

Frequency Mixers

Model
SRA-3500

LEVEL 7 (+7dBm LO, up to +1dBm RF)

T-74-09-01



computer-automated performance data
typical production unit / for data of other models consult factory

mixer conversion loss and isolation

RF MHz	LO MHz	Conversion Loss (dB)			freq. (MHz)	Isolation L-R (dB)			LO MHz	Isolation L-L (dB)		
		+4dBm	+7dBm	+10dBm		+4dBm	+7dBm	+10dBm		+4dBm	+7dBm	+10dBm
500.000	530.000	5.96	5.49	5.22	500.000	43.39	44.57	45.11	530.000	34.16	34.18	33.63
676.471	646.471	5.06	4.86	4.80	676.471	42.23	45.01	47.85	646.471	32.90	32.12	31.39
852.941	822.941	5.62	5.14	4.87	852.941	40.34	44.31	49.20	822.941	31.84	30.77	29.90
1000.000	970.000	6.31	5.49	5.05	1000.000	39.09	43.00	48.01	970.000	31.65	30.12	29.16
1117.647	1087.647	6.94	6.31	5.86	1117.647	38.56	41.48	44.70	1087.647	31.38	29.93	29.04
1294.118	1264.118	7.10	6.71	6.51	1294.118	37.24	38.60	39.89	1264.118	29.79	28.62	27.87
1382.353	1352.353	7.06	6.65	6.48	1382.353	37.12	38.54	39.71	1352.353	30.33	29.04	27.92
1500.000	1470.000	7.00	6.73	6.59	1500.000	36.27	37.52	38.92	1470.000	30.44	28.95	27.54
1647.059	1617.059	7.04	6.75	6.61	1647.059	34.35	35.53	36.50	1617.059	27.39	26.47	25.58
1823.529	1793.529	7.61	7.16	6.94	1823.529	33.40	34.94	36.40	1793.529	23.56	23.92	24.28
2000.000	1970.000	7.72	7.35	7.05	2000.000	32.93	34.78	36.56	1970.000	21.93	22.93	23.82
2088.235	2058.235	7.73	7.33	7.02	2088.235	32.71	34.08	35.33	2058.235	21.69	22.73	23.58
2264.706	2234.706	7.78	7.35	6.99	2264.706	32.54	33.58	34.38	2234.706	22.13	22.82	23.50
2500.000	2470.000	7.81	7.31	6.88	2500.000	33.93	35.10	36.28	2470.000	23.23	23.41	23.78
2617.647	2587.647	7.62	7.08	6.71	2617.647	33.70	34.51	35.27	2587.647	23.24	23.33	23.38
2882.353	2852.353	8.42	7.51	7.15	2882.353	34.37	34.73	35.05	2852.353	23.07	23.28	23.39
3000.000	2970.000	8.55	7.49	6.94	3000.000	34.72	35.30	35.71	2970.000	22.79	23.26	23.25
3147.059	3117.059	8.76	7.27	6.76	3147.059	35.48	36.75	38.38	3117.059	23.17	23.89	23.74
3323.529	3293.529	9.48	7.09	6.35	3323.529	39.93	43.96	43.32	3293.529	24.31	25.30	24.55
3500.000	3470.000	8.88	6.45	5.82	3500.000	43.44	40.55	36.85	3470.000	24.98	26.12	25.87

mixer VSWR

freq. MHz	VSWR, RF port			VSWR, LO port			freq. (MHz)	VSWR, IF port			freq. (MHz)	max. DC output mV	DC offset mV
	+4dBm	+7dBm	+10dBm	+4dBm	+7dBm	+10dBm		+4dBm	+7dBm	+10dBm			
500.000	2.20	1.82	1.55	1.92	2.52	3.19	5.000	1.40	1.20	1.08	500.000	+151.79	-.87
576.923	1.44	1.20	1.12	2.00	2.56	3.19	30.513	1.41	1.20	1.08	676.471	+185.23	-.63
730.769	1.16	1.33	1.51	2.27	2.66	3.18	56.026	1.42	1.21	1.09	852.941	+127.03	-.52
884.615	1.51	1.64	1.79	2.62	2.80	3.14	81.539	1.43	1.21	1.09	1000.000	+112.30	-.32
1038.462	1.86	1.89	1.99	2.73	2.68	2.82	107.051	1.44	1.21	1.08	1117.647	+111.48	+2.28
1192.308	2.48	2.32	2.27	2.63	2.35	2.37	132.564	1.44	1.21	1.08	1294.118	+113.96	+1.86
1269.231	3.15	2.85	2.68	2.50	2.17	2.11	158.077	1.44	1.21	1.07	1382.353	+113.47	+2.51
1346.154	3.91	3.54	3.26	2.41	2.01	1.90	209.103	1.42	1.17	1.06	1500.000	+101.38	+2.46
1500.000	5.19	4.67	4.38	2.10	1.68	1.54	260.128	1.36	1.12	1.09	1647.059	+65.72	+2.04
1730.769	6.01	5.54	5.20	1.55	1.27	1.29	336.667	1.22	1.06	1.22	1823.529	+49.80	+1.79
1884.615	6.56	6.01	5.63	1.33	1.26	1.43	413.205	1.06	1.20	1.41	2000.000	-12.96	-.03
2038.462	5.68	5.25	4.84	1.32	1.36	1.52	489.744	1.10	1.38	1.63	2088.235	-32.09	+1.43
2269.231	5.85	5.33	4.80	1.50	1.55	1.70	566.282	1.27	1.58	1.83	2264.706	-57.68	+1.72
2346.154	5.74	5.23	4.72	1.58	1.61	1.74	617.308	1.38	1.70	1.95	2500.000	-83.15	+1.55
2500.000	6.13	5.56	4.96	2.00	2.09	2.30	668.333	1.47	1.79	2.03	2617.647	-98.82	+1.05
2730.769	7.02	6.46	5.77	2.58	2.31	2.32	744.872	1.55	1.85	2.07	2882.353	-106.91	-.63
2961.539	5.66	5.30	4.91	2.64	2.36	2.37	821.410	1.54	1.80	1.99	3000.000	-104.33	-.78
3115.385	5.68	5.28	4.87	2.57	2.34	2.37	897.949	1.50	1.69	1.84	3147.059	-107.47	-.38
3269.231	4.72	4.27	3.92	2.58	2.29	2.23	948.974	1.49	1.63	1.76	3323.529	-87.32	+1.36
3500.000	2.67	2.39	2.20	2.46	2.15	1.99	1000.000	1.52	1.60	1.70	3500.000	-81.29	+3.48

φ detection

500 to 3500 MHz

Mini-Circuits**ULTRA-REL™ MIXERS**

5-YR. GUARANTEE *

T-74-09-01

mixer harmonic intermodulation

(relative to desired IF output)

	RF CAL												
RF ORDER HARMONIC	0	-	-	1	38	18	31	30	>67	30	50	26	64
	1	-	25	+0	33	38	34	33	52	50	53	34	57
	2	90	>73	47	59	52	>73	69	>73	60	66	48	64
	3	95	>75	72	65	52	72	70	70	59	>74	>66	>68
	4	94	>73	>74	>73	73	>74	>74	>73	73	>73	71	>67
	5	>91	>68	>74	>74	>72	73	>73	>74	>73	>74	>73	>75
	6	88	>69	>68	>74	73	>75	>75	>74	73	>73	>74	>73
	7	>90	67	>68	>68	>74	>74	>74	>74	>74	>74	>73	>73
	8	88	>68	>69	67	>68	>75	>74	>73	>74	>74	>74	>73
	9	>91	>68	>68	>69	>69	67	>74	>73	>73	>73	>74	>74
	10	90	>69	68	>69	>69	>68	67	>74	>74	>74	>74	72
	0	1	2	3	4	5	6	7	8	9	10		
LO Harmonic Order													

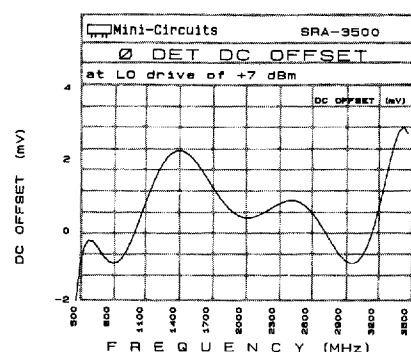
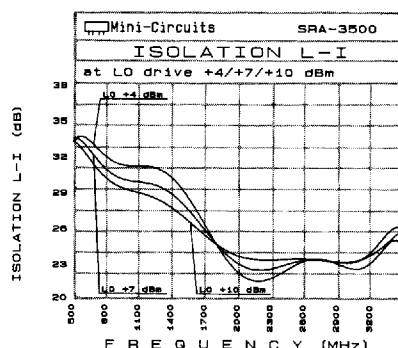
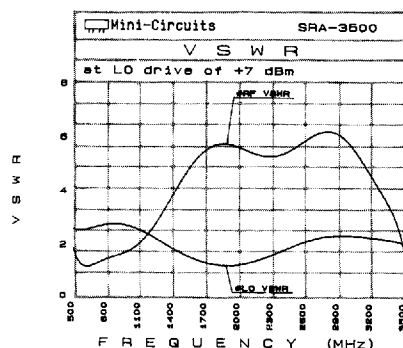
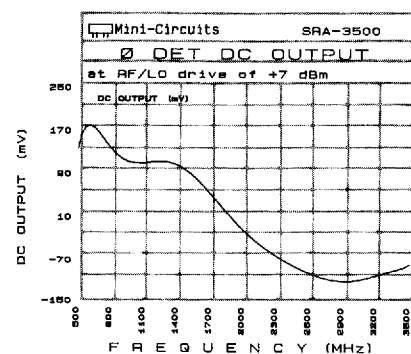
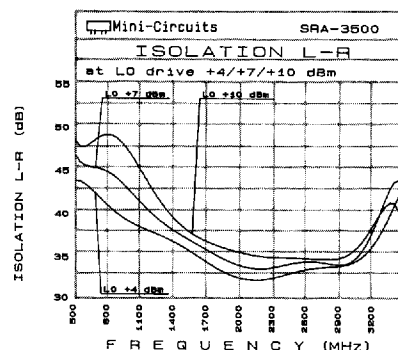
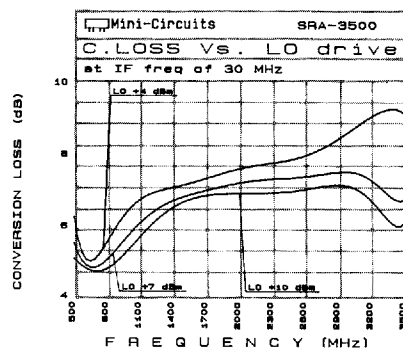
test conditions: RF IN: 1200.10 MHz; -14.91 DBM
LO IN: 1170.01 MHz; +7.05 DBM
IF OUT: 30.09 MHz; -21.73 DBM

	RF CAL												
RF ORDER HARMONIC	0	-	-	11	49	28	42	45	68	42	56	39	75
	1	-	23	+0	35	39	36	38	56	58	64	44	70
	2	73	67	39	50	43	68	58	70	60	72	54	72
	3	94	65	70	46	34	58	56	55	47	72	71	69
	4	94	75	67	>82	56	67	56	78	67	78	69	76
	5	>90	>78	67	83	>83	63	49	66	65	67	58	82
	6	>90	>78	>78	>84	82	>84	67	74	64	>83	75	81
	7	>91	>79	77	>78	82	>84	>84	75	61	74	74	78
	8	>90	77	78	>78	77	>83	83	>83	77	80	73	>83
	9	89	>79	>78	>80	>78	>78	>83	83	>83	>83	73	80
	10	89	>78	78	77	>79	>78	77	>85	>84	>83	>83	>84
	0	1	2	3	4	5	6	7	8	9	10		
LO Harmonic Order													

test conditions: RF IN: 1200.10 MHz; -4.96 DBM
LO IN: 1170.01 MHz; +7.00 DBM
IF OUT: 30.09 MHz; -11.83 DBM

typical performance curves

(production unit)

**In Stock...Immediate Delivery**