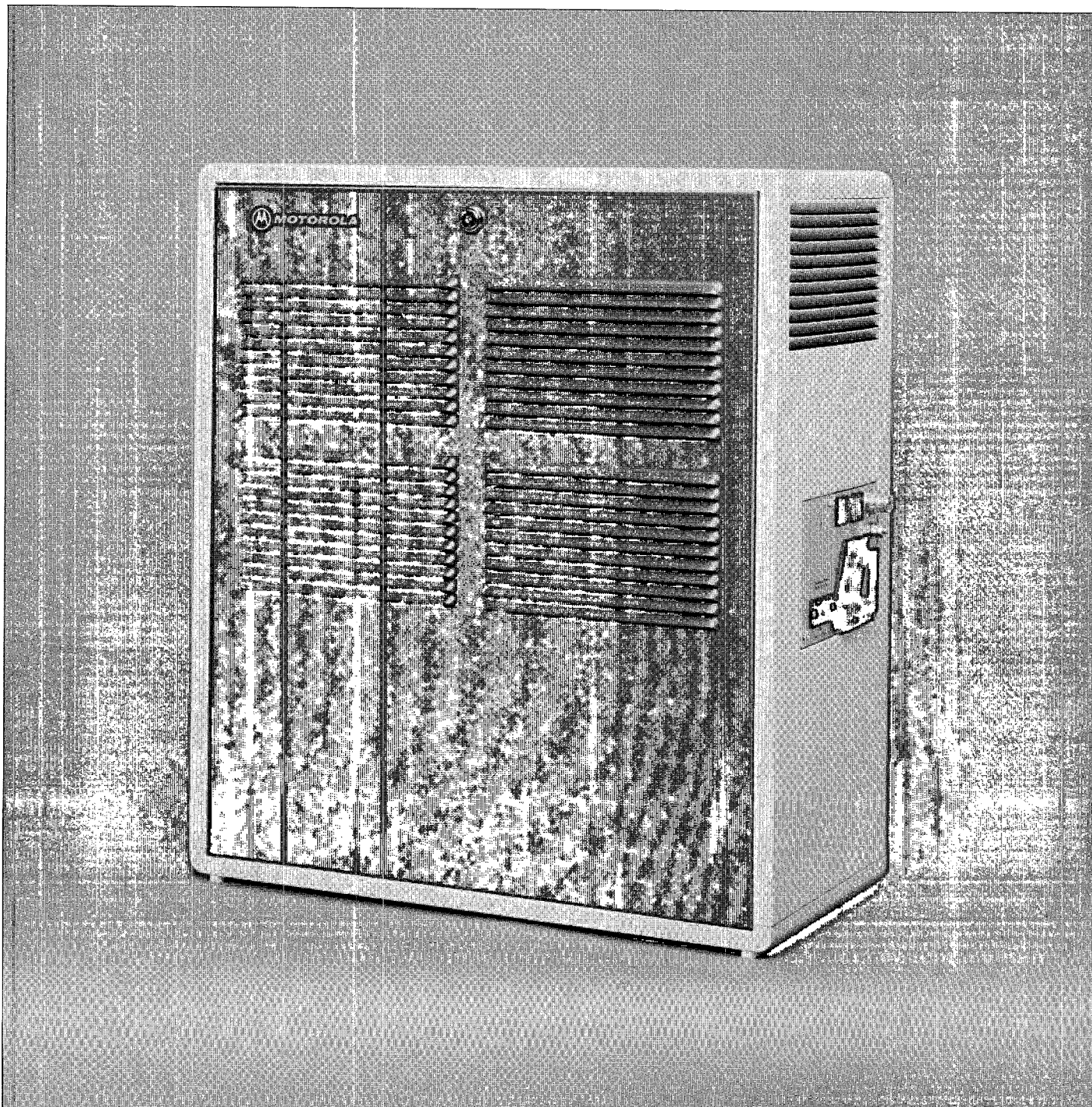
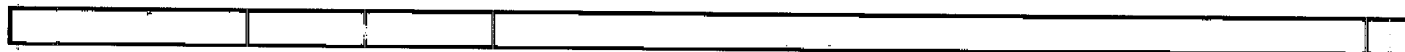
World Leader in Electronic Communication Systems for Public Service and Industry



MSR 2000 Base Stations Free Standing

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146-174 MHz
110-60 Watts Variable
Intermittent Duty



MSR 2000 Intermittent Duty Base Station

Performance Specification General

Model	Frequency (MHz)	Minimum RF Output Power	Maximum P.A. Final Input Power	Input Voltage	Input Power Requirements (Varies with Options)***				
					AC Power @ 120V AC		13.6V DC Neg ground Battery Drain		AC Input Current
					Stby	Xmit	Stby	Xmit	Xmit
C73GRB	146-174	110W**	290W	120V ac + 10%, - 20% 60 Hz Standard	70W	454W	.6A	22.7A	4.0A
C73GSB*									

*Fully Optional models **Variable down to 60W ***Does not include current drain during battery charging

No. of Frequencies: Single and two-frequency stations (dc & tone remote)
Four-frequency stations (Fully Optional, tone remote only)

Squelch Options: Carrier squelch, Private-Line coded squelch, and Digital Private-Line coded squelch.

Metering: Optional internal-mounted meter used to measure all essential circuits for tuning and checking.

Dimensions: Basic and Fully Optional: 24.05" x 20.75" x 10.00", with Duplexer: 29.30" x 20.75" x 10.00"

Weight: Basic: 106 lbs, Fully-Optional: 109 lbs (Minimum Configurations)

Transmitter 146-174 MHz

RF Output Power:	110-60 watts intermittent duty (continuously variable)
Output Impedance:	50 ohms
Oscillator Frequency Stability:	Channel element maintains oscillator frequency within $\pm .0005\%$ ($\pm .0002\%$ optional) from -30°C to $+60^{\circ}\text{C}$ ambient ($+25^{\circ}\text{C}$ reference)
Transmitter Sideband Noise:	- 90 dB @ ± 30 KHz. - 105 dB @ ± 1 MHz.
Spurious & Harmonics:	More than 85 dB below carrier.
Modulation:	15F2 and 16F3: ± 5 KHz for 100% at 1000 Hz
Audio Sensitivity:	Remote Telephone Line: - 20 dBm max. for 60% max. deviation at 1000 Hz.
FM Noise:	55 dB below 60% system deviation at 1000 Hz.
Audio Response:	+ 1, - 3 dB from 6 dB/octave pre-emphasis, 300-3000 Hz: referenced to 1000 Hz.
Audio Distortion:	Less than 2% at 1000 Hz; 60% system deviation
FCC Designation:	ABZ89FC3632 ($\pm .0005\%$ stability) ABZ89FC3632C ($\pm .0002\%$ stability) Licensable under parts 22, 74, 81, and 90 of FCC rules.
Authorized Emissions:	15F2, 16F3, 16F9, 3.4F2, 3.4F9, 5.6F2, 5.6F9

Receiver 146-174 MHz

Channel Spacing:	30 KHz/25 KHz	
EIA Modulation Acceptance:	± 7 KHz minimum	
Oscillator Frequency Stability:	Channel element maintains oscillator frequency within $\pm .0005\%$ ($\pm .0002\%$ optional) from -30°C to $+60^{\circ}\text{C}$ ambient ($+25^{\circ}\text{C}$ reference)	
Sensitivity— 20 dB Quieting: EIA SINAD:	Without Pre Amp 0.5 μV 0.35 μV	With Pre Amp 0.25 μV 0.20 μV
Intermodulation— EIA SINAD	- 85 dB	- 80 dB
Spurious & Image Rejection:	100 dB minimum	100 dB minimum
Squelch Sensitivity— Carrier Squelch:	0.20 μV or less at threshold	0.10 μV or less at threshold
Tone-Coded Squelch:	0.20 μV or less	0.15 μV or less
Selectivity EIA SINAD:	- 100 dB	- 95 dB
Audio Characteristics— Remote Control Models:	Telephone Line: Output: + 11 dBm @ 600 ohms Response: + 1, - 3 dB Distortion 3% @ 1000 Hz. Hum & Noise: - 55 dB For local service audio: Output Available: 1 W @ 8 ohms Response: + 2, - 8 dB Distortion: 5% @ 1000 Hz Hum & Noise: - 55 dB	
FCC Receiver Cert. # :	ABZ89FR3633	

Note: EIA specifications per RS152B, RS204B and RS220A
Specifications listed are limit values.
Actual Specifications can be superior to stated limits.



Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company-owned centers. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.



MOTOROLA Communications and Electronics Inc.

A subsidiary of Motorola, Inc.
1301 E. Algonquin Road, Schaumburg, Illinois 60196
Telephone (312) 397-1000

Specifications subject to change without notice.
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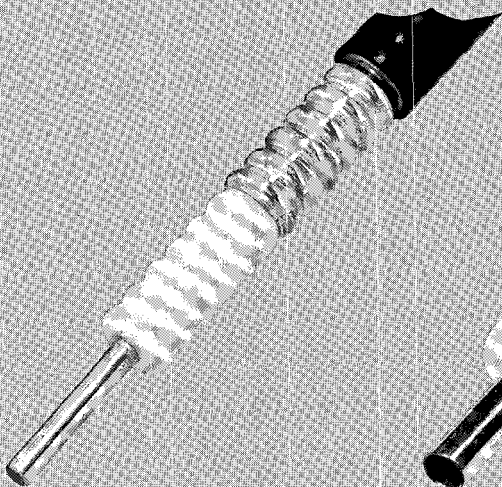


MOTOROLA

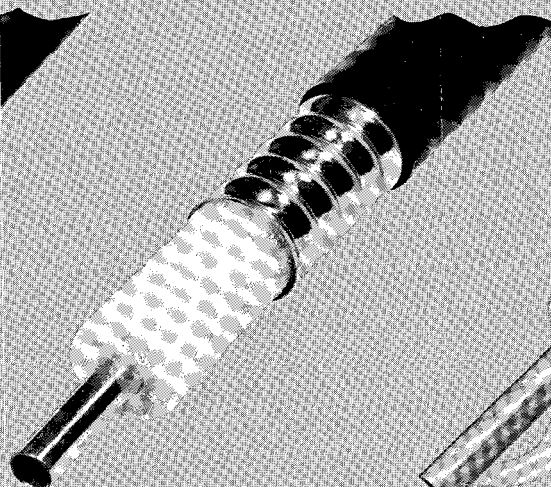
HELIAX Transmission Line

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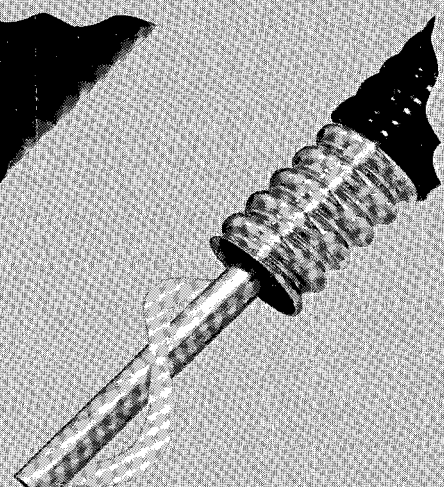
- Low-Loss LDF Foam HELIAX for Economy
- Air HELIAX for Maximum Efficiency
- Polyethylene Jacketed for Increased Service Life
- High Flexibility and Crush Resistance Characteristics
- Maximum Corrosion Resistance
- Weatherproof Construction



1/2" LDF Foam HELIAX Coaxial Cable



7/8" LDF Foam HELIAX Coaxial Cable



7/8" Air HELIAX Coaxial Cable

Features • Benefits

Low Signal Loss—The foam polyethylene used in LDF HELIAX is of a new low-loss design. ● These cables have loss characteristics approaching those of air dielectric cables. Both air and foam cables incorporate high-conductivity copper or copper-clad inner conductors, and copper outer conductors.

Weatherproof — ● The outer and inner conductors are constructed with copper for optimum resistance to the deteriorating effects of humidity, salt air, rain, snow and corrosive atmospheres. Tough polyethylene jacketing material prevents galvanic corrosion caused by contact between dissimilar metals, and

reduces interference caused by the rectifying action of oxides. Black pigment throughout the jacketing assures maximum resistance to the sun's ultraviolet rays. The LDF foam cables have an annularly corrugated outer conductor which prevents any longitudinal moisture path. Connectors for both air cables and LDF foam cables employ "O" ring seals which prevent moisture entry.

Simplified Installation—Combining excellent crush resistance with flexibility, the outer corrugated tube on all HELIAX transmission lines lends itself to easy bending on a short radius for simplified, versatile installations. ● Connectors may be assembled with

standard hand tools. The LDF foam cable connectors utilize a unique self-flaring feature which provides positive electrical contact.

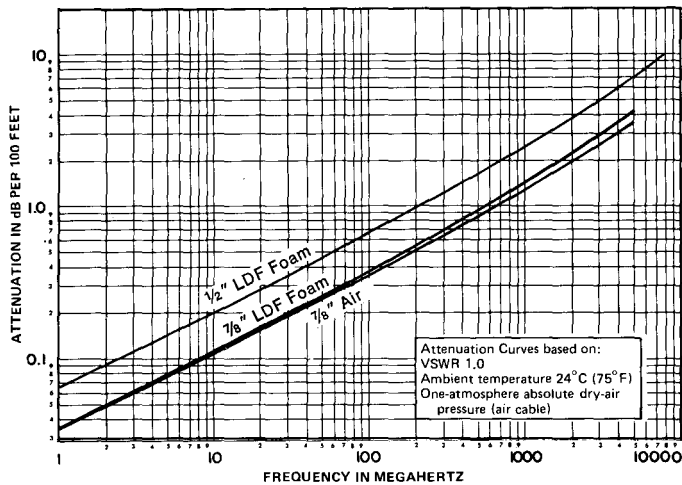
The LDF Foam HELIAX Transmission Line is supplied in two sizes, 1/2" and 7/8" and the Air HELIAX Transmission Line is available in the 7/8" size. All 7/8" transmission line kits are supplied with a 6-foot, 1/2" LDF Foam HELIAX jumper cable for connection to the antenna. All transmission line kits are supplied with an 8-foot jumper cable for connection to the base station, and with jacketed tie wires for attachment to the tower. A hardware kit is included which consists of a mounting plate, a mounting bracket, rawlplugs, screws, nuts, lock-washers, tape and silicone grease.

HELIAX Transmission Line

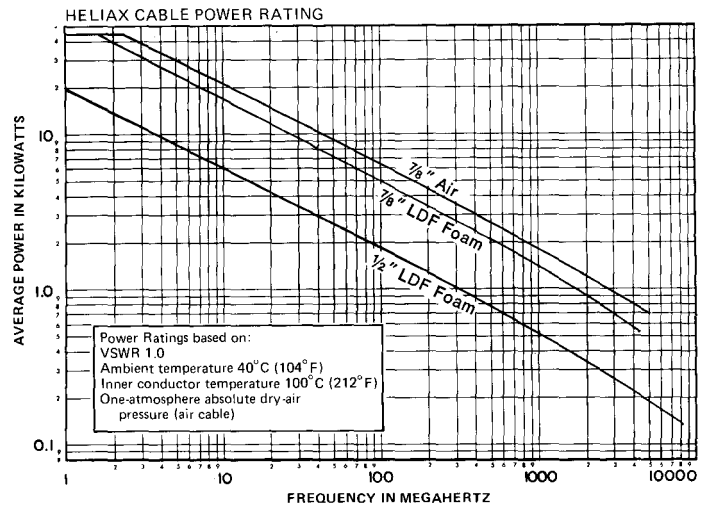
Performance Specifications

	1/2" LDF Foam HELIAX		7/8" LDF Foam HELIAX		7/8" Air HELIAX	
Maximum Power Rating:	SEE GRAPH BELOW					
Impedance:	50 ohms		50 ohms		50 ohms	
Velocity of Propagation:	87.5%		89.5%		91.6%	
Attenuation, see graph below:	dB/100 ft.	dB/100 m	dB/100 ft.	dB/100 m	dB/100 ft.	dB/100 m
at 40 MHz	0.44	1.44	0.23	0.75	0.23	0.75
at 150 MHz	0.86	2.82	0.48	1.57	0.46	1.51
at 450 MHz	1.52	4.99	0.88	2.89	0.83	2.72
at 800 MHz	2.15	7.05	1.22	4.00	1.11	3.64
at 960 MHz	2.40	7.87	1.38	4.53	1.25	4.10
Minimum Bending Radius:	5 in. (127 mm)		10 in. (254 mm)		10 in. (254 mm)	
Weight Per 100 ft.	16 lbs. (7.3 kg)		33 lbs. (15 kg)		54 lbs. (24.5 kg)	
Per 100 m	24 kg (53 lbs.)		49 kg (108 lbs.)		80 kg (176 lbs.)	
Outside Major Diameter (Over Jacket):	0.64 in. (16 mm)		1.1 in. (28.2 mm)		1.11 in. (28.3 mm)	

NOTE: Connectors are attached to line at factory unless otherwise specified. Standard tools can be used to complete the installation.



Attenuation For LDF Foam and Air HELIAX Cables



Average Power Ratings For LDF Foam and Air HELIAX Cables

Model Chart

TDN6815 1/2" LDF Foam only
 TDN6816 7/8" LDF Foam only

Model Number	Cable Termination at Base Station	Cable Termination at Antenna
TDN6596	1/2" LDF Foam UHF Male	UHF Female
TDN6597	1/2" LDF Foam UHF Male	N Male
TDN6598	1/2" LDF Foam UHF Male	N Female
TDN6599	1/2" LDF Foam N Male	N Male
TDN6608	1/2" LDF Foam N Male	UHF Male
TDN6600	7/8" LDF Foam UHF Male	UHF Male
TDN6601	7/8" LDF Foam UHF Male	N Male

Model Number	Cable Termination at Base Station	Cable Termination at Antenna
TDN6602	7/8" LDF Foam N Male	N Male
TDN6603	7/8" LDF Foam UHF Male	N Female
TDN6609	7/8" LDF Foam N Male	UHF Male
TDN6604	7/8" Air UHF Male	N Male
TDN6605	7/8" Air N Male	N Male
TDN6606	7/8" Air UHF Male	UHF Male



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 Communications and Electronics Inc.

A Subsidiary of Motorola, Inc.
 1301 East Algonquin Rd., Schaumburg, Illinois 60196
 (312) 397-1000

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 Motorola Inc.

150
174
MHz

MODEL ASP-711 and ASP-712 SERIES

Economy POWER DIRECTOR™ Two and Four Dipole, Steerable Pattern Base Station Antennas

VOL 008 PAGE 323

- Half the weight of heavy duty counterparts, the ASP-601 and ASP-602.
- Dipoles are field adjustable for offset gain or omnidirectional patterns.
- Frequency range splits permit versatility for multitransmitter and duplex operations.
- All-metal mast construction and dc grounding of provides superior lightning protection.
- Solid aluminum dipoles secure to support pipe with stainless steel clamps.
- Cable connections are molded to assure all-weather durability.
- Type N male connector for positive, weather-proof electrical connection to rigid or flexible transmission line.

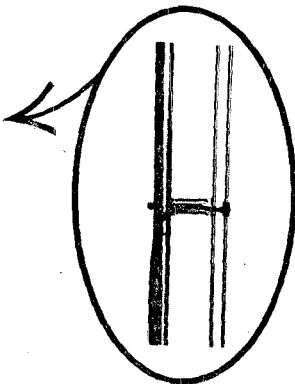
SPECIFICATIONS

Electrical

Power.....	500 watts maximum
Gain.....	ASP-711: 3 dB omni; 6 dB offset ASP-712: 6 dB omni; 9 dB offset
Frequency Range.....	150-160 MHz (ASPA prefix) 155-160 MHz (ASPB prefix) 164-174 MHz (ASPC prefix)
Bandwidth.....	10 MHz
VSWR.....	Less than 1.5:1
Impedance.....	50 ohms nominal
Vertical Beamwidth.....	34 degrees (ASP-711) 16 degrees (ASP-712)
Horizontal Beamwidth.....	180 degrees, offset mode only
Lightning Protection.....	dc ground through support pipe
Termination.....	Type N male connector
Flexible Termination.....	RG-8A/UV 24 inches (61 cm)

Mechanical

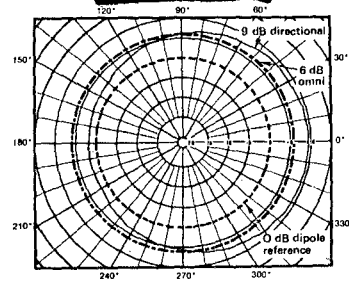
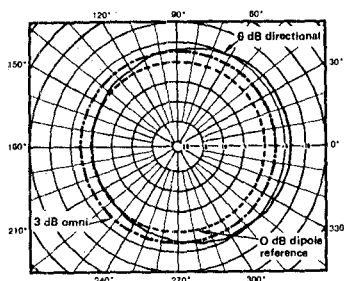
Rated Wind Velocity.....	ASP-711: 93 mi/h (150 km/h) ASP-712: 82 mi/h (132 km/h)
Lateral Thrust.....	ASP-711: 52.8 lb (24 kg) ASP-712: 41.2 lb (18.7 kg)
Bending Moment.....	ASP-711: 258 ft-lb (35.7 kg-m) ASP-712: 1098 ft-lb (151.8 kg-m)
Equivalent Flat Plate Area.....	ASP-711: 1.3 ft² (0.12 m²) ASP-712: 2.8 ft² (0.3 m²)
Support Pipe Length.....	ASP-711: 144 inches (3.7 m) ASP-712: 272 inches (6.9 m)
Weight.....	ASP-711: 13 lb (5.9 kg) ASP-712: 25 lb (11.3 kg)
Radiator Elements.....	3/8 inch (9.5 mm) aluminum rod
Feed Point Insulators.....	Weatherproof molded plastic
Radiator Mount.....	Stainless steel clamp
Support Pipe.....	Aluminum tubing: 1 1/2 inch (44.4 mm) O.D.; 2 inches (50.8 mm) O.D. Lower Section (ASP-712 only)
Support Pipe Mounting Area Available.....	24 inches (61 cm) minimum
Mounting.....	Two heavy duty mast clamps (not included) recommended
Shipping Information.....	Weight: ASP-711: 17 lb (7.7 kg) ASP-712: 32 lb (15 kg) 6 x 9 x 147 inches (15.2 x 22.9 x 373.4 cm)



ASP-711

Horizontal Field Patterns

ASP-712



ASP-711

ASP-712

See Catalog sections for mounting hardware, cables, connectors and other materials required for complete installation.



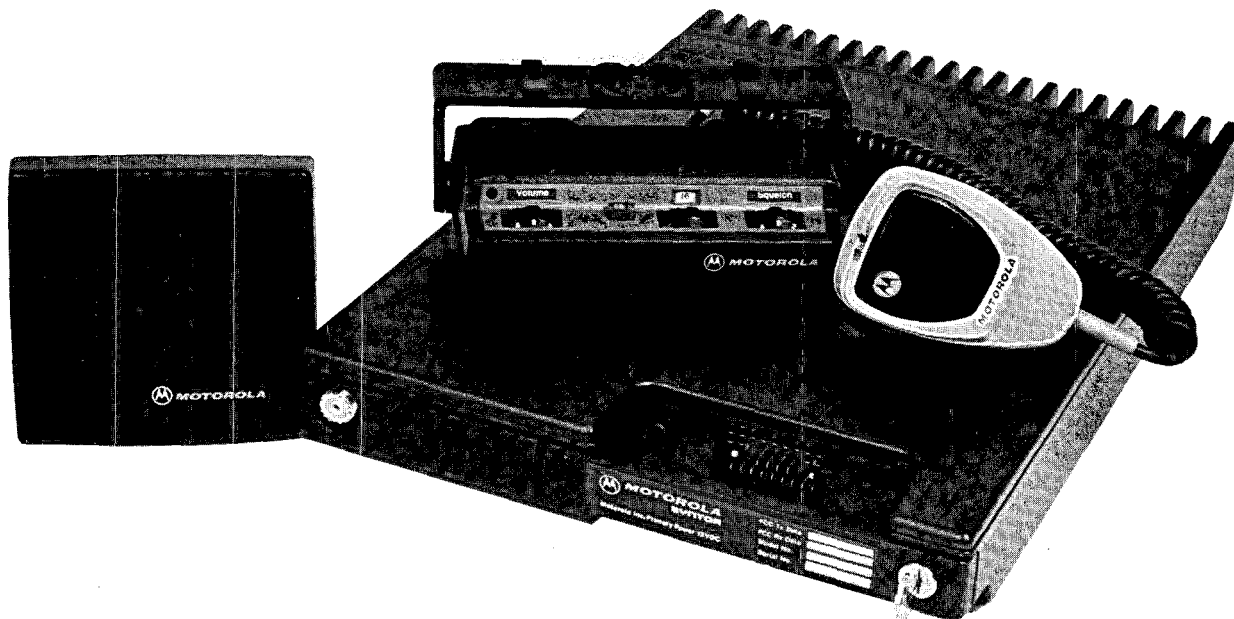


MOTOROLA

SYNTOR FM Two-Way Radio

VOL 008 PAGE 324

136-174 MHz 40/75/100 Watts
403-430 MHz 30/50/75/100 Watts
450-512 MHz 30/50/75/100 Watts



- Synthesized. Up to 32 channels Selectable from Control Head.
- 2 PPM Frequency Stability Standard
- Mode Select Multiple "Private-Line" and "Digital Private-Line" Coded Squelch.
- Environmentally Protected:
 - MIL-STD-810C Shock, Vibration, Rain, Dust and Salt Fog
 - U.S. Forest Service Vibration
 - Twice EIA Shock Amplitude

STANDARD

Feature	Description	Benefits
Synthesizer	The synthesizer provides the most advanced method of generating frequencies. An integrated circuit called a Programmable Read-Only Memory (PROM) and a single reference oscillator are used to determine up to 32 frequencies.	By means of the synthesizer, the need for costly multiple channel elements is eliminated. Also channels can be changed or added by simply replacing the PROM.
Broad Transmit Bandwidth	10 MHz transmit bandwidth in UHF and up to 12 MHz transmit bandwidth in high band.	These wide transmit bandwidths insure optimum use of the multiple frequency capability of the radio. This standard feature provides the flexibility for inter-agency communications requirements as well as repeater talk-around capability.
Audio Output	15 watts at less than 3% distortion.	Messages come through loud and clear even in unusually high ambient noise level environments.
Positive/Negative Ground	SYNTOR radios have a D.C. isolated ground.	Radios can be interchanged among fleet vehicles regardless of polarity without requiring a converter.
MICOR Compatibility	The SYNTOR radio is plug-compatible with MICOR radio installations and most SYSTEMS 90 accessories. Also, the SYNTOR radio uses the MICOR radio test metering scheme. Users with MICOR mobile radio service equipment can service the SYNTOR radio with their existing test set.	Either radio can be interchanged within a vehicle without requiring new cables. Many existing MICOR SYSTEMS 90 installations are also compatible, allowing the flexibility of interchangeability among vehicles.
Compact Design	All SYNTOR radio models, regardless of number of frequencies, occupy only 489 cubic inches and weigh just 22 pounds.	Even with 32 frequencies, the space savings of the synthesizer over the conventional channel element approach means SYNTOR radios retain the same size and weight making installation in practically any size vehicle possible.

Features**Description****Benefits****Frequency Stability**

SYNTOR radios offer 2ppm ($\pm .0002\%$) frequency stability standard.

Stability in a conventional radio is dependent on the stability of each channel element. However the stability of the synthesizer is determined by a single reference oscillator, enabling 2 ppm stability to be standard on SYNTOR radios. This means that all SYNTOR radios provide the frequency stability that insures radios stay on frequency, even under crowded channel conditions and wide temperature fluctuations.

Power

SYNTOR radios are available in a wide range power levels up to 110 watts in high band and 100 watts in UHF.

Different applications require different power levels, and SYNTOR radios provide the proper power for any communications requirement.

All Solid State

Transmitter and receiver are 100% solid state.

SYNTOR mobile radios provide full rated transmit and receive power at turn-on. Cooler operation allows longer component life, resulting in minimum maintenance.

Environmentally Protected

SYNTOR radios meet MIL STD 810C for shock, vibration, rain, salt and dust atmospheres.

The rugged die cast aluminum chassis and covers make the SYNTOR radio a really tough mobile radio. Since SYNTOR radios are weatherproof per MIL STD 810C, the radio can be used in areas exposed to adverse weather conditions. Bulky, cumbersome weatherproof boxes or coverings are not necessary.

Meets MIL STD 810C**MIL 810C (MARCH, 1975)**

Rain (Method 506.1 Procedure I, rain chamber with wind source). Simulates 2-5 inches per hour of rain with a horizontal wind velocity of 40 mph for a total test time of two hours.

Dust (Method 510.1, Procedure I, dust/fine sand). Checks for ability of equipment to withstand effects of wind-driven dust. The dust, a fine grained silica flour, is wind-driven at varying velocities, temperatures and relative humidities, for a total test time of 28 hours.

Salt Atmosphere (Method 509.1, Procedure I, salt fog test). Determines durability of coatings and finishes exposed to corrosive salt atmospheres.

Test consists of exposure of the equipment to a salt fog atmosphere under controlled temperature and humidity conditions for a period of 48 hours.

Shock (Method 516.2, Procedure III, Crash Safety-half sine wave curve). Assures, if mounted correctly, that tested product will survive the severe shock load impact of crash environments. This test is done for all six planes and takes into consideration all basic mounting possibilities.

Vibration (Method 514.2, Procedure VIII, Tracked Vehicle, Curve W). A nine hour vibration test designed for tracked vehicles, with measurements in all three axes.

OPTIONS

Feature

Description

Benefits

Mode Select Multiple PRIVATE-LINE and DIGITAL PRIVATE-LINE Coded Squelch

SYNTOR radios incorporate selection of the proper PRIVATE-LINE or DIGITAL PRIVATE-LINE squelch codes into the channel selection switch. When changing frequencies, the selector switch automatically selects the right code combination.

This feature results in simplified operation for the vehicle operator and provides for easier installation while reducing dashboard clutter. Also, codes can be easily changed or added by replacing the PROM.

Solid State PRIVATE-LINE and DIGITAL PRIVATE-LINE Coded Squelch

PRIVATE-LINE and DIGITAL PRIVATE-LINE Coded Squelch is a completely solid state system featuring large scale integrated circuitry.

Coded Squelch minimizes annoying co-channel message reception. Operators hear only those calls that use their individual system code. Also, codes can be easily added or changed by replacing a single module.

Time-Out Timer

Automatically shuts off the transmitter after a one minute period.

Prevents lock-up of a repeater, or tie-up of a channel, by prolonged keying of the transmitter. Emits an alert tone and shuts off the transmitter after the transmission exceeds 60 seconds. Resets transmitter instantly after the microphone button has been released.

Pre-Amplifier

Improves the usable receiver sensitivity in high band and UHF.

Increases range capabilities by improving receiver sensitivity to .25 μ V.

Systems 90•S

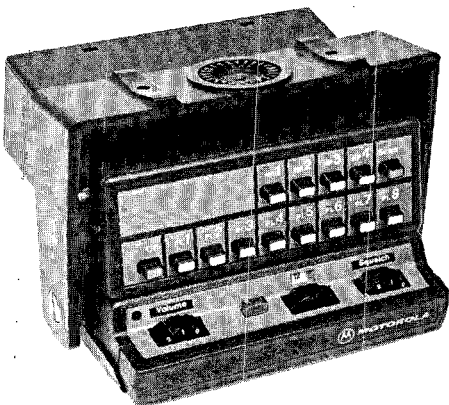
SYNTOR radios are fully compatible with the Systems 90•S Accessory Group.

Engineered for the sophisticated user, Systems 90•S provides versatility for public service, transit, utilities and all users who need extra flexibility.

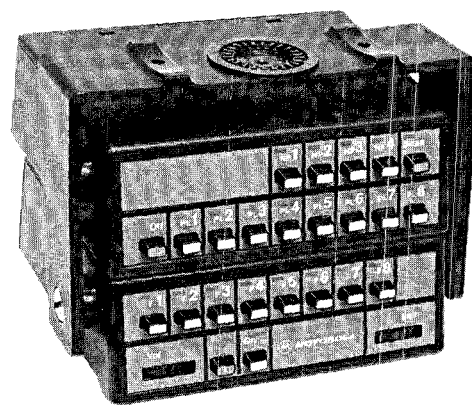
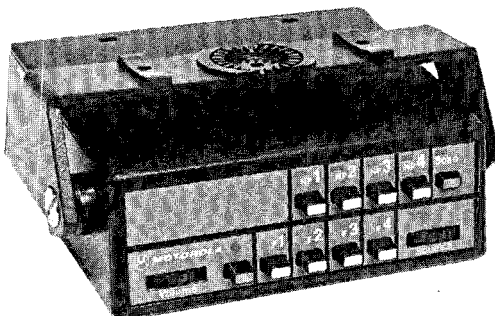
SYSTEMS 90•S Multiple PRIVATE-LINE and MULTIPLE DIGITAL PRIVATE-LINE Coded Squelch

The new SYSTEMS 90•S solid state multiple PRIVATE-LINE and DIGITAL PRIVATE-LINE Coded Squelch Encoder provides up to 8 selectable encode tones.

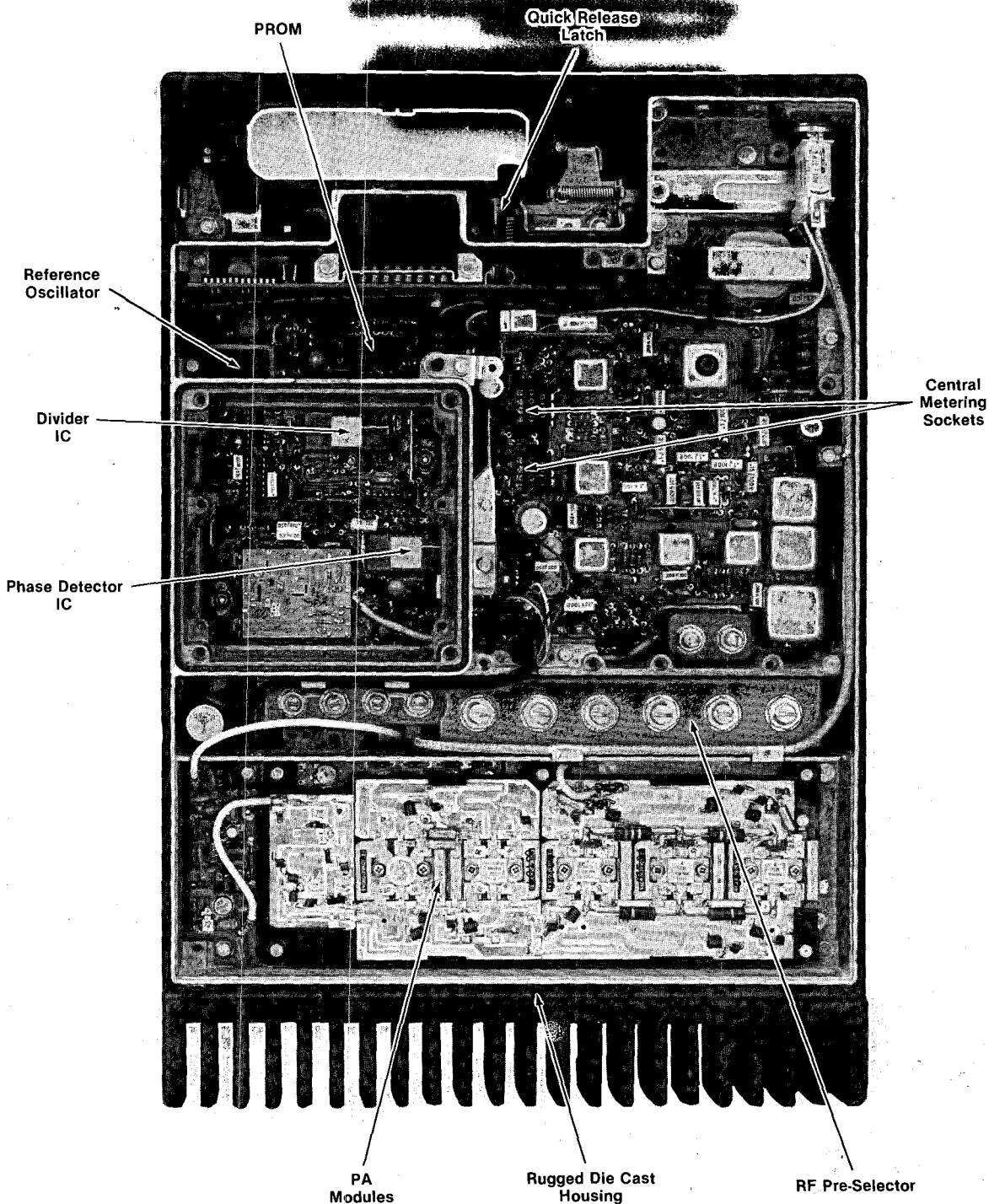
Allows the flexibility to select any programmed code for transmission on any channel. Also adding, deleting or changing codes is simplified. PRIVATE-LINE versions require changing a PROM while DIGITAL PRIVATE-LINE require changing code plugs.



A variety of SYSTEMS 90•S accessories are available with the SYNTOR radio.



High Power UHF SYNTOR Radio Shown



Performance Specifications

General

No. of Frequencies:	Up to 32 channels, synthesized
Squelch Options:	Carrier squelch 1000 series. Private-Line 3000 series. Digital Private-Line 6000 series.
Primary Power:	12V dc negative ground or positive ground.
Dimensions:	292 mm x 432 mm x 64 mm (11.5" w x 17.0" l x 2.5" h).
Weight:	Approximately 9988g (22 lbs.). Shipping weight, including accessories: approx. 16,798g (37 lbs.).
Metering:	Motorola portable test set can be used to measure all circuits essential to tuning and checking or a single-scale, 0-50 microampere meter can be used.

Model (Series)	Minimum RF Power Output*	Frequency Range	Antenna Gain	Maximum Battery Drain		
				Standby @ 13.8v	Receive at Rated Audio @ 13.8v	Transmit @ Rated Power
T43SRA	40 watts	136-174 MHz	—	850 ma	2.7A	12A
T63SRA	75 watts	146-174 MHz	—	850 ma	2.7A	14A
T83SRA	110 watts		—			22A
T34SRA	30 watts	403-430 MHz	5 dB	850 ma	2.7A	12A
	19 watts (50 w ERP)	450-470 MHz				
T44SRA	50 watts	403-430 MHz	5 dB	850 ma	2.7A	18A
	39 watts (100 w ERP)	450-470 MHz				
T64SRA	75 watts	403-430 MHz	5 dB	850 ma	2.7A	25A
	59 watts (150 w ERP)	450-470 MHz				
T74SRA	100 watts	403-430 MHz	5 dB	850 ma	2.7A	32A
	78 watts (200 w ERP)	450-470 MHz				
		470-512 MHz				

*Intermittent duty

Transmitter

Frequency Stability:	± .0002% from -30° C to +60° C Ambient (+30° C reference)
Output Impedance:	50 ohms
Spurious & Harmonics:	More than 85 dB below carrier
Modulation:	16F3 ±5 kHz for 100% at 1000 Hz
Audio Sensitivity:	0.08 volts ±3 dB for 3.0 kHz deviation at 1000 Hz
FM Noise:	HB 68 dB UHF 58 dB Companion Receiver Method EIA RS152B Method
Audio Response:	+1, -3 dB/octave pre-emphasis characteristics from 300 to 3000 Hz
Audio Distortion:	Less than 2% at 1000 Hz; ±3.0 kHz deviation
Frequency Separation:	HB 136-144 MHz, 8 MHz 146-156 MHz, 10 MHz 150.8-162 MHz, 11.2 MHz 162-174 MHz, 12 MHz UHF 403-430 MHz, 10 MHz 450-512 MHz, 10 MHz

FCC Designation

Model Series	Transmitter Power Output	Applicable Parts of Rules	Emission Authorized	Type Acceptance Number
T43SRA	40 w	21, 74, 90	15F2, 16F3, 16F9	CC3368
T63SRA	75 w			CC3370
T83SRA	110 w			
T34SRA	30 w	21, 74, 90, 95	15F2, 16F3, 16F9	CC4328
T44SRA	50 w			CC4327
T64SRA	75 w	21, 74, 90	15F2, 16F3, 16F9	CC4326
T74SRA	100 w			

Receiver

Audio Output:	15 watts at less than 3% distortion (into an 8 ohm load at 1000 Hz)			
Input Impedance:	50 ohms			
EIA Modulation Acceptance:	±7 kHz minimum			
Frequency Stability:	± .0002% from -30° C to +60° C Ambient (+30° C reference)			
Receiver Profile	UHF		HB	
Channel Spacing	25 kHz		25/30 kHz	
	With Pre-Amp	Without Pre-Amp	With Pre-Amp	Without Pre-Amp
Sensitivity:				
20 dB Quieting EIA SINAD	0.25 µV 0.20 µV	0.50 µV 0.35 µV	0.25 µV 0.20 µV	0.50 µV 0.35 µV
Selectivity:	Alt. Ch.: 90 dB	90 dB	100 dB	100 dB
EIA SINAD	Adj. Ch.: 85 dB	85 dB	95 dB	95 dB
Intermodulation EIA SINAD	80 dB	85 dB	80 dB	85 dB
Spurious & Image Rejection	100 dB** (minimum)	100 dB** (minimum)	100 dB (minimum)	100 dB (minimum)
Squelch Sensitivity:	Carrier squelch (at threshold setting) Tone-Coded Squelch (fixed) & Digital-Coded Squelch (fixed), are all 6 dBQ			
Frequency Separation:	High Band 136-174 MHz, 2.0 MHz UHF 403-430 MHz 450-512, 2.0 MHz**			

**½ IF SPUR REJECTION degrades to 90 dB from 1 MHz to 2 MHz frequency separation



MOTOROLA Communications and Electronics Inc.

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R3-1.1-67A



Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company-owned centers. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.



MOTOROLA

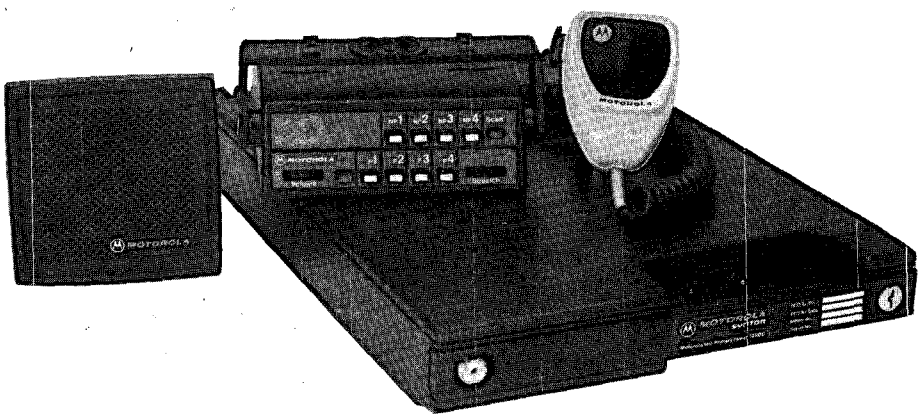
MOTOROLA SYSTEMS 90-S

SYNTOR Radio Accessory Group

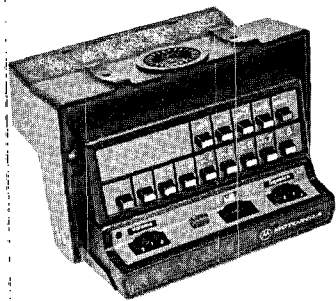
VOL 008 PAGE 330

The most flexible and comprehensive system of mobile accessory options available

- More than 5000 standard configurations to choose from
- The 15 most-used system accessories
- Two alternate control module options
- One, two, three or more options with the same radio
- Custom selection, arrangement, mounting
- Motorola radio reliability with integrated circuits
- Total illumination for safe visibility day or night
- Compatible with either SYNTOR or MICOR radios



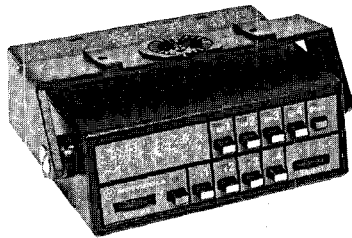
Housing Options



W429
1F
4F
8F
12F
16F

HHN4002

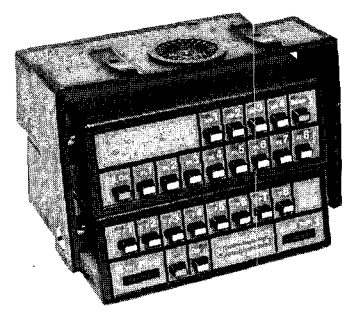
One or two accessory options with SYNTOR control head



HHN4004

Single accessory option with alternate control module

*(8 frequency uses entire housing)



W430
1F
4F
8F

HHN4003

Two or three accessory options with alternate control module

Features O Benefits

Convenience and Safety Designed—

○ The assembled SYSTEMS 90-S radio accessory group provides a centralized control panel with pushbutton function switches for finger tip control. Push-on/push-off, momentary, or interlocking types are used to best suit each particular purpose. Uses safety-designed break-away mounting. Con-

trols and indicators are illuminated for quick, day-or-night visibility.

Long-Life Indicators—Encapsulated indicator lamp assemblies are shock-mounted and are operated well below rated voltage to provide extremely long life. ○ Replacement should not be required for the normal life of the equipment.

Custom Selection — Choose one or more of the 15 most-used system ac-

cessory options to fit the needs of your communications system. ○ You select the position of each accessory option for maximum systems operation and operator convenience.

Simplified Installation, Maintenance—

○ Modular construction, plug-in circuit board assembly, simple-to-remove trunion mount contribute to simple installation and ready access for maintenance.

MOTOROLA SYSTEMS 90-S

Radio Accessory Group

ALTERNATE CONTROL CARD MODULE—Available for single-frequency or up-to-eight frequency SYNTOR radios, the compact Alternate Control Card Module substitutes for the standard SYNTOR control head in configurations in which its small size or its convenience features may be used to best advantage.

COMPATIBLE—Every system option in the SYSTEMS 90-S radio accessory group works equally well with an alternate control card module. The standard microphone or the optional handset and hang-up box can be used.

OPERATOR CONVENIENCE — Interlocking frequency-select pushbuttons with illuminated channel indicators provide fingertip control with day or night visibility. Push the frequency select button and the radio is on and operating on the desired channel; unused channels are locked out to prevent use. Frequency reverting circuitry causes lamp and frequency to revert to a pre-determined channel if all buttons are inadvertently out. The "Off" switch is a separate pushbutton, separate "Volume" and "Squelch" controls can be set and left undisturbed.

CHANNEL SCAN Monitor

for multi-frequency SYNTOR radios

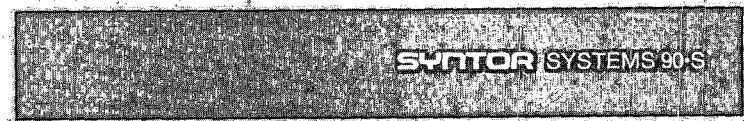
Channel Scan monitor, available in two versions, is a valuable option to any user with a multi-frequency radio. Any time that the mobile operator wants to know what's happening on another frequency, Channel Scan monitor provides the best way for him to do this without losing contact with his own base.

With either of the Channel Scan monitor options, the mobile operator can monitor alternate channels without missing a call on the priority channel. The Channel Scan monitor sequentially samples each channel, seeking the presence of a carrier. The first signal received will be heard on the speaker; if this is a "non-priority" signal, the monitor will continue to sample the priority channel. An incoming priority signal automatically reverts the receiver to the priority channel and stops the scanning action.

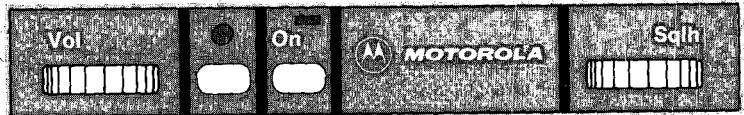
SELECTABLE NON-PRIORITY—Of the two versions, selectable non-priority has more operational flexibility. For selectable non-priority Channel Scan, the receive priority channel is either set to follow the control head frequency selector setting, or fixed to a pre-determined channel at installation.

Non-priority channels are selected by the operator. He can select non-priority channels to be scanned by depressing the pushbuttons on the control panel. By pressing a channel pushbutton again, he can release it from being scanned. Lockouts are placed on the pushbuttons of vacant channels when Channel Scan is installed.

SELECTABLE PRIORITY—With selectable priority systems, the mobile operator can select the priority receive channel by pressing the pushbutton for that channel. The remaining channels are scanned as non-priority channels. Unlike the non-priority select version, the priority select Channel Scan monitor does not allow the operator to release any of the alternate channels from scanning. The pushbuttons are interlocking, so that only one can be depressed at a time. Two pushbutton lockouts are furnished so that the installer can prevent either one or two of the channels from being selected as priority channels.



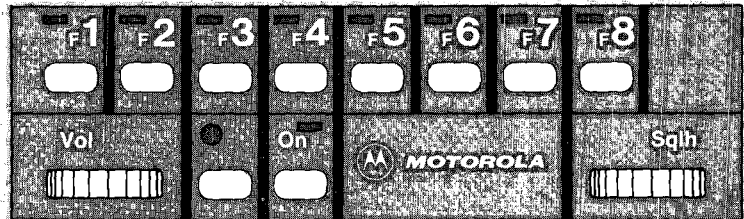
BLANK PANEL ESCUTCHEON



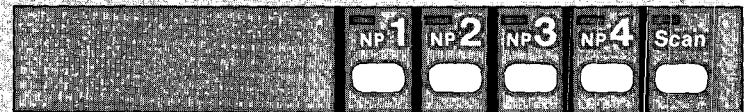
HCN1000



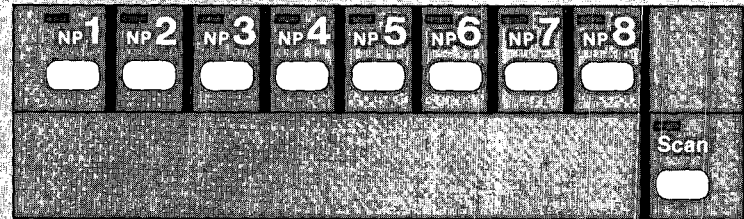
HCN1001



HCN1010



HLN1014



YLN1001

PERFORMANCE SPECIFICATIONS

Sensitivity: Less than 6 dB quieting at threshold squelch
Input Impedance: 18,000 ohms
Temperature Range: -30° C to +60° C (-22° F to +140° F)

Maximum Current Drain at 13.8V dc

Scan off	180 mA
Scan on	350 mA

Operation: 13.8V dc \pm 20% Positive or negative ground
 (Negative ground only with MICOR)

Priority Select Model Number: HLN1013 (4 frequency)

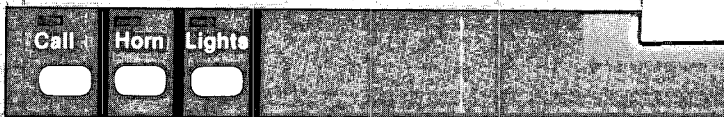
Selective Signaling Decoder (QUIK CALL)

Mobile selective signaling systems provide selective calling of individual mobiles or groups of mobiles for two-way radio users. This decoder operates with existing Motorola 4-tone Quik-Call encoders.

INDIVIDUAL OR GROUP CALL—The dispatcher can select an individual mobile, or if the message is of emergency or general nature, he can contact a group. The decoder mutes the receiver until a correctly addressed call is received. Then the "Call" light comes on and a brief beeping tone alerts the operator. In case the operator is away when a call comes in, the "Call" light remains on until reset by the operator.

HORN OR LIGHTS ALERTING—The operator can be alerted to a call when out of the vehicle by means of the lights coming on or the horn sounding briefly, or some other method of notification may be connected. Two 30 amp externally mounted relays are provided with each decoder.

AUDIO OPTIONS—Upon installation, you can choose between "Tone Only" and "Tone and Voice" operation. Channel monitoring is automatic when you come "off-hook," and reset of "Call" light is another automatic function of the hang-up switch.



HLN1015

PERFORMANCE SPECIFICATIONS

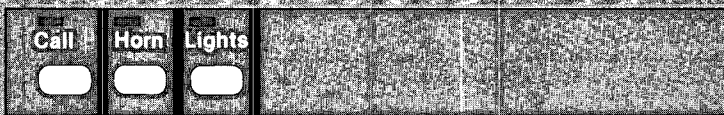
Sensitivity: less than 6 dB quieting
Input Impedance: more than 25,000 ohms
Muting: more than 50 dB below 10 watts
Operating Voltage: 13.8V dc \pm 20%, neg or pos ground
Tone Stability: \pm 0.2%
Temperature Range: -30° C to $+60^{\circ}$ C (-22° F to $+140^{\circ}$ F)

Maximum Current Drain at 13.8V dc

Standby	190 mA
Call Light On	300 mA
Call Light and Light Relay On	450 mA
Call Light, Light Relay and Horn Relay On	600 mA

Individual Code Timing:

First Tones 1.25 \pm 0.25 seconds
Second Tones 1.0 \pm 0.25 second
Interval Between Tones 0.25 second
Group Code Timing:
Simultaneous Pair greater than 3.5 seconds



Mobile Paging Decoder (QUIK CALL II)

Mobile paging systems provide individual paging for two-way radio users. This decoder operates with all standard Motorola VHF Paging Two-Tone encoders and Quik-Call II encoders.

SELECTIVE COMMUNICATIONS — The paging system alerts only the selected mobile in the system, decoders in each vehicle keep their receivers muted until a correctly coded call is received. Then the "Call" light comes on and a brief beeping tone alerts the operator. In case the operator is away when a call comes in, the "Call" light remains on until reset by the operator.

HORN OR LIGHTS ALERTING—The operator can be alerted to a call when out of the vehicle by means of the lights coming on or the horn sounding briefly, or some other method of notification may be connected. Two 30 amp externally mounted relays are provided with each decoder.

GROUP CALL CAPABILITY—The "Group Call" version of the mobile paging decoder contains a separate decoding circuit that can provide either "group call" or "all call" capability in addition to the individual paging. This capability saves dispatcher time in an emergency or whenever the same message must be given to a group of mobiles.

AUDIO OPTIONS—Upon installation, you can choose between "Tone Only" and "Tone and Voice" operation. Channel monitoring is automatic when you come "off-hook," and reset of "Call" light is another automatic function of the hang-up switch.

PERFORMANCE SPECIFICATIONS

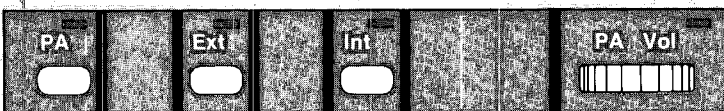
Sensitivity: less than 6 dB quieting
Input Impedance: more than 25,000 ohms
Muting: more than 50 db below 10 watts
Tone Stability: \pm 0.2%
Temperature Range: -30° C to $+60^{\circ}$ C (-22° F to $+140^{\circ}$ F)

Maximum Current Drain at 13.8V dc

Standby	190 mA
Call Light On	300 mA
Call Light and Light Relay On	450 mA
Call Light, Light Relay and Horn Relay On	600 mA

Code Timing:

First Tone 1.25 \pm 0.25 seconds
Second Tone 3.0 \pm 0.5 seconds
Interval Between Tones 0.25 second
Operating Voltage: 13.8V dc \pm 20% neg or pos ground
Individual Call: HLN1017
Group Call: HLN1016



TLN1392

PERFORMANCE SPECIFICATIONS

Operating Voltage: 13.8V dc \pm 20% neg or pos ground
Power Output: 15 Watts into 8 ohms @ 13.8V dc
Distortion: Less than 3% at Rated Output
Maximum Circuit Board Current Drain: 230 mA
Radio Current Drain at 10 Watts P.A.: 3.5 amp Max
Temperature: -30° C to $+60^{\circ}$ C (-22° F to $+140^{\circ}$ F)

Input Impedance

Microphone: 1,500 Ohms minimum in "PA" mode
Discriminator: 50,000 Ohms minimum

Public Address speaker not included, must be obtained separately.

Mobile Public Address

This system accessory option adds the versatility of both a public address and an external radio output to the full 15 watt audio capability of the SYNTOR mobile radio.

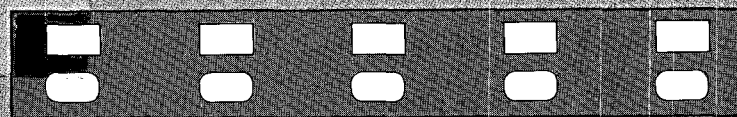
THREE OPERATING MODES—The "PA" mode makes use of the SYNTOR microphone and audio circuit for a Public Address system; can be used with a separately obtained weatherproof speaker, as in public safety applications, or under-roof speaker, as in school bus or similar applications. Automatic reverting to internal receive is provided whenever the microphone is not keyed. The radio "External" mode applies incoming radio calls to the public address speaker, and is useful whenever the operator must hear the messages when out of the vehicle. In this mode a portable radio and the mobile can be used as a remote control public address system with many operational possibilities. The radio "Internal" mode places the mobile radio in normal operation.

SEPARATE VOLUME CONTROL—In both the "PA" mode and the "External" mode, the public address speaker volume is regulated by its own separate control. The radio's internal volume control setting can be left undisturbed.

This pushbutton-operated control panel can be used in hundreds of different applications. Five Form "C" switches and corresponding dual level indicator lights are provided.

LOCK-IN AND MOMENTARY CONTROLS—The three center switches are push-on/push-off type; the end switches are momentary. All five switches are rated for 1 amp at 28V dc or 0.45 amp at 120V ac. External relays, obtained separately, can be used where heavier currents are expected. Each Form "C" switch is provided with 12 ft. of wire to facilitate installation. Also, A+ wires are fused for safety.

CHOOSE YOUR OWN APPLICATION—The Wild Card can be used to control any of the electrical functions in the vehicle, or functions that can be wired externally. Some suggested uses are: winch operation, control of electric motors, vehicle lights, portable lights, electrically operated hydraulic systems, ignition control of engines, remote operation of electric breakers or multiple contact relays, speed control, acoustic signal control, burglar alarm and many others.



HLN1021

Label your pushbutton control panel with a selection from this set that is furnished with each Mobile Wild Card:

A	B	C	D	E	F	G	H	J
K	L	M	N	O	P	Q	R	S
T	U	V	W	X	Y	Z	1	2
3	4	5	6	7	8	9	0	1
II	III	IV	V	Gun	Trunk	Door	Gate	Tower
Mars	Flash	Front	Rear	Hood	Alarm	Warm	Emrg	Siren
Horn	On	Off	Up	Down	In	Out	Left	Right
Go	Stop	Slow	Fast	Run	Mike	PA	Gas	State
Fed	Cnty	City	Local	Sand	Code	Auto	Dome	Back
Turn	Salt	Brake	Air	Fuel	Oil	Temp	High	Low
Fire	Water	Hwy	Plow	Bell	Ant	Park	Map	Glove
Lock	Panel							

Emergency Medical Service Accessory Group

The EMS Accessory Group provides a direct, voice communication link between the hospital and the patient emergency vehicle. This allows the vehicle attendant to receive instructions and administer life-saving treatment before arriving at the hospital. This group consists of a front compartment control module, and a patient compartment control unit with headset, boom mike, belt-clip PTT (push-to-talk) preamp, and a PTT foot pedal for hands-free operation. A handset may be substituted in the rear compartment for the headset unit if desired.

"FRONT ONLY" OR "FRONT AND REAR" CONTROL—The EMS Accessory features two modes of operation: "Front Only" and "Front and Rear." Selection of these modes, as well as frequency selection and squelch control settings, are made at the front compartment position. In the "Front Only" mode, the transmit and PL disable functions are only available in this position. When operating in the "Front and Rear" mode, the transmit, receive, audio and PL disable functions are available at either position.

AUTOMATIC TRANSMIT OVERRIDE—This feature can be jumper selected which allows either operator priority transmitting purposes when in the "Front and Rear" control mode. This assures that the proper operator will have transmit capability when he needs it.

TRANSMIT MONITOR—In the "Front and Rear" control mode, both positions have the ability to monitor all audio transmitted, enabling both operators to hear all communications between mobile and base. In addition, both positions have transmit indicator lights to help prevent simultaneous keying of the transmitter while one operator is transmitting, plus independent volume controls for operator comfort.

PERFORMANCE SPECIFICATIONS

General:

Operating Voltage: ±13.8V dc ±20%
Temperature Range: -30°C to 60°C (-22°F to +140°F)

Current Drain @ 13.8V dc

Standby	(Rear Off)	75 mA
Standby	(Rear On)	260 mA
Transmit	(Rear Off)	110 mA
Transmit	(Rear On)	380 mA

Monitor Audio at Front Position: Adjustable .5W-5W @ less than 10% distortion



FRONT MODULE



REAR MODULE

H1000 Only:

- Headset:**
- Element Impedance:** 600 ohms
- Maximum Input Power:** 1 watt
- Noise Attenuation:** 28 dB
- Earpiece Audio Output:** 10 mW into 600 ohm load @ less than 10% distortion
- Microphone Pre-amp:**
- Output Impedance:** 500 ohms
- Output Voltage:** 0.165 volt ±3 dB
- Headset Cord:** 3 foot tinsel cord (15 feet extended) from plug to pre-amp; 3 foot cord from pre-amp to headset.

H1001 Only:

- Handset Audio:** 15 mW into 150 ohm load @ less than 5% distortion.



MOTOROLA
 Communications and Electronics Inc.

A Subsidiary of Motorola, Inc.
 1301 East Algonquin Rd., Schaumburg, Illinois 60196
 (312) 397-1000

Specifications subject to change without notice.
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This system accessory provides traffic and crowd penetrating capabilities with 80 to 110 watts of siren output power, and 40 to 55 watts of public address output power. The entire control panel is conveniently housed in one control card for ease of operation. The separate amplifier can be mounted anywhere, alleviating the need for additional space in the driver compartment, thus enhancing operator convenience and safety.

MANUAL OPERATION—Selection of this mode permits control of the siren from an alternate position (for example a footswitch or horn ring), providing the means for hands-free operation when needed.

THREE SIREN SOUNDS—Two models are available, each of which offers three siren sound capability. Both models have wail and yelp, while the third sound—steady pitch or the European HI-LO sound—may be selected. These varied pitches allow the user to select the siren sound most desirable for his immediate needs.

EXTERNAL RADIO MODE—In this mode, the radio's audio output is amplified by the siren system and reproduced through the siren speaker. This feature is particularly desirable when the operator is out of his vehicle but must continue to monitor radio messages.

PUBLIC ADDRESS MODE—Public address announcements may be made over the siren speaker using the same microphone provided with the radio. This means that only one speaker is needed for both siren and PA use. In addition, when the PA mode is selected, the microphone's push-to-talk switch will not key the radio transmitter, but will allow the PA message to override the siren sound if in use. Upon completion of the PA message, the siren will automatically continue.

PERFORMANCE SPECIFICATIONS

General:

HLN1025 Wail, Yelp, Steady Pitch
HLN1026 Wail, Yelp, HI-LO
Operating Voltage: 13.6V ±20%, positive or negative ground
Temperature Range: -30°C to +60°C (-22°F to +140°F)

Amplifier:

Duty Cycle: Continuous
Dimensions: 3"H x 7¼"L x 6½"D (76mm x 184mm x 165mm)
Weight: Approximately 7 lbs. (3175g)

Public Address:

Frequency Response: ±3 dB from 400 to 3,000 Hz
Distortion: Less than 10% from 0.1 watt to rated power output (13.6 volts)

Operating Mode	One Speaker System Load 11 Ohm (Resistive)		Two Speaker System Load 5.5 Ohm (Resistive)	
	13.6V	15.0V	13.6V	15.0V
MINIMUM AUDIO POWER OUTPUT				
Siren	80 watts RMS	90 watts RMS	110 watts RMS	130 watts RMS
Voice	40 watts RMS	45 watts RMS	55 watts RMS	65 watts RMS
MAXIMUM OPERATING CURRENT DRAIN				
Illumination Only	0.25A	0.3A	0.25A	0.3A
Siren	10.0A	12.0A	12.5A	13.5A
Voice	6.5A	8.0A	8.0A	8.5A

Speakers: Must be obtained separately. Use only TDN 6250 Series
 For State of California: Specify Siren model, Option W371 for California—required name tag, and select appropriate speaker(s) from following:
 Class A—TDN 6251 or TDN 6254 Class B—TDN 6252 or TDN 6253

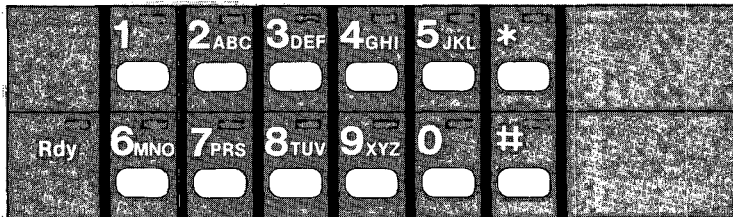
TOUCH-CODE Selective Signaling

This accessory permits two-way selective signaling between the dispatcher and a mobile—and between mobiles. The dispatcher can call a specific mobile simply by touch-dialing (encoding) that mobile's code number. The decoder in the "called" mobile then activates to receive the message. One mobile operator may call another by similarly touch-dialing the appropriate code number.

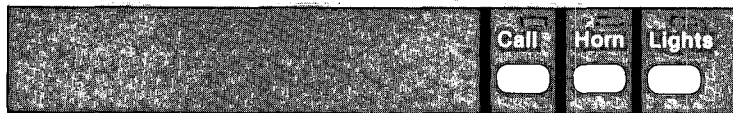
MOBILE ENCODER OPERATION—To originate a call, the first digit of the code must be depressed until the "ready" light illuminates. This assures that the system is fully operational for completion of the call. After each succeeding digit is depressed, the transmitter will remain keyed for approximately three seconds. If another digit in the calling code is not depressed within this time period, the transmitter will automatically un-key in order to eliminate possible system tie-up.

NINE DIGIT DECODE—The decoder is capable of from three to nine digit decode. No additional module or circuitry is necessary to expand up to the nine digit capability.

DECODER CALL ALERTING—Four different means are used to alert the operator to an incoming call. First an audible alert tone, the volume of which is adjustable on the decoder board, gives a three-second (nominal) tone. Also, a call light is provided on the decoder's front panel giving visual indication that a call has been received. In addition, two special buttons are provided on the front panel to select horn or headlight alerting. Call light and external lights alert may be reset by either pushing the "call" button on the panel, or by removing the microphone from its specially designed hang-up box. Even if the decoder is not reset, the alert tone and the vehicle horn will sound on subsequent calls.



HLN1023 ENCODER



HLN1024

PERFORMANCE SPECIFICATIONS

Encoder:

HLN1023
Output Level: 120 mV rms into 390 ohm load (adjustable for 3.5 kHz system deviation)
Tone Frequency: ±1.0%
Stability: ±1.0%
Current Drain: Standby—350 mA; Sending—400 mA

Decoder:

HLN1024
Sensitivity: Individual Call, negative ground only
Input Impedance: Less than 12 dB quieting
Muting: More than 25,000 ohms
Muting: More than 50 dB below 10 watts

Maximum Current Drain @ 13.8V dc

Standby	300 mA
Call Light on	400 mA
Call Light and Light Relay on	500 mA
Call Light, Light Relay, and Horn Relay on	600 mA

Relays: 30A current capacity
Horn Time Duration: 3 seconds nominal
Alert Tone Duration: 3 seconds nominal
Encoder and Decoder:
Interdigit Timing: 3 seconds nominal
Temperature Range: -30°C to +60°C (-22°F to +140°F)
Operating Voltage: 13.8V dc ±20%

Mobile Singletone Encoder

Motorola Singletone provides a fast acting reliable system for repeater access or for remote control and signaling facilities in public safety, civil defense, and commercial applications. The mobile Singletone Encoder transmits a tone pulse to actuate a relay at the receiving unit.

WIDESPREAD APPLICATIONS—Although its primary use is for repeater access or selection, Mobile Singletone finds other application in remote control and remote warning systems, such as turning on and off pumps, generators, lighting systems, etc. Receiving stations can be selected and then alerted by turning on warning lights, sirens, bells or any other visual or audible alarm.

ONE TONE OR FIVE TONE CAPACITY—The one-tone model will start a single remote control operation; the 5-tone model allows selection of up to 5 different remote operations. For less than 5; unused pushbuttons are locked out so that they cannot be depressed by mistake.

PHONE MONITOR—When turned on, the Mobile Singletone Encoder sends a tone burst at the beginning of each transmission. A monitoring tone can be provided through the speaker, in most installations, to let the operator know when this tone is completed.



PERFORMANCE SPECIFICATIONS

One Tone: HLN1019

Five Tone: HLN1020

Code Range: 900 Hz to 3000 Hz in 25 Hz steps (e.g., 900, 925, 950, 2950, 2975, 3000)

Note: In systems with frequencies between the 25Hz increments, select the closest 25Hz incremental frequency. Reliable operation is obtained because of broadness of decoder response.

Stability: $\pm 1.0\%$ from -30°C to $+60^{\circ}\text{C}$ (-22°F to $+140^{\circ}\text{F}$) ambient from 10V to 16.5V dc.

Output (into 390 ohm load): Variable from 50 mv to 225 mv rms max at 1050 Hz, 175 mv max at 3,000 Hz.

Modulation: Deviation of transmitter-encoder combination will provide 3.3 KHz.

Voltage: 13.6V dc $\pm 20\%$ neg or pos. ground.

Tone Duration: Factory set for 0.5 seconds—internal jumper permits 1.5 second—external jumper provides continuous operation for test purposes.

Output Impedance: 1,000 to 20,000 ohms depending on setting of output level control.

Maximum Current Drain: 215 mA

Maximum Frequency Separation: Ratio of highest tone to lowest tone cannot exceed 1.7 to 1.

Multiple DIGITAL PRIVATE-LINE and PRIVATE-LINE Encoders

Multiple Digital Private-Line or Private-Line encoders allow the mobile operator to set up and knock down selected repeaters by their respective codes. The operator can also select base stations and, with a multi-frequency radio, can call into other similarly coded 2-way systems on different channels.

"DIGITAL PRIVATE-LINE" and "PRIVATE-LINE SQUELCH" PERFORMANCE—Same high-performance coded squelch, same reverse burst circuitry for elimination of annoying "squelch tail." A tone-producing PROM (Private-Line) and code plugs (Digital Private-Line) are used to determine tones.

FOUR-CODE OR EIGHT-CODE CAPACITY—Choose capacity option to suit your present and future communication system needs. Unused code position switches are locked out at installation to avoid inadvertent use. Adding or changing codes is a matter of changing the appropriate PROM or plugs into the radio circuit board.

AUTOMATIC OPERATION—Press the code selector pushbutton. Then, with each operation of the push-to-talk switch, the receiver-opening code automatically modulates each transmission. When another code is selected, interlocking pushbutton action turns off the first code. "Off" position is also provided.



PERFORMANCE SPECIFICATIONS

	"Private-Line"	"Digital Private-Line"
Code-Determining Device:	PROM	Encapsulated Module
Stability:	$\pm 0.15\%$	$\pm 0.19\%$
Level:	750 mV RMS nominal	6V peak-to-peak
Maximum Current Drain:	300 mA at 13.8V dc	150 mA at 13.8V dc
"Private-Line" Tone Frequency:	Selected from 67 Hz to 210 Hz range	N/A
Voltage:	13.8V dc $\pm 20\%$, neg. or pos. ground	
Temperature Range:	-30°C to 60°C (-22°F to $+140^{\circ}\text{F}$)	

Models:

Four Tone PRIVATE-LINE—HLN1033

Eight Tone PRIVATE-LINE—HLN1031

Four Tone DIGITAL PRIVATE-LINE—HLN1027

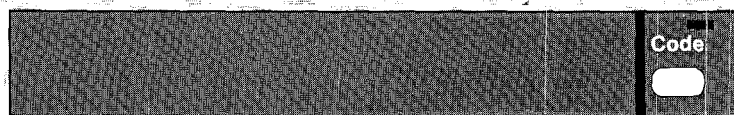
Eight Tone DIGITAL PRIVATE-LINE—HLN1028

Mobile Speech Scrambler (VPA)

The Mobile Speech Scrambler uses the frequency inversion method of audio scrambling to provide speech privacy over two-way radio communications systems. Speech scrambling minimizes casual eaves-dropping and serves as a deterrent to the more sophisticated unauthorized listener. The Mobile Speech Scrambler is fully compatible with Motorola Voice Privacy systems.

EASY TO OPERATE—A single push-on/push-off switch, with indicator, permits immediate selection of "coded" or normal speech transmission. The push-to-talk function of the radio microphone provides automatic changeover between "transmit" and "receive" operation of the scrambler. This means that once the operator has selected the desired mode of speech, he sends and receives messages as in any conventional two-way radio system.

COMBINATION COMPATIBILITY—The Mobile Speech Scrambler is compatible with SYSTEMS 90-S mobile accessories and other options. Private-Line squelch and mobile system accessories such as Mobile Paging, Selective Signaling, Private-Line, and Singletone encoders are not affected by the scrambler. No special arrangement or modifications are required. With Channel Scan monitor, the operator can control the coding status of an incoming message on all channels by means of the "Code" pushbutton.



HLN1022

PERFORMANCE SPECIFICATIONS

Operating Technique: Frequency Inversion Method

Input Voltage: 13.8V dc, $\pm 20\%$, negative or positive ground

Current Drain—CLEAR Mode: 100 ma, 13.8V dc

Current Drain—CODED Mode: 170 ma, 13.8V dc

Power Consumption—CODED Mode: 2.5 Watts

Temperature Range: -30°C to $+60^{\circ}\text{C}$ (-22°F to $+140^{\circ}\text{F}$)

Frequency Range: 300 Hz to 3 kHz

Carrier Rejection: -60 dB

Input Signal Feed-Through: -40 dB

Sideband Rejection: -40 dB

Microphone Input Impedance: 600 ohms

Output to Transmitter Impedance: 600 ohms

Receive Input Impedance: 10,000 ohms

Receive Output Impedance: 3,300 ohms

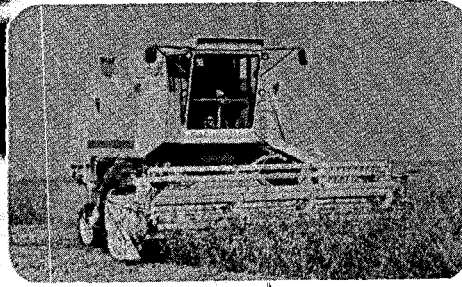
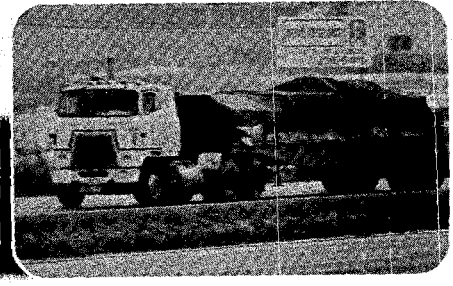
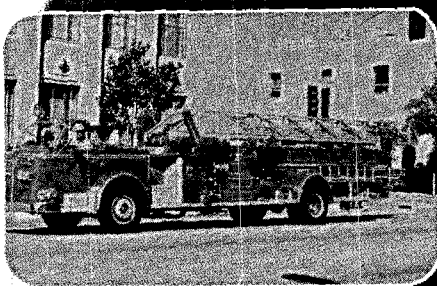
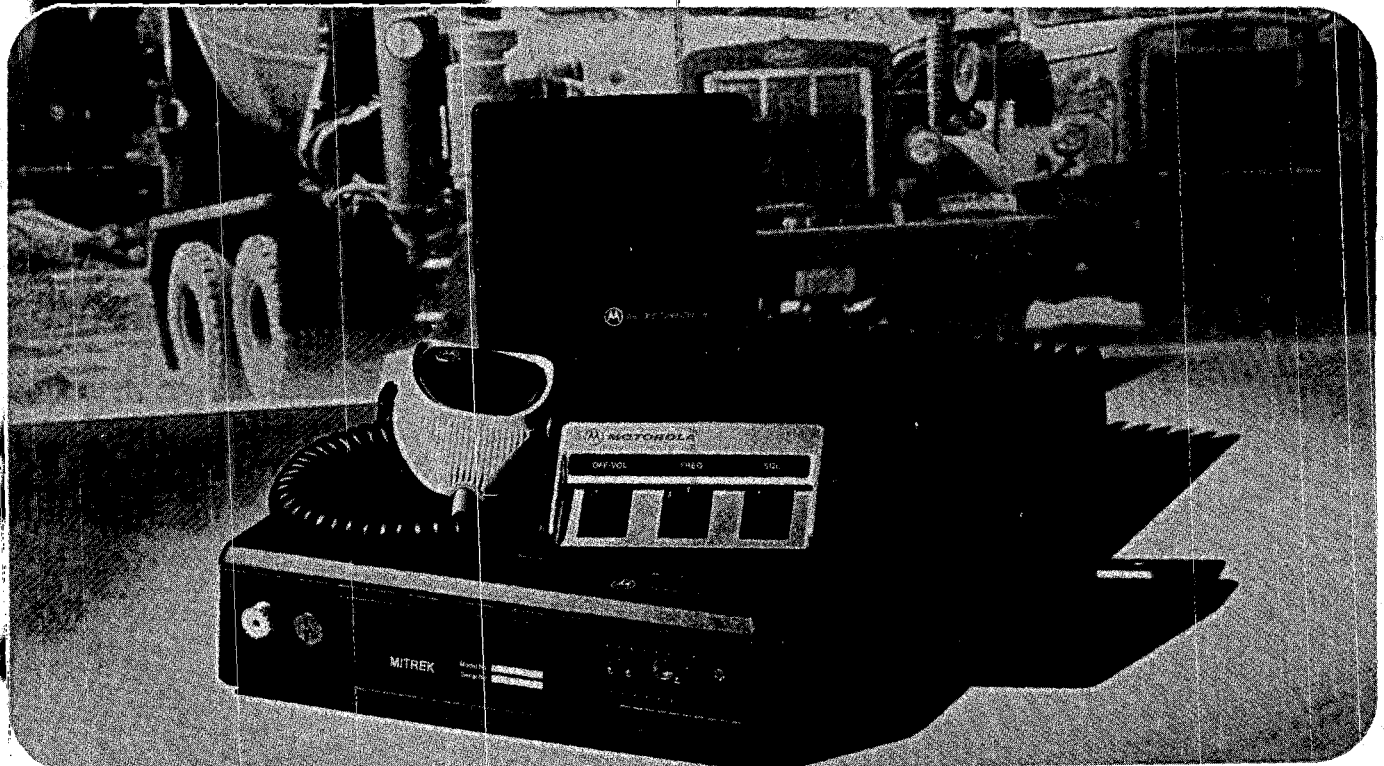


MOTOROLA

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MITREK FM Two-Way Radio

29.7-50 MHz 60/110 Watts
136-174 MHz 40/60 Watts
~~146-174 MHz 75/110 Watts~~
450-512 MHz 30/50 Watts
450-494 MHz 75/100 Watts



MITREK FM Two-Way Radio

STANDARD

Feature

Description

Benefits

Environmentally Protected

Mitrek radio and control group meets MIL Std 810C for shock, vibration, rain, salt fog, and dust atmospheres.

The rugged die cast aluminum chassis and covers help to make MITREK radio a really tough mobile radio. Since it is weatherproof, per MIL Std 810C, the radio and control head can be used in areas exposed to adverse weather conditions. Bulky, cumbersome, weatherproof boxes or coverings are not necessary for MITREK radio. Even out of its mounting tray it is still weatherproof and exceeds the EIA specifications used as the industry standard today.

Meets MIL Std 810C

MIL Std 810C (MARCH, 1975)

Rain (Method 506.1, Procedure I, rain chamber with wind source). Simulates 2-5 inches per hour of rain with a horizontal wind velocity of 40 mph for a total test time of two hours.

Dust (Method 510.1, Procedure I, dust/fine sand). Checks for ability of equipment to withstand effects of wind-driven dust. The dust, a fine grained silica flour, is winddriven at varying velocities, for a total test time of 28 hours.

Salt Atmosphere (Method 509.1, Procedure I, salt fog test). Determines durability of coatings and finishes exposed to corrosive salt atmospheres. Test consists of exposure of the equipment to a salt

fog atmosphere under controlled temperature and humidity conditions for a period of 48 hours.

Shock (Method 516.2, Procedure III, Crash Safety-half sine wave curve). Assures, if mounted correctly, that tested product will survive the severe shock load impact of crash environments. This test was done for all six planes and takes into consideration all basic mounting possibilities.

Vibration (Method 514.2, Procedure VIII, Tracked Vehicle, Curve W). A nine hour vibration test designed for tracked vehicles, with measurements in all three axes.

Power

MITREK radio is available in a wide range of power levels up to 110 watts in high and low bands, and 100 watts in UHF.

Different applications require different power levels, and MITREK radio provides the power for long distance communication requirements.

Intermodulation

A single conversion receiver provides 85 dB of Intermodulation protection.

Provides clear reception in high density RF areas.

Selectivity

100 dB protection is provided on Low and High band, and 90 dB is provided in UHF.

Protects against adjacent channel interference and improves communications effectiveness.

Transmitter Spurs And Harmonics

Spurs and harmonics are - 85 dB and FM noise is - 70 dB.

Provides clear, sharp and readily understood transmission. Frequency separation on both transmitter and receiver is outstanding.

Feature	Description	Benefits
Compact Design	Low power models occupy only 300 cubic inches and weigh just 10.5 lbs. (363 cubic inches and 13.75 lbs, in high power models).	The radio can be mounted almost anywhere. Under the seat, against the back wall, or anywhere the versatile 3 point mounting system can be fastened, a unique feature among premium radios. Front mounting is simplified with a 10' cable option.
All Solid State	Transmitter and receiver are 100% solid state.	Provides full rated transmit and receive power at turn-on. Cooler operation allows longer component life, resulting in minimum maintenance required for any system.
Simplified Maintenance	MITREK radio features Motorola standard metering, single side tuning, and single layer construction.	Standard Motorola test equipment is compatible with MITREK radio. Component identification is simple, and all tuning and metering are done from the top of the radio. Less than 6' of wiring is used throughout the radio. MITREK radio is fully metric from dimensions to hardware, yet does not require special tools for servicing. Top latch security completes the package.
Modular Construction	High power UHF modular construction of the power amplifier.	Modularized construction greatly simplifies repair procedures. Servicemen will be particularly pleased with the ease of transistor replacement. Instead of following a tedious transistor replacement procedure, they will simply have to replace power modules.
Positive/Negative Ground	MITREK radio has a floating ground.	The radio will operate from a positive or negative ground without requiring a converter.



MITREK radio is fully compatible with all SYSTEMS 90 options.

MITREK FM Two-Way Radio

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Performance Specifications

General

No. of Frequencies:	Up to four				
Squelch Options:	Carrier squelch 1000 series / PRIVATE-LINE 3000 series / DIGITAL PRIVATE-LINE 6000 series				
Primary Power:	12V dc negative ground or positive ground				
Dimensions:	254mm x 305mm x 64mm (10" w x 12" l x 2.5" h) Low Power: 254mm x 369mm x 64mm (10" w x 14.5" l x 2.5" h) High Power				
Weight:	Low Power models are approximately 4.7 kg (10.5 lbs.); High Power models are approximately 6.2 kg (13.75 lbs.) Shipping weight, including accessories: approx. 10 kg (22 lbs.) Low Power; approx. 11.8 kg (26 lbs.) High Power				
Metering:	Motorola portable test set can be used to measure all circuits essential to tuning and checking or a single-scale, 0-50 microampere meter can be used.				
Model (Series)	Minimum* RF Power Output	Frequency Range	Maximum Battery Drain		
			Standby @ 13.8V	Receive at Rated Audio @ 13.8V	Transmit @ Rated Power
T51JJA	60 watts	29.7-50 MHz	450 ma	2.5A	14A
T81JJA	110 watts		450 ma	2.5A	24A
T43JJA	40 watts	136-174 MHz	450 ma	2.5A	12A
T53JJA	60 watts		450 ma	2.5A	14A
T63JJA	75 watts	146-174 MHz	450 ma	2.5A	22A
T83JJA	110 watts		450 ma	2.5A	27A
T34JJA	30 watts	450-470 MHz	450 ma	2.5A	12A
	19 watts	470-512 MHz	450 ma	2.5A	12A
T44JJA	50 watts	450-470 MHz	450 ma	2.5A	18A
	39 watts	470-512 MHz	450 ma	2.5A	18A
T64JJA	75 watts	450-470 MHz	450 ma	2.5A	23A
	59 watts	470-494 MHz	450 ma	2.5A	23A
T74JJA	100 watts	450-470 MHz	450 ma	2.5A	30A
	78 watts	470-494 MHz	450 ma	2.5A	30A

*Intermittent minimum RF power output

Transmitter

Output Impedance:	50 ohms
Frequency Stability:	High Band } ± .0005% from -30°C to +60°C and UHF } Ambient (+25°C reference) Low Band } ± .002% from -30°C to +60°C Ambient (+25°C reference) - ± .0005% optional
Spurious & Harmonics:	More than 85 dB below carrier
Modulation:	16F3 ± 5 kHz for 100% at 1000 Hz
Audio Sensitivity:	0.100 volts ± 3 dB for 3.0 kHz deviation at 1000 Hz
FM Noise:	70 dB below ± 3.0 kHz deviation at 1000 Hz
Audio Response:	+1, -3 dB of 6 dB/octave pre-emphasis characteristics from 300 to 3000 Hz
Audio Distortion:	Less than 2% at 1000 Hz; ± 3.0 kHz deviation
Frequency Separation:	Low Band .750-1.0 MHz 29.7-50 MHz High Band 3.0 MHz 136-174 MHz UHF 9.0 MHz 406-420 MHz 450-512 MHz

FCC Designation:

Model Series	Transmitter Power Output	Applicable Parts of Rules	Emission Authorized	Type Acceptance Number
T51JJA	60 W	21, 89, 91, 93	15F2, 16F3, 16F9	CC1147
T81JJA	110 W	21, 89, 91, 93	15F2, 16F3, 16F9	CC1155
T43JJA	40 W	21, 89, 91, 93	15F2, 16F3, 16F9	CC3325
T53JJA	60 W	21, 89, 91, 93	3.4F2, 5.6F2	CC3326
T63JJA	75 W	21, 89, 91, 93	15F2, 16F3, 16F9	CC3343
T83JJA	110 W	21, 89, 91	15F2, 16F3, 16F9	CC3343
T34JJA	30 W	21, 89, 91, 93, 95(a)	15F2, 16F3, 16F9	CC4285
T44JJA	50 W	21, 89, 91, 93, 95(a)	15F2, 16F3, 16F9	CC4286
T64JJA	75 W	21, 89, 91, 93	15F2, 16F3, 16F9	CC4308
T74JJA	100 W	21, 89, 91, 93	15F2, 16F3, 16F9	CC4308

Receiver

Audio Output:	10 watts at less than 3% distortion (into 3.2 ohm load at 1000 Hz) 12 watts optional				
Input Impedance:	50 ohms				
EIA Modulation Acceptance:	± 7 kHz minimum High Band & UHF ± 6.5 kHz Low Band				
Frequency Stability:	High Band } ± .0005% from -30°C to +60°C and UHF } Ambient (+25°C reference)				
	Low Band } ± .002% from -30°C to +60°C Ambient (+25°C reference) - ± .0005% optional				
Receiver	UHF		HB		LB
Channel Spacing	25 kHz		30 kHz		20 kHz
	With Pre-AMP	Without Pre-AMP	With Pre-AMP	Without Pre-AMP	
Sensitivity:	0.25 μV	0.50 μV	0.25 μV	0.50 μV	.30 μV
20 dB Quieting EIA SINAD	0.20 μV	0.35 μV	0.20 μV	0.30 μV	.25 μV
Selectivity EIA SINAD	90 dB	90 dB	100 dB	100 dB	100 dB
Intermodulation EIA SINAD	80 dB	85 dB	80 dB	85 dB	85 dB
**Spurious & Image Rejection	**100 dB (minimum)	100 dB (minimum)	100 dB (minimum)	100 dB (minimum)	100 dB (minimum)
Squelch:	Carrier squelch (at threshold setting) Tone-Coded Squelch (fixed), Digital-Coded Squelch (fixed), are all 6 dBQ in all Bands.				
Frequency:	Low Band 29.7-50 MHz	High Band 136-174 MHz, 2.0 MHz		UHF 450-512 MHz, 2.0 MHz**	

** 1/2 IF SPUR REJECTION degrades to 90 dB from 1.5 MHz to 2 MHz frequency separation.



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Communications and Electronics Inc.

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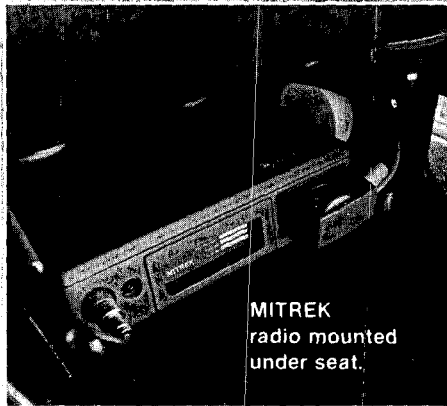
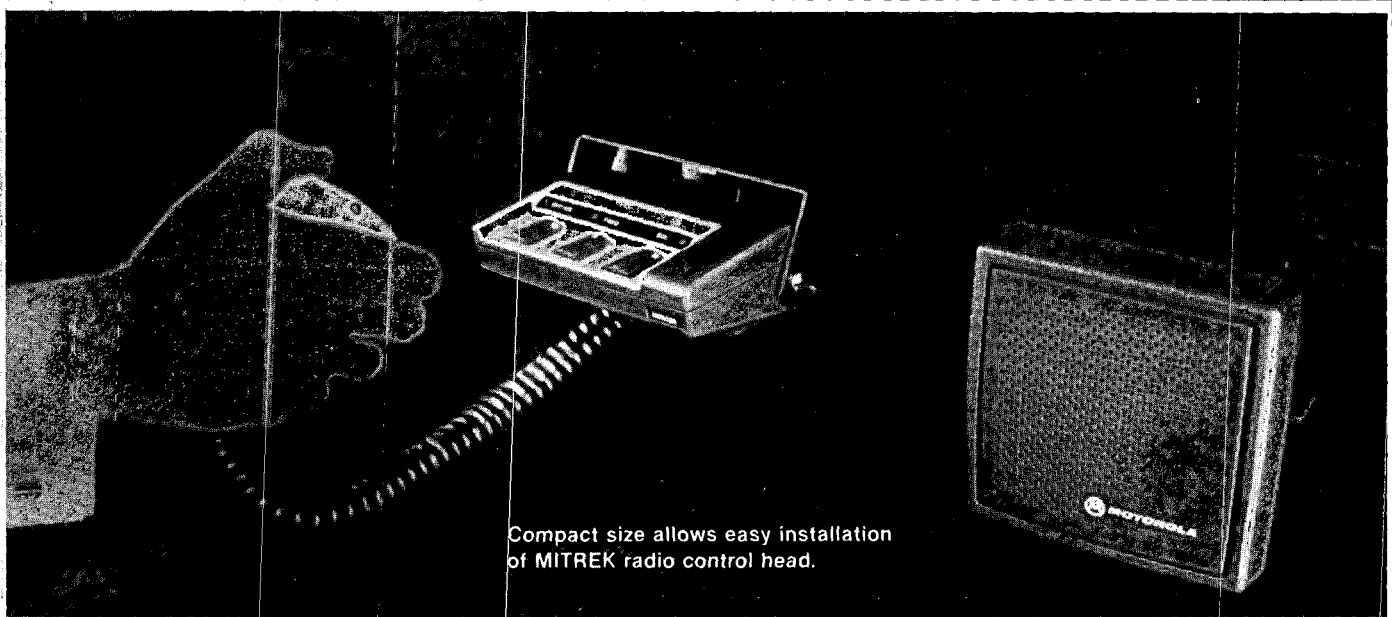
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Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company-owned centers. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.

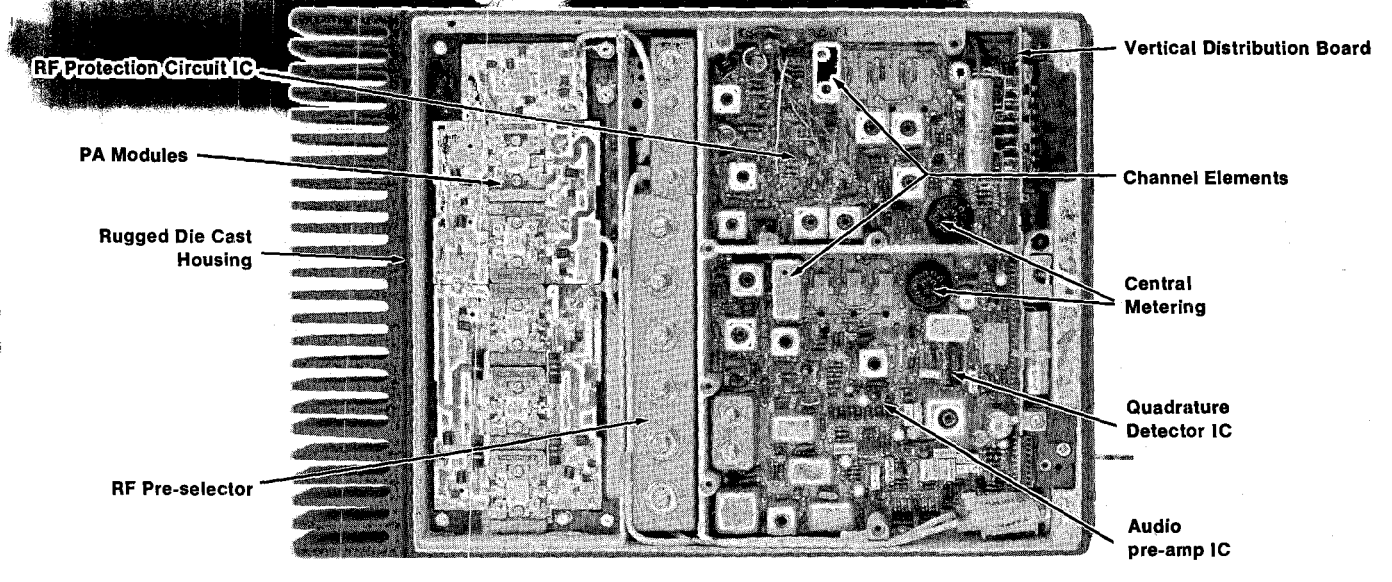
Feature	Description	Benefits
Contemporary Control Head Housing	The control head is high impact plastic, weatherproof per MIL Std 810C, featuring large, recessed control knobs. Microphone and speaker also meet MIL Std 810C.	The MITREK radio control head will take the toughest mobile use. Control knobs are easy to use, plainly marked, and recessed for safety. The inside of the vehicle can be exposed to the elements without danger of damaging controls, microphone or speaker. Non-weatherproof controls are also available. Lights are flush, and easy to read, with no daylight washout problems.
OPTIONS		
SYSTEMS 90 Control Group Compatibility	MITREK radio is fully compatible with the SYSTEMS 90 accessory group.	Engineered for the sophisticated user, it provides versatility for public service, transit, utilities, and all users who need the extra flexibility.
MDC-600 Signalling	Automatic ID with emergency alerting, selective call and status/message options are fully compatible, cost effective options with MITREK radios.	Better resource management by improving dispatcher efficiency, eliminating redundant transmissions and reducing mobile air time.
MVS-20 Mobile Voice Storage	A full 20 seconds of voice storage capability on one Systems 90 circuit card.	Virtually never a missed message. Minimizes call-backs, waiting, and repeating messages. Saves time and resources!
DIGITAL PRIVATE-LINE Coded Squelch	DIGITAL PRIVATE-LINE squelch is a completely solid state system featuring large scale integrated circuitry.	Coded squelch minimizes annoying co-channel message reception. Operators will hear only those calls that use their individual system code. Operator fatigue is reduced. Missed or misunderstood messages are minimized. 80 codes are available.
Solid State PRIVATE-LINE Squelch	Advanced technology provides a completely solid state squelch circuit which hears only those calls with a particular tone.	Minimizes annoying reception of signals by other users on the same channel. Circuit accepts only those signals with the proper tone code. Performs under those tough conditions.
Busy Light	Busy light is available on MITREK radio control head.	Enables the operator to visually monitor any selected channel, without audio, before transmitting on PRIVATE-LINE or DIGITAL PRIVATE-LINE squelch.
Time-Out Timer	Emits an alert tone and shuts off the transmitter after the transmission exceeds 60 seconds. Resets transmitter instantly after the microphone button has been released.	Prevents lock-up of a repeater, or tie up of a channel, by prolonged keying of the transmitter.
Extender Circuit	This option suppresses ignition noise prevalent in low band from the user's vehicle and other vehicles.	For low band only. Provides clear and intelligible reception in low signal, high noise areas. Talk-out range is also increased.
Pre-Amplifier	Improves the usable receiver sensitivity in high band and UHF.	Increases range capabilities by improving receiver sensitivity to .25 μ V.



MITREK MEANS RELIABILITY

The MITREK radio was designed to tough performance standards with extensive life testing and the use of reliable burned-in IC's. MITREK radios are burn-in tested before being packaged for shipment. This quality of design and manufacture assures a long life of trouble-free operation.

High Power UHF MITREK Radio Shown

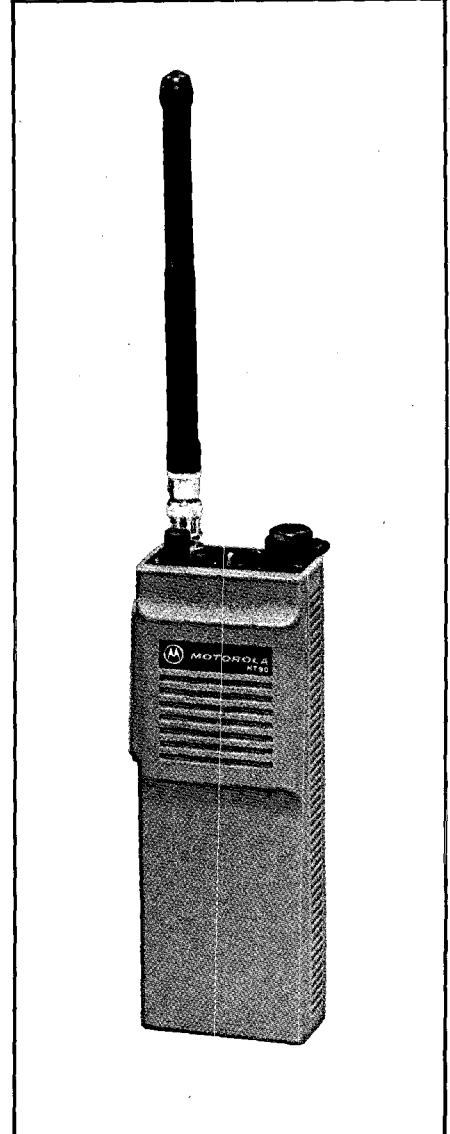
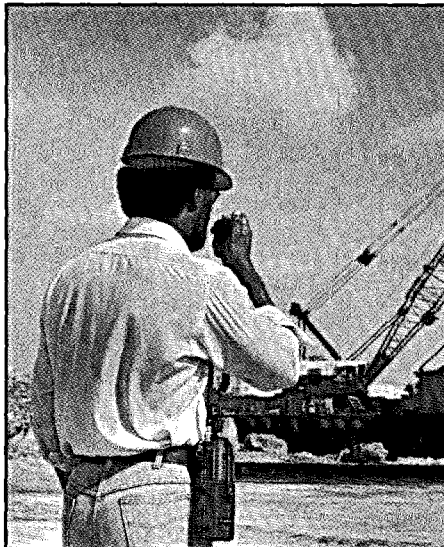
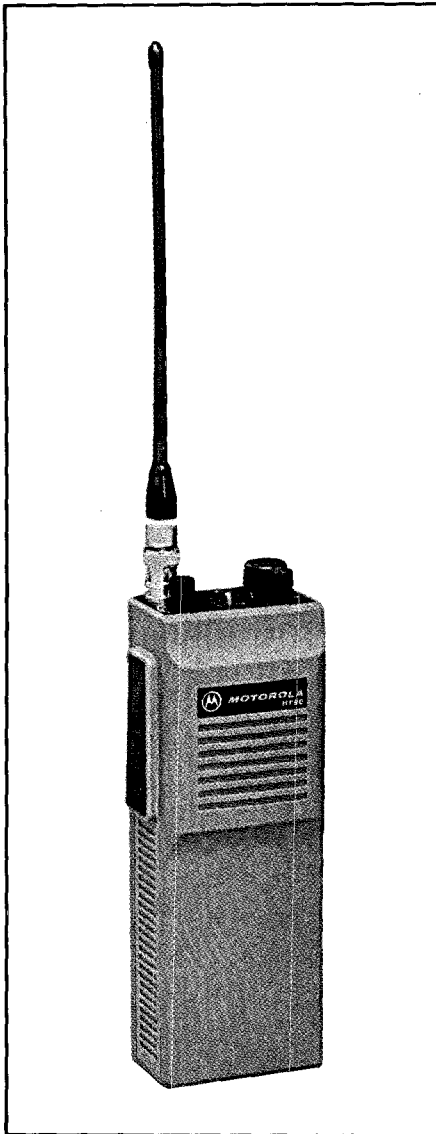




"HT90" Series "HANDIE-TALKIE" FM Portable Radio

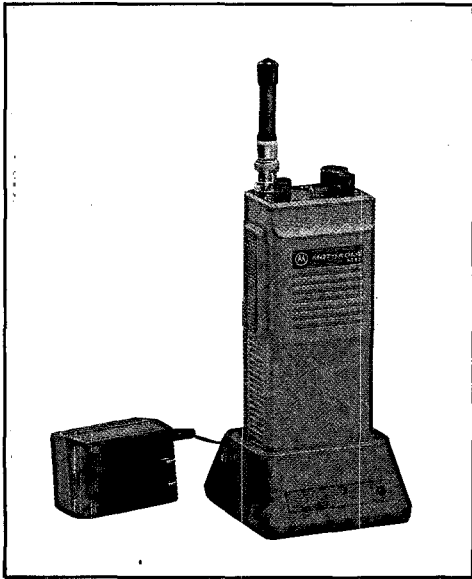
136-174 MHz, 5 or 2 Watts

403-430 MHz, 440-512 MHz, 4 or 1 Watts



FEATURES:

- One or Two Frequency Operation
- Rugged Construction
- PRIVATE-LINE and DIGITAL PRIVATE-LINE Coded Squelch
- Choice of Power Levels
- Variety of Accessories
- Basic or Universal Models



Motorola's HT90 series HANDIE-TALKIE Portable Radio offers competitively priced, dependable, solid radio performance in portable communications. Built to operate in rugged environments, the HT90 Portable Radio with its tough, polycarbonate housing will survive the use and abuse that portables typically receive. This unit has passed rigid qualification standards. Motorola has subjected this radio to its own Accelerated Life Testing which simulates over 5 years of field use.

As for electrical performance, the HT90 Portable Radio is the optimum combination of discrete and modular circuitry from a performance/reliability standpoint. Key electrical specifications insure audio performance for that clear, crisp transmission.

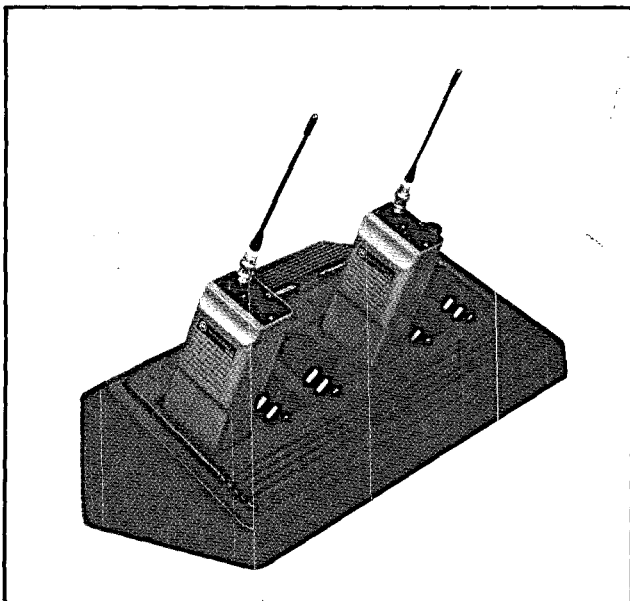
The HT90 Portable Radio is available in 1 and 2 frequency models in both VHF (136-174 MHz) and UHF (403-430, 440-512 MHz) bands. Power levels are 2 and 5 watts and 1 and 4 watts respectively. Basic and universal models are available with carrier squelch, PRIVATE-LINE and DIGITAL PRIVATE-LINE types of squelch.

Sixteen hour standard and 1 hour rapid charge nickel-cadmium batteries and chargers are available along with the compact standard charge plug-in charger.

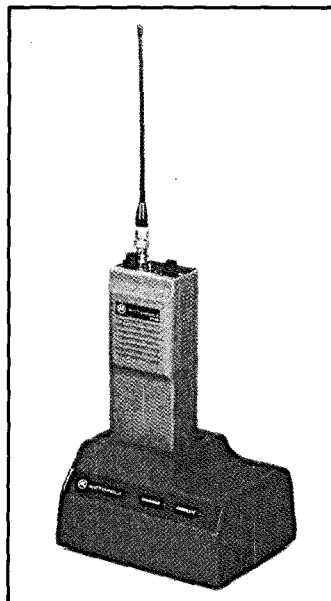
FEATURES	DESCRIPTION	BENEFITS
Rugged Design	The housing is constructed of high-impact, molded polycarbonate plastic material.	Assures reliability and dependability regardless of rough handling.
Choice of RF Power	5 watt or 2 watt VHF, 4 watt or 1 watt UHF models are available.	Power levels and models can be selected to meet your particular needs in system design.
Choice of Models	Two model series are available. Choose the basic models for handheld operation only, or the universal models for multi-function capability.	The basic model is activated by depressing a push-to-talk switch in the handheld mode. The universal model has both a push-to-talk switch for handheld operation and a top mounted universal connector which permits use of an external speaker microphone.
Performance Proven Operation	Every radio must pass rigorous testing throughout the production process. We've designed out known failure modes through the unique Motorola Accelerated Life Test. This ALT procedure, a proprietary process developed over the last several years at Motorola, simulates 5 years of field stress.	The HT90 Portable Radio provides reliable performance to satisfy your communication requirements. Especially valuable in environments where radios are subjected to harsh conditions.
Coded Squelch	DIGITAL PRIVATE-LINE is a unique coded squelch system that utilizes modular solid state integrated circuitry, providing a choice of 80 codes. PRIVATE-LINE is a tone coded squelch system providing a choice of the industry's standard 28 codes.	Coded squelch option minimizes reception of messages from other radio systems on your channel. Your personnel hear only those calls having your system code, thereby reducing operator fatigue and missed or misunderstood messages.

OPTIONS	DESCRIPTION	BENEFITS
PAC•RT/PAC•PL Operation	The HT90 Series radio, when equipped with the H804 PAC•RT/PAC•PL option will operate with Motorola's PAC•RT/PAC•PL vehicular repeater system. An HT90 control unit/charger is available with the PAC•RT repeater, which automatically activates and deactivates the repeater by simply removing or returning the radio to the control unit.	Using an HT90 Series portable radio in Motorola's PAC•RT/PAC•PL repeater system enables your operators to leave their vehicles and still maintain full communications with their base station, other mobile radios, or other portable radios in their communications system.

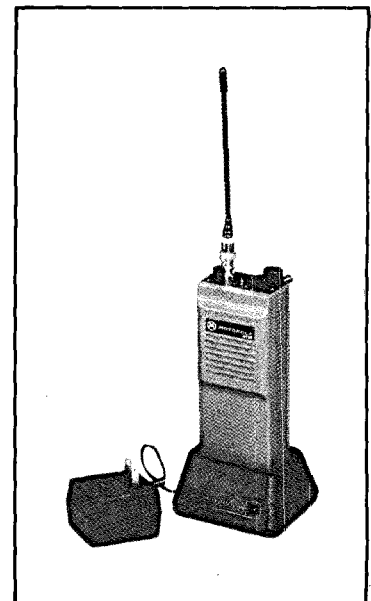
ACCESSORIES	DESCRIPTION	BENEFITS
Choice of Batteries	Operation is provided by a rechargeable nickel-cadmium battery (1 or 16 hour charge rate).	Choose the charge rate that best suits your system needs.
Battery Chargers Rapid Chargers:	Both single unit and multiple unit (6 compartments) chargers are available in either 117 V or 234 V ac configurations to afford you a one hour charge rate, when the rapid charge battery is used.	These units will charge either the complete radio with battery or the battery alone. A red charge light and green completion indicator light are provided.
Standard Chargers:	Both single unit and multiple unit (6 compartments) chargers are available in either 117 V or 234 V ac configurations which will charge a battery in 16 hours.	
Compact Charger	Stylized, single unit charger with plug-in transformer, similar to calculator chargers. This unit will charge the radio only, at the standard 16 hour charge rate.	A lightweight small charger for efficient, space saving applications.
Carrying Accessories	Urethane carrying cases come with a urethane T-strap. The cases are secured with either a snap on or a swivel belt loop.	A complete line of quality carrying cases gives the user flexibility to choose the best type of carrying accessories for any application.
Remote Speaker Microphones	Use with any universal series HT90 radio. These compact units have a water-proof booted, push-to-talk switch and a back cover clip that attaches to one's clothing.	Allows the user to talk and listen without removing the radio from the belt, or carrying case. Speaker microphones are ideal in high noise level areas.
Audio Accessories	A series of headsets in several different configurations are available for different levels of noise environment and for use with or without helmets. An earpiece speaker with volume control or lapel speaker that clips to the clothing provide private listening capability.	For those applications requiring relatively hands free operation or where noise or privacy is a problem, the HT90 audio accessories are your solution.



Multi Unit Charger



Single Unit Charger



Compact Charger

"HT90" Series "HANDIE-TALKIE" FM Radio

VOL 008 PAGE 345

Performance Specification

General	VHF	UHF
Model Series:	H23HMB, H23HMU, H33HMB, H33HMU	H24HMB, H24HMU, H34HMB, H34HMU
Frequency:	136-174 MHz	403-430, 440-512 MHz
Power Supply:	One rechargeable nickel-cadmium battery	
Dimensions: less antenna & knobs H x W x D in inches:	7.26 x 2.7 x 1.95 (181.5 x 67.5 x 48.75mm)	7.26 x 2.7 x 1.95 (181.5 x 67.5 x 48.75mm)
Weight (ounces) Ni-Cd Battery:	25.2 oz. (706g)	24.0 oz. (670g)
Battery Life (hours)* Ni-Cd Battery:	8 hours	8 hours
Sealing:	Water resistant housing	
Shock & Vibration:	Impact resistant polycarbonate housing compliant with EIA RS-316 B	
Dust & Humidity:	Weather resistant polycarbonate housing compliant with EIA RS-316 B	

*Low Power 10-10-80 duty cycle
High Power 5-5-90 duty cycle

Transmitter	VHF (High Band)		UHF	
	5w	2w	4w	1w
RF Output Ni-Cd @ 12.5V:				
Frequency Separation:	1 MHz No Degradation		4 MHz No Degradation	
Frequency Stability -30° to +60°C: 25°C ref	± .0010% L.P. + .0005% H.P.		+ .0005%	
Modulation:	16F3		16F3	
Spurious & Harmonics:	-50 dB		-50 dB	
FM Noise:	-50 dB		-50 dB	
Audio Response: (from a 6 dB/octave pre-emphasis; 300 to 3000 Hz)	+1, -3 dB		+1, -3 dB	
Audio Distortion: (@1000 Hz, 60% rated max. deviation)	5%		5%	
FCC Designation: Low Power High Power	AZ489FT3623 AZ489FT3624		AZ489FT4608 AZ489FT4609	

Receiver	VHF (High Band)	UHF
Channel Spacing:	30 kHz/*	25 kHz
Modulation Acceptance:	7.0 kHz	7.5 kHz
Frequency Separation:	1 MHz No Degradation	1 MHz No Degradation
Sensitivity 20 dB Quieting: 12 dB SINAD: Squelch:	35 μV 25 μV .18 μV	.50 μV .35 μV .25 μV
Selectivity: (EIA SINAD)	-75 dB	-70 dB
Intermodulation:	-65 dB	-60 dB
Frequency Stability: -30° to +60°C; 25°C ref	± .0010%	± .0007%
Spurious & Image Rejection:	-65 dB	-60 dB
Audio Output: (@ less than 5% dist.)	500 mW	500 mW
EIA Useable Bandwidth:	5.0 kHz min	5.0 kHz min
Low Power High Power	AZ489FT3623 AZ489FT3624	AZ489FT4608 AZ489FT4609

*For International 25 kHz channel spacing, selectivity is -70dB



Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company-owned stations. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.



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A Subsidiary of Motorola, Inc.
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MOTOROLA

MCX100 FM Two-Way Radio

136-174 MHz, 10, 30 Watts

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STANDARD

Feature

Up to 32 Channel Synthesizer

Description

The broad-band synthesizer used in MCX100 radios provides technological leadership in the design of wideband transmitters and receivers. The radio's 32 channels are determined through the use of a voltage-controlled oscillator and Programmable Read-Only Memory (PROM).

Benefits

Eliminates costly multiple channel elements. Changing or adding channels is simplified by the mere replacement of the PROM.

Wide-Band Transmitter and Receiver

28 MHz transmit bandwidth and 4 MHz of receive bandwidth is standard; an optional dual front-end receiver provides 12 MHz of receiver bandwidth.

Permits more effective multi-frequency usage and increases applications in markets such as Public Safety for inter-agency communications. The optional dual front end receiver allows the user to assign receive frequencies in two 6 MHz segments anywhere within the sub-band.

MCX100 FM Mobile Radio

STANDARD

Features

Description

Benefits

Rugged Design

Rugged diecast metal chassis and aluminum covers provide the strength necessary to meet the MIL Std 810C specifications for Shock and Vibration!

The compartmentalized, modular construction offers maximum support and protection for the major radio elements. Even tough environments are no match for the MCX100 radio.

Dual Model Offering

Both compact front mount models as well as remote mount models are available. In remote mount models, the radio can be installed under the seat, in the trunk or wherever convenient inside the vehicle.

Regardless of your mounting requirements, the MCX100 radio has a model to fit your needs. The compact front mount model offers mounting convenience, even in today's smaller vehicles. The remote model offers a full-feature, small control head and separate compact transceiver.

Worldwide Application

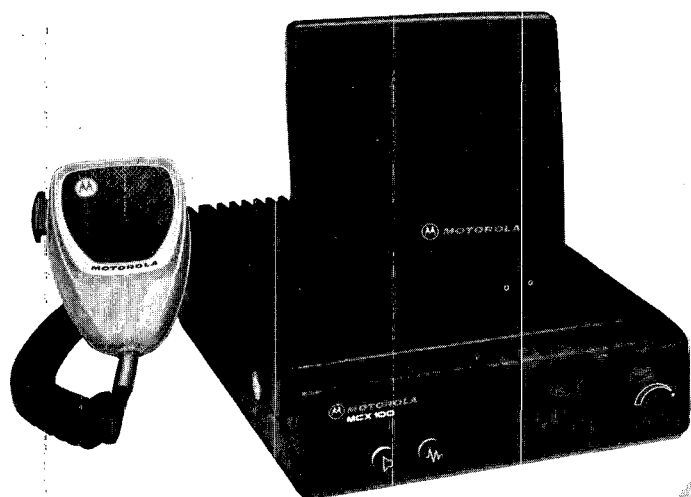
The MCX100 radio meets worldwide type acceptance requirements.

The design permits cost effective operation throughout the world.

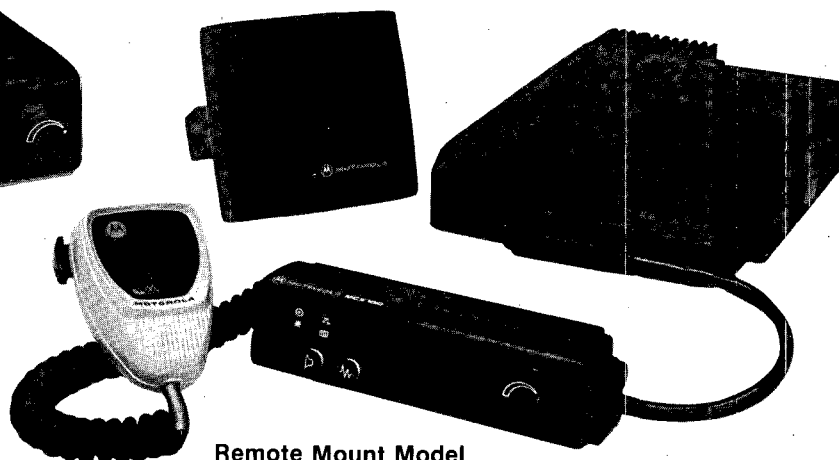
Designed and Manufactured for Dependable Operation

Major quality and reliability emphasis has been placed in both the engineering design and manufacturing process to ensure the utmost in reliable field performance. Extensive accelerated life testing techniques have enabled us to optimize component reliability. To ensure reliable and consistent testing, all major radio analysis is automatically done by computer controlled on-line systems.

Automated testing technology has been utilized to minimize downtime and reduce the probability of human error. These procedures verify the quality, durability and performance of each MCX100 radio ensuring long-term customer satisfaction.

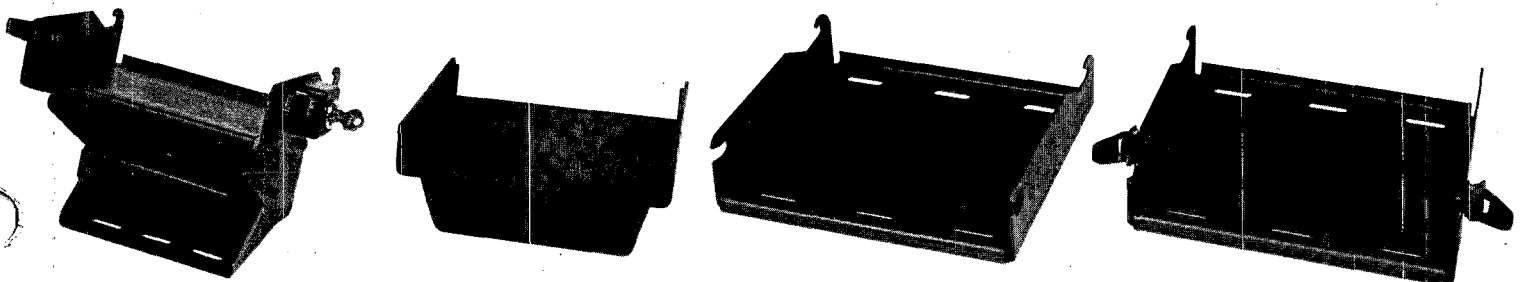


Front Mount Model



Remote Mount Model

Feature	Description	Benefits
Multiple Signalling Systems	Motorola's "Private-Line" and "Digital Private-Line" squelch are accommodated by the microprocessor-based MCX100 radio.	The MCX100 microprocessor-based technology accommodates the many different types of signalling systems and requirements today. This flexibility enables customers to add or change capability readily and inexpensively.
Busy Light	The orange-LED on the front panel of the radio provides a visual indication that the channel is in use.	Enables visual instead of audio monitoring before transmitting on all coded squelch models. Also, helps reduce operator fatigue.
Time Out Timer	Automatically shuts off the transmitter after a pre-programmed period of air time. All "Private-Line" and "Digital Private-Line" squelch models have this feature as standard.	Prevents repeater lock-up or tying up a channel by prolonged transmitter keying. A short alert tone warns the operator that the timer has shut off the transmitter. Resets transmitter instantly after mic button is released.
Variable Intensity LED Display	Multi-channel numbers are indicated by the 7 segment LED displays. LED intensity is automatically adjusted to suit ambient light conditions.	Variable intensity LED display enhances readability in bright sunlight, as well as in the dark.
High Speed Internal Squelch	A high speed variable time constant squelch circuit, internally preset, adjusts the squelch closing to virtually eliminate noise bursts normally heard at the end of a transmission. Under very weak signal conditions, time constant changes to practically eliminate chatter often encountered with fading signals.	The automatic adjustment of speed and time constant, according to the signal strength of the incoming carrier eliminates frequent operator adjustment and annoying noise bursts. Internally pre-set circuit minimizes the number of operator controls.
Mounting Options	<ul style="list-style-type: none"> • Latched mounting tray • Left or right hand lock • Hinged bracket 	<p>Snaps in and out for quick access to the radio.</p> <p>Provides added security, as well as easy access of the latched mounting tray.</p> <p>For both floor and hump applications; this mounting can easily accommodate uneven or angled surfaces.</p>



Mounting Hardware

MCX100 FM Mobile Radio

Performance Specifications

General

No. of Frequencies:	Up to 32	
Squelch Option:	Carrier Squelch 1000 Series: "Private-Line" and "Digital Private-Line" 7000 Series	
Primary Power:	12.6-13.8V	
Frequency Range:	136-162, 146-174 MHz	
Standby Current:	350 ma 100-500 ma additional current depending upon options and configuration	
Model Series:	23 CUA	43 CUA
Minimum RF Power Output:	10 watts	30 watts
Current at rated Audio:	1.1A	1.1A
Transmit Current @ Rated Power:	3.0A	7.5A

Transmitter

Output Impedance:	50 ohms
Frequency Stability:	± 0.0005%; optional ± 0.0002%. From -30°C to +60°C ambient (+25°C reference)
Spurious & Harmonics:	10 W: 80 dB below carrier 30 W: 85 dB below carrier
Modulation:	(16 F3) ± 5 kHz for 100% @ 1000 Hz (25/30 kHz) ± 2.5 kHz for 100% @ 1000 Hz (12.5 kHz)
Audio Sensitivity:	120 mV nominal for 60% system deviation 25/30 kHz models 45 mV nominal for 60% system deviation 12.5 kHz models
FM Noise:	50 dB (45 dB @ 12.5 kHz EIA)
Audio Response:	+1/-3 dB from 300 to 400 Hz and 2700 to 3000 Hz; +1/-1.5 dB from 400 to 2700 Hz
Audio Distortion:	3% at 1000 Hz; 60% deviation
Frequency Separation:	26 or 28 MHz

FCC Designation¹

Model Series	Transmitter Power Output	Type Acceptance Number—Standard Model	Type Acceptance Number—Dual Front End
23 CUA-Front	10 W	ABZ9QBT3607	ABZ9QBT3608
43 CUA-Front	30 W	ABZ9QBT3609	ABZ9QBT3610
23 CUA-Remote	10 W	ABZ9QBT3619	ABZ9QBT3620
43 CUA-Remote	30 W	ABZ9QBT3621	ABZ9QBT3622

¹Applicable parts of Rules: 22.90.74; Emission Authorized: 15F2, 16F3, 16F9.

Receiver

Audio Output:	EIA: 5 watts at 3% distortion		
Input Impedance:	50 ohms		
EIA Modulation Acceptance:	@ 30/25 kHz ± 7 kHz @ 12.5 kHz ± 4.5 kHz		
Frequency Stability:	± 0.0005%; optional ± 0.0002%. From -30°C to +60°C ambient (+25°C reference)		
Receiver (Profile) Channel Spacing:	30 kHz EIA	25 kHz EIA	12.5 kHz EIA
Sensitivity 20 dB Quieting:	0.35 μV	0.35 μV	0.35 μV
EIA SINAD:	0.28 μV	0.28 μV	0.28 μV
Selectivity:	90 dB	85 dB	70 dB
Intermodulation:	80 dB	80 dB	70 dB
Spurious & Image Rejection:	85 dB	85 dB	85 dB
Squelch Sensitivity:	Carrier squelch (fixed): 10 dBQ; Tone Coded squelch (fixed): 6 dBQ; Digital coded squelch (fixed): 6 dBQ;		
Frequency Separation:	4 MHz standard; 12 MHz optional		

Radio Dimensions/weight:

	Front Mount		Remote Mount	
	10W	30W	10W	30W
Length mm (inches)	228 (8.9)	279 (10.9)	253 (9.9)	303 (11.9)
Width mm (inches)	179 (7)	179 (7)	179 (7)	179 (7)
Height mm (inches)	51 (2)	51 (2)	51 (2)	51 (2)
Weight kg (lb.)	2.9 (6.4)	3.2 (7)	3.5 (7.7)	3.8 (8.4)

Control Head Dimensions/weight:

(Depth) Length mm (inches)	58 (2.3)
Width mm (inches)	179 (7.0)
Height mm (inches)	51 (2)
Control Head with Microphone kg (lb.)	1.22 (2.9)
Speaker kg (lb.)	.77 (1.7)



Support Services

Wherever Motorola sells, our product is backed by service. In the U.S., we have 900 authorized or company owned service centers. In addition, our products are serviced throughout the world by a wide network of company or authorized independent distributor service organizations.



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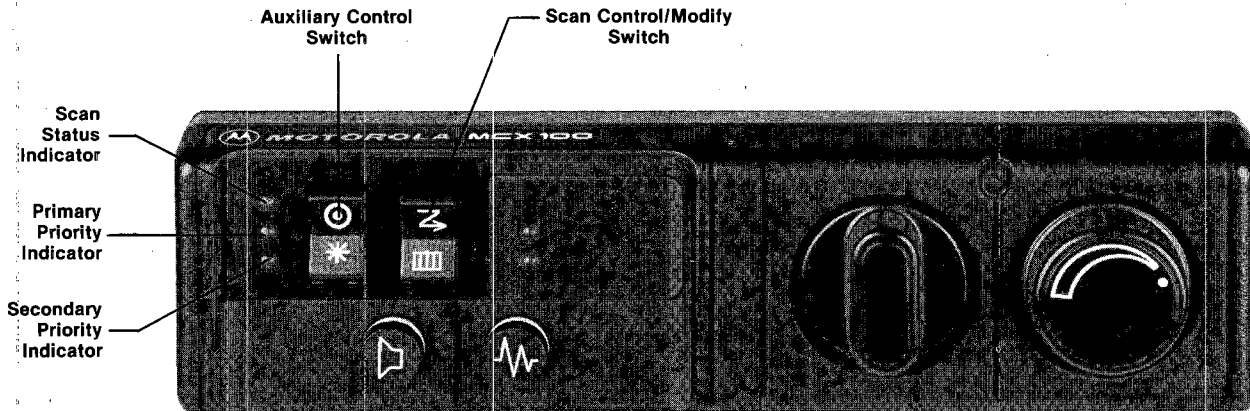
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SIGNALLING FEATURES

Feature	Description	Benefits
Microprocessor-Based Signalling	Multiple frequency radios may have any "Private-Line" or "Digital Private-Line" squelch code on any channel. In addition, user selectable single tone (up to 10) or selectable coded squelch (up to 30) is available.	Microprocessor-based signalling system permits inexpensive code changes through the simple interchange of PROMS. MCX100 has the flexibility to meet virtually all your requirements.
Multiple Coded Squelch	The channel selector switch on "Private-Line" and "Digital Private-Line" squelch radios automatically selects the desired code when channels are changed.	Simplifies operation of the radio since only one switch operates both channel and code selection.

"CHANNEL SCAN" MONITORING

Two versions of Channel Scan monitoring are available	Full 32 channel scan capability is provided. The channels can be scanned for the presence of carrier, or the presence of carrier and correct tone coded squelch.	Ensures efficient fleet or departmental operation without the need for multiple receivers.
6 Mode Scan	This version permits one to six pre-programmed scan modes. Each mode specifies which channels are to be scanned.	Six different scan modes permit the optimum configuration of channels. These modes permit the ultimate in systems flexibility where "home" and "roam" channels differ.



MCX-100 with User Modifiable Scan

**"CHANNEL SCAN"
MONITORING**

Feature	Description	Benefits
User Modifiable Scan	Enables the user to modify the basic scan sequence on a channel by channel basis. Specific channels can be "locked-out" so they cannot be added to the scan sequence manually.	The pre-programmed scan sequence may be altered to suit operational conditions. Very busy channels, may be "toggled-out" to permit scanning of less heavily loaded channels. Infrequently used channels may be "toggled-in", providing total flexibility for operators whose assignments vary daily.
Priority Scan	Priority channels are scanned for the presence of RF carrier and require the Fast-look synthesizer option. A short alert tone indicates that a priority message is being received.	The operator can listen to non-priority channels with the assurance that calls on the primary and secondary priority channels will be received without loss of message content.
Off-Hook Mode	During normal operation, the radio remains on the active channel when the microphone is taken "off-hook". The optional mode reverts the scanner to a PROM specified channel when the microphone is "off-hook".	The "revert" option ensures that operators do not inadvertently transmit on channels they are monitoring—but on their "home" or authorized channels.
Slaved Priority	Enables the priority channel to be determined by the channel selected and displayed prior to switching on the scanner.	The desired priority can be speedily and simply selected by rotation of the channel selector.
Spontaneous Priority	The user's last channel of communication is temporarily reassigned as the secondary priority channel.	Ensures that follow-up calls from the base or other units are not lost because the scanner may have stopped at another active "non-priority" channel.

International Symbols Used on MCX-100 Radio Controls

SQUELCH



CALL (SINGLE TONE)



SPEAKER PL OFF (MONITOR)



SCAN ON



VOLUME (ROTARY)



MOTOROLA

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HELIAX

Transmission Line

- Low-Loss LDF Foam HELIAX for Economy
- Air HELIAX for Maximum Efficiency
- Polyethylene Jacketed for Increased Service Life
- High Flexibility and Crush Resistance Characteristics
- Maximum Corrosion Resistance
- Weatherproof Construction



Features • Benefits

Low Signal Loss—The foam polyethylene used in LDF HELIAX is of a new low-loss design. ● These cables have loss characteristics approaching those of air dielectric cables. Both air and foam cables incorporate high-conductivity copper or copper-clad inner conductors, and copper outer conductors.

Weatherproof — ● The outer and inner conductors are constructed with copper for optimum resistance to the deteriorating effects of humidity, salt air, rain, snow and corrosive atmospheres. Tough polyethylene jacketing material prevents galvanic corrosion caused by contact between dissimilar metals, and

reduces interference caused by the rectifying action of oxides. Black pigment throughout the jacketing assures maximum resistance to the sun's ultraviolet rays. The LDF foam cables have an annularly corrugated outer conductor which prevents any longitudinal moisture path. Connectors for both air cables and LDF foam cables employ "O" ring seals which prevent moisture entry.

Simplified Installation—Combining excellent crush resistance with flexibility, the outer corrugated tube on all HELIAX transmission lines lends itself to easy bending on a short radius for simplified, versatile installations. ● Connectors may be assembled with

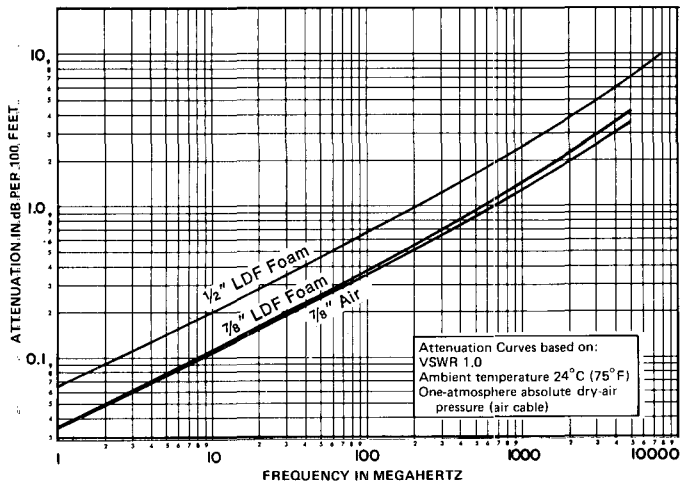
standard hand tools. The LDF foam cable connectors utilize a unique self-flaring feature which provides positive electrical contact.

The LDF Foam HELIAX Transmission Line is supplied in two sizes, 1/2" and 7/8" and the Air HELIAX Transmission Line is available in the 7/8" size. All 7/8" transmission line kits are supplied with a 6-foot, 1/2" LDF Foam HELIAX jumper cable for connection to the antenna. All transmission line kits are supplied with an 8-foot jumper cable for connection to the base station, and with jacketed tie wires for attachment to the tower. A hardware kit is included which consists of a mounting plate, a mounting bracket, rawlplugs, screws, nuts, lock-washers, tape and silicone grease.

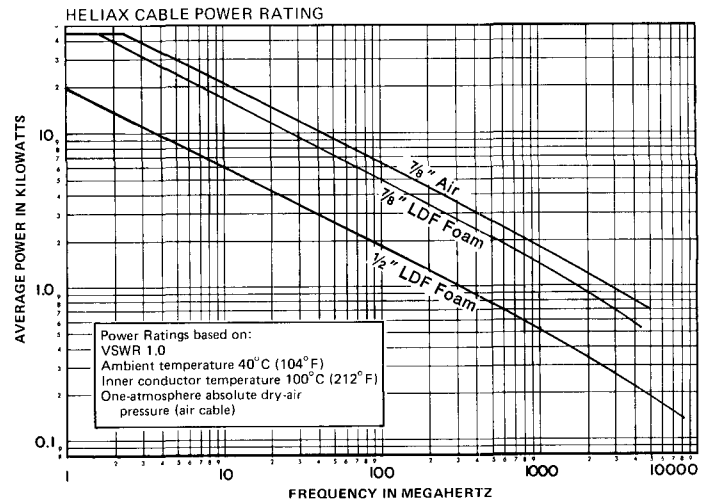
Performance Specifications

	1/2" LDF Foam HELIAX		7/8" LDF Foam HELIAX		7/8" Air HELIAX	
Maximum Power Rating:	SEE GRAPH BELOW					
Impedance:	50 ohms		50 ohms		50 ohms	
Velocity of Propagation:	87.5%		89.5%		91.6%	
Attenuation, see graph below:	dB/100 ft.	dB/100 m	dB/100 ft.	dB/100 m	dB/100 ft.	dB/100 m
at 40 MHz	0.44	1.44	0.23	0.75	0.23	0.75
at 150 MHz	0.86	2.82	0.48	1.57	0.46	1.51
at 450 MHz	1.52	4.99	0.88	2.89	0.83	2.72
at 800 MHz	2.15	7.05	1.22	4.00	1.11	3.64
at 960 MHz	2.40	7.87	1.38	4.53	1.25	4.10
Minimum Bending Radius:	5 in. (127 mm)		10 in. (254 mm)		10 in. (254 mm)	
Weight Per 100 ft.	16 lbs. (7.3 kg)		33 lbs. (15 kg)		54 lbs. (24.5 kg)	
Per 100 m	24 kg (53 lbs.)		49 kg (108 lbs.)		80 kg (176 lbs.)	
Outside Major Diameter (Over Jacket):	0.64 in. (16 mm)		1.1 in. (28.2 mm)		1.11 in. (28.3 mm)	

NOTE: Connectors are attached to line at factory unless otherwise specified. Standard tools can be used to complete the installation.



Attenuation For LDF Foam and Air HELIAX Cables



Average Power Ratings For LDF Foam and Air HELIAX Cables

Model Chart

TDN6815 1/2" LDF Foam only
 TDN6816 7/8" LDF Foam only

Model Number	Cable Termination at Base Station	Cable Termination at Antenna
TDN6596	1/2" LDF Foam UHF Male	UHF Female
TDN6597	1/2" LDF Foam UHF Male	N Male
TDN6598	1/2" LDF Foam UHF Male	N Female
TDN6599	1/2" LDF Foam N Male	N Male
TDN6608	1/2" LDF Foam N Male	UHF Male
TDN6600	7/8" LDF Foam UHF Male	UHF Male
TDN6601	7/8" LDF Foam UHF Male	N Male

Model Number	Cable Termination at Base Station	Cable Termination at Antenna
TDN6602	7/8" LDF Foam N Male	N Male
TDN6603	7/8" LDF Foam UHF Male	N Female
TDN6609	7/8" LDF Foam N Male	UHF Male
TDN6604	7/8" Air UHF Male	N Male
TDN6605	7/8" Air N Male	N Male
TDN6606	7/8" Air UHF Male	UHF Male



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150
174 MHz

MODEL ASP-711 and -712 SERIES

Economy POWER DIRECTOR™ Two and Four Dipole, Steerable Pattern Base Station Antennas

- Half the weight of heavy duty counterparts, the ASP-601 and ASP-602.
- Dipoles are field adjustable for offset gain or omnidirectional patterns.
- Frequency range splits permit versatility for multitransmitter and duplex operations.
- All-metal mast construction and dc grounding of provides superior lightning protection.
- Solid aluminum dipoles secure to support pipe with stainless steel clamps.
- Cable connections are molded to assure all-weather durability.
- Type N male connector for positive, weather-proof electrical connection to rigid or flexible transmission line.

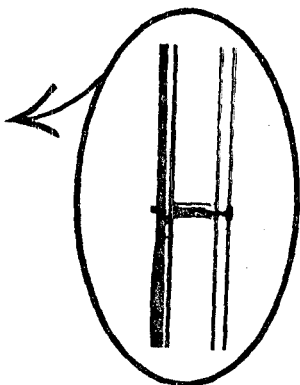
SPECIFICATIONS

Electrical

Power	1500 watts maximum
Gain	ASP-711: 13 dB omni; 6 dB offset ASP-712: 6 dB omni; 9 dB offset
Frequency Range	150-160 MHz (ASPA prefix) 155-160 MHz (ASPB prefix) 164-174 MHz (ASPC prefix)
Bandwidth	10 MHz
VSWR	Less than 1.5:1
Impedance	50 ohms nominal
Vertical Beamwidth	34 degrees (ASP-711) 16 degrees (ASP-712)
Horizontal Beamwidth	180 degrees, offset mode only
Lightning Protection	dc ground through support pipe
Termination	Type N male connector
Flexible Termination	RG-8A/U 1/4 inches (6.1 cm)

Mechanical

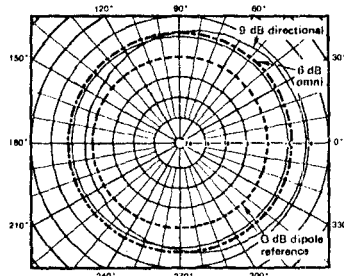
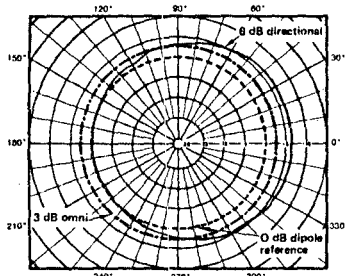
Rated Wind Velocity	ASP-711: 93 mi/h (150 km/h) ASP-712: 82 mi/h (132 km/h)
Lateral Thrust	ASP-711: 52.8 lb (24 kg) ASP-712: 112 lb (50.8 kg)
Bending Moment	ASP-711: 258 ft-lb (35.7 kg-m) ASP-712: 1098 ft-lb (151.8 kg-m)
Equivalent Flat Plate Area	ASP-711: 1.13 ft² (0.112 m²) ASP-712: 2.8 ft² (0.3 m²)
Support Pipe Length	ASP-711: 144 inches (3.7 m) ASP-712: 272 inches (6.9 m)
Weight	ASP-711: 13 lb (5.9 kg) ASP-712: 25 lb (11.3 kg)
Radiator Elements	3/8 inch (9.5 mm) aluminum rod
Feed Point Insulators	Weatherproof molded plastic
Radiator Mount	Stainless steel clamp
Support Pipe	Aluminum tubing: 1 3/4 inch (44.4 mm) O.D.; 2 inches (50.8 mm) O.D. Lower Section (ASP-712 only)
Support Pipe Mounting Area Available	24 inches (61 cm) minimum
Mounting	Two heavy duty mast clamps (not included) recommended
Shipping Information	Weight: ASP-711: 17 lb (7.7 kg) ASP-712: 32 lb (15 kg) 6 x 9 x 147 inches (15.2 x 22.9 x 373.4 cm)



ASP-711

Horizontal Field Patterns

ASP-712



See Catalog sections for mounting hardware, cables, connectors and other materials required for complete installation.

ASP-711 ASP-712

