

Uniden® Bearcat BC-800 XLT

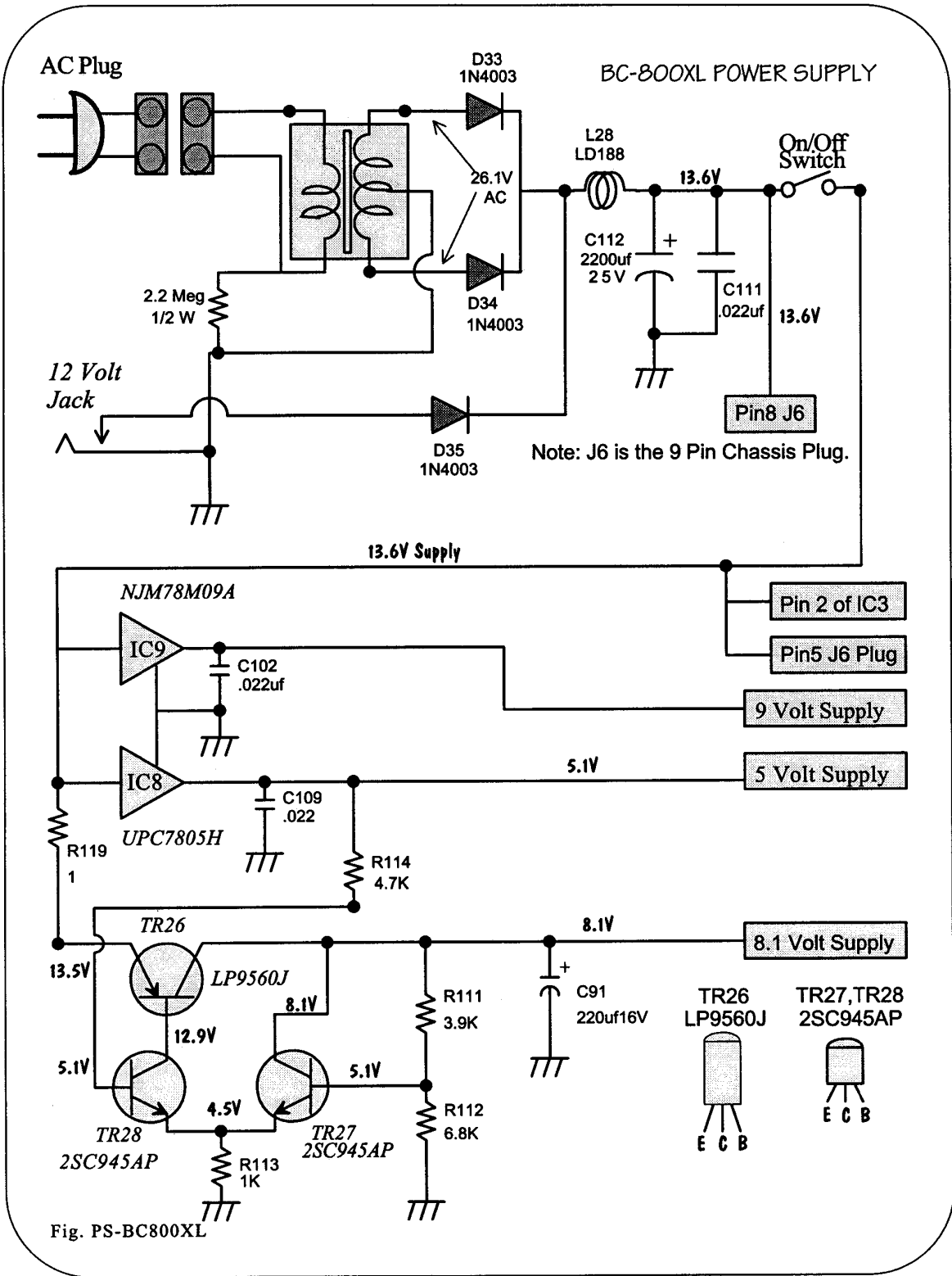


Fig. PS-BC800XL

**Uniden® Bearcat BC-800 XLT
IC8 & IC9 Voltage Pin-Out Information**

IC8
7805

5.00 VDC
Ground
14.00 VDC

IC9
78M09A

8.95 VDC
Ground
14.00 VDC

Main Board Location

IC8 & IC9 are both voltage regulators which supply the 5.00 vdc & 9.00 vdc for circuit operation. The 7805 regulator seems to fail more often. This should be one of the first areas to check in case of failure.

	ORIGINAL PART #	NTE	RCA	RADIO SHACK
IC8	7805	960	SK3245	276-2016
IC9	78M09A			

Fig IC89

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IC6 - Window Detector
CA-3140E

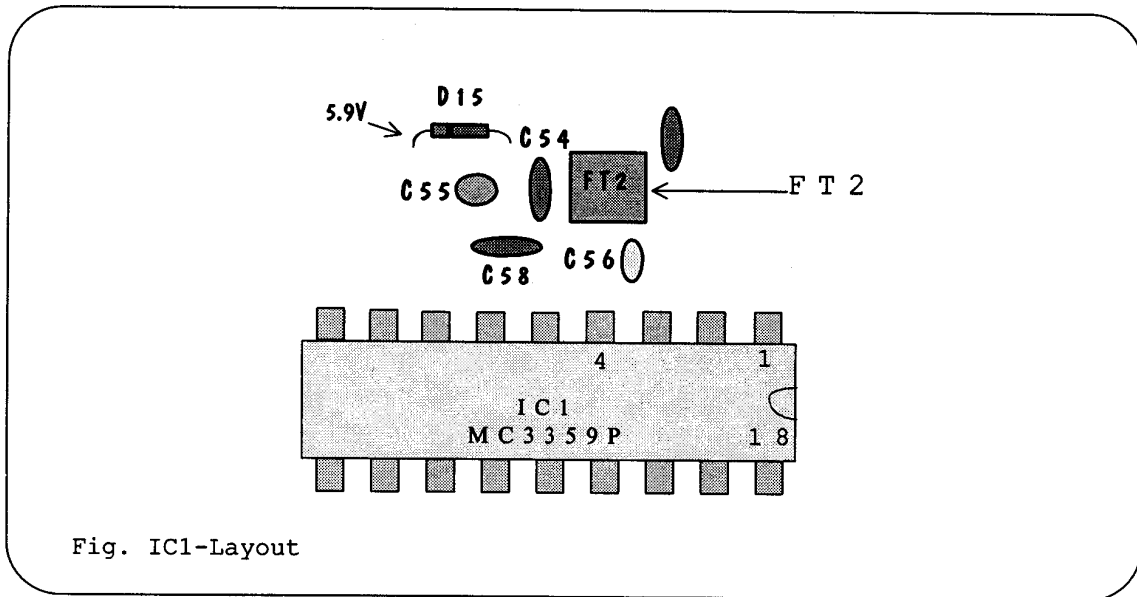
Pin5 CA3140E Pin4
Pin6 Pin3
Pin7 Pin2
Pin8 Pin1

Main Board IC6 Location

	Function	Air (118.305)	Vhf HI (150.225)	800 MHz (839.725)
Pin1	Offset Null	Not Used	Not Used	Not Used
Pin2	Inverted Input	1.73 Volts	1.74 Volts	1.73 Volts
Pin3	Non-Inverted Input	1.70 Volts	1.73 Volts	1.70 Volts
Pin4	V- (Ground)	0.00 Volts	0.00 Volts	0.00 Volts
Pin5	Offset Null	Not Used	Not Used	Not Used
Pin6	Output (Tuning)	3.20 Volts	7.54 Volts	8.70 Volts
Pin7	V+ (VCC)	18.30 Volts	20.40 Volts	20.80 Volts
Pin8	Strobe	Not Used	Not Used	Not Used

Fig IC6-BC800XLT

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IC1 Layout



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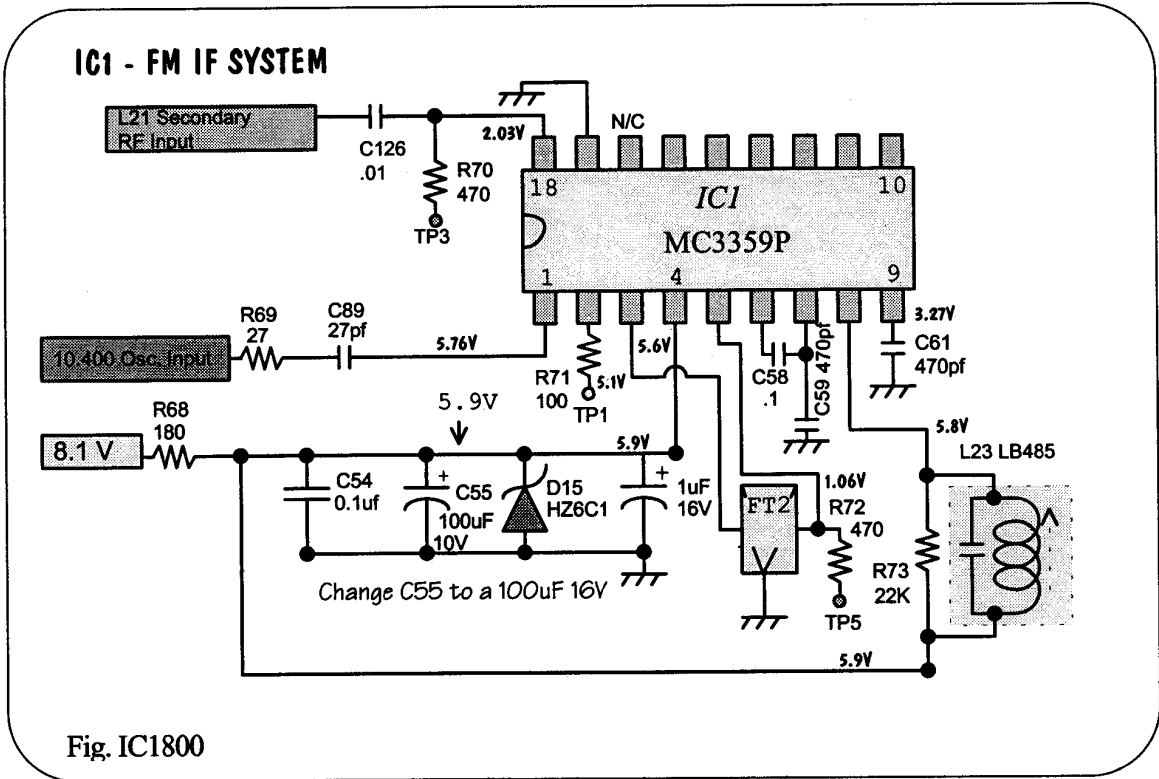
PROBLEM: Unit does not Scan, has no Audio or Squelch. Unit still programs and has digital display. Voltage on Pin 4 of IC1 checks OK. IC1 feels very warm to the touch.

CURE : Check the remaining voltages on IC1. If these voltages are not within tolerances then IC1 has failed and will need to be replaced. An NTE-860 or RCA SK7731 is the direct replacement for this chip. This chip has connections on both sides of the circuit board, and will need to be carefully unsoldered with a good brand of solder-wick in order to remove all existing solder. This will prevent any circuit board damage from occurring when you remove the old chip. After replacing IC1 you should find that you now have normal operation.

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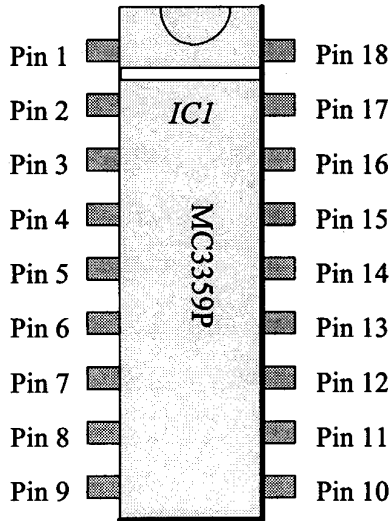
PROBLEM: Unit does not Scan, has no Audio or Squelch. Unit still programs and has digital display.

CURE : Locate IC-1 (MC3359P FM IF CONVERTOR) 18 pin chip. Check the Voltage on Pin 4. This voltage should read about 5.9 Volts. If this voltage is absent or very low the suspect part is C55, a 100uf 10Volt electrolytic capacitor. C55 is located next to FT2, a black filter with the #CFU 455 on it. Replace C55 with a 100uf 16 Volt or higher capacitor. After replacing C55 you should now have voltage on pin 4 of IC-1 and the unit should now function properly. If this voltage is still not correct replace D15 (HZ6C1) zener. Replace D15 with a 6.1 volt 1/2 watt. An NTE-5012A is a direct replacement.



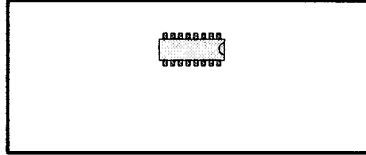
**Uniden® Bearcat BC-800 XLT
IC1 Voltage Pin-Out Information**

**IC1
FM IF SYSTEM CHIP**



Pin 1	Crystal Oscillator
Pin 2	Crystal Oscillator
Pin 3	Mixer Output
Pin 4	VCC
Pin 5	Limiter Input
Pin 6	Decoupling
Pin 7	Decoupling
Pin 8	Quadrature Input
Pin 9	Demodulator Filter
Pin 10	Recovered Audio Output
Pin 11	Demod Output
Pin 12	Filter Input
Pin 13	Filter Output
Pin 14	Squelch Input
Pin 15	Scan Control
Pin 16	Audio Mute
Pin 17	Ground
Pin 18	RF Input

Main Board IC1 Location



Note: Voltages taken in Manual Mode, VHF HI, Frequency 155.00, unless noted.

	Squelch Open	Squelch Closed
Pin 1	5.99 Volts	5.99 Volts
Pin 2	5.41 Volts	5.41 Volts
Pin 3	5.85 Volts	5.85 Volts
Pin 4	5.99 Volts	5.99 Volts
Pin 5	1.06 Volts	1.06 Volts
Pin 6	1.06 Volts	1.06 Volts
Pin 7	1.06 Volts	1.06 Volts
Pin 8	5.90 Volts	5.90 Volts
Pin 9	3.27 Volts	3.27 Volts
Pin 10	2.64 Volts	2.64 Volts
Pin 11	Ground	Ground
Pin 12	2.40 Volts	2.42 Volts
Pin 13	2.46 Volts	2.46 Volts
Pin 14	.71 Volts	.25 Volts
Pin 15	.10 Volts	3.83 Volts
Pin 16	.03 Volts (N/C)	0.03 Volts (N/C)
Pin 17	Ground	Ground
Pin 18	2.03 Volts	2.03 Volts

Original Part #	NTE	RCA
MC3359P	NTE-860	SK7731

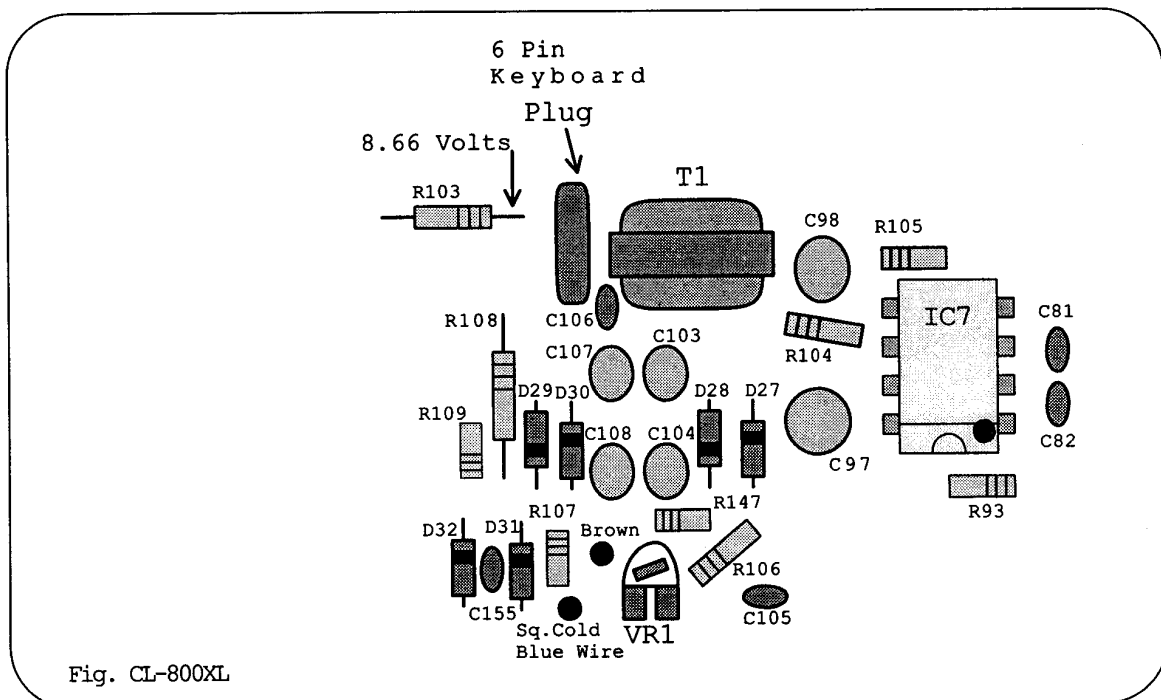
Fig. IC1-BC800XL

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PROBLEM: Unit has no digital display or digits are very dim. Unit will not program and has no receive. Resistor R103 is getting very warm or has opened up.

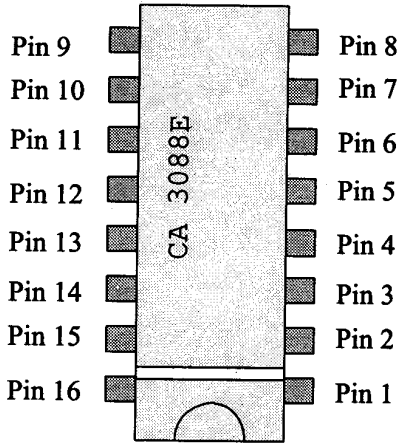
CURE : Check for 8.6 volts on Pin 6 of IC7. If this voltage is absent and R103 shows the above mentioned signs then C97 (220uf 10v) has shorted. Replace C97 with a 220uf 16V or higher voltage rating. If R103 (2.2 Ohm) has changed value or opened up you will need to replace it also. Once this is done you should now have 8.6 volts on Pin 6 of IC7. In some cases the 9 volt regulator has also been damaged by the excessive current drain caused by the shorted C97. Replacement of the 9 volt IC regulator may be required also.

Component Locations



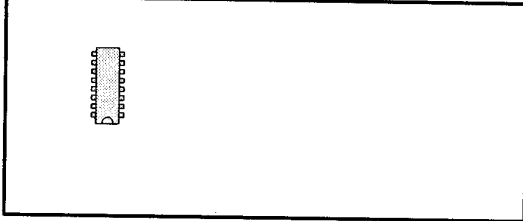
**Uniden® Bearcat BC-800 XLT
IC2 Voltage Pin-Out Information**

IC2 - AM IF CONVERTOR



- Pin 1 = Converter Input Bypass
- Pin 2 = Converter Input
- Pin 3 = Converter Output
- Pin 4 = 1st If Amp Input
- Pin 5 = Substrate Ground
- Pin 6 = 1st If Output
- Pin 7 = 2nd IF Feedback
- Pin 8 = 2nd IF Amp Input
- Pin 9 = To Detector Filter & Audio
- Pin 10 = Vcc
- Pin 11 = AGC Filter
- Pin 12 = To Tuning Meter
- Pin 13 = AGC Output
- Pin 14 = From Detector Filter
- Pin 15 = Audio Output
- Pin 16 = Vcc

Main Board IC2 Location



	Air Mode	VHF Mode
Pin 1	00.00 Volts	00.00 Volts
Pin 2	00.71 Volts	00.81 Volts
Pin 3	05.00 Volts	00.31 Volts
Pin 4	00.55 Volts	00.63 Volts
Pin 5	00.00 Volts	00.00 Volts
Pin 6	08.14 Volts	08.14 Volts
Pin 7	01.35 Volts	01.36 Volts
Pin 8	01.35 Volts	01.36 Volts
Pin 9	00.80 Volts	00.90 Volts
Pin 10	05.60 Volts	05.60 Volts
Pin 11	00.64 Volts	00.64 Volts
Pin 12	00.31 Volts	00.36 Volts
Pin 13	05.57 Volts	05.70 Volts
Pin 14	00.73 Volts	00.57 Volts
Pin 15	01.74 Volts	00.04 Volts
Pin 16	05.00 Volts	00.28 Volts

*Note: Voltages taken in Air Mode (Freq. 113.145)
Voltages taken in Vhf Mode (Freq. 150.225)*

	ORIGINAL PART #	NTE	RCA
IC2	CA 3088E	787	SK-3146/787

Fig. IC2-BC800XLT

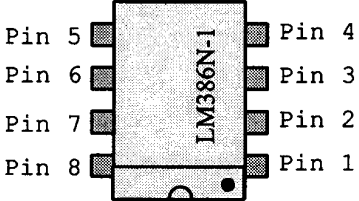
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PROBLEM: Unit has no digit display or digits are dim. Unit will not program and/or has no receive.

CURE : Check for 4.16 Volts on Pin 5 of IC7. If this voltage is off or very low replace the 33uf 35 Volt electrolytic capacitor located between IC7 and transformer T1 (Labeled TF-317). Replace this capacitor with a 33uf 50 Volt. Be sure that the positive side of this capacitor goes toward pin 5 of IC7. Re-check pin 5 of IC7 for 4.15 volts. If this voltage is still off, T1 may be bad. The negative side of the 33uf 50volt capacitor goes to a winding of T1. The other side of this winding goes to ground. In some cases this winding may be open. Check for continuity of this winding. If open replace T1. Normally just replacing the 33uf capacitor will cure the problem in most units.

**Uniden® Bearcat BC-800 XLT
IC7 Voltage Pin-Out Information**

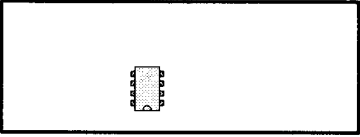
IC7-Voltage Tripler



Pin Functions

Pin1 Gain	Pin5 Vout
Pin2 (-) Input	Pin6 Vs
Pin3 (+)	Pin7 Bypass
Pin4 Ground	Pin8 Gain

Main Board - IC7 Location



Voltages taken in Manual Mode, Squelch fully clockwise

Pin 1	1.14 volts	Pin 5	4.16 volts
Pin 2	.00 volts	Pin 6	8.35 volts
Pin 3	.02 volts	Pin 7	4.20 volts
Pin 4	.00 volts	Pin 8	1.19 volts

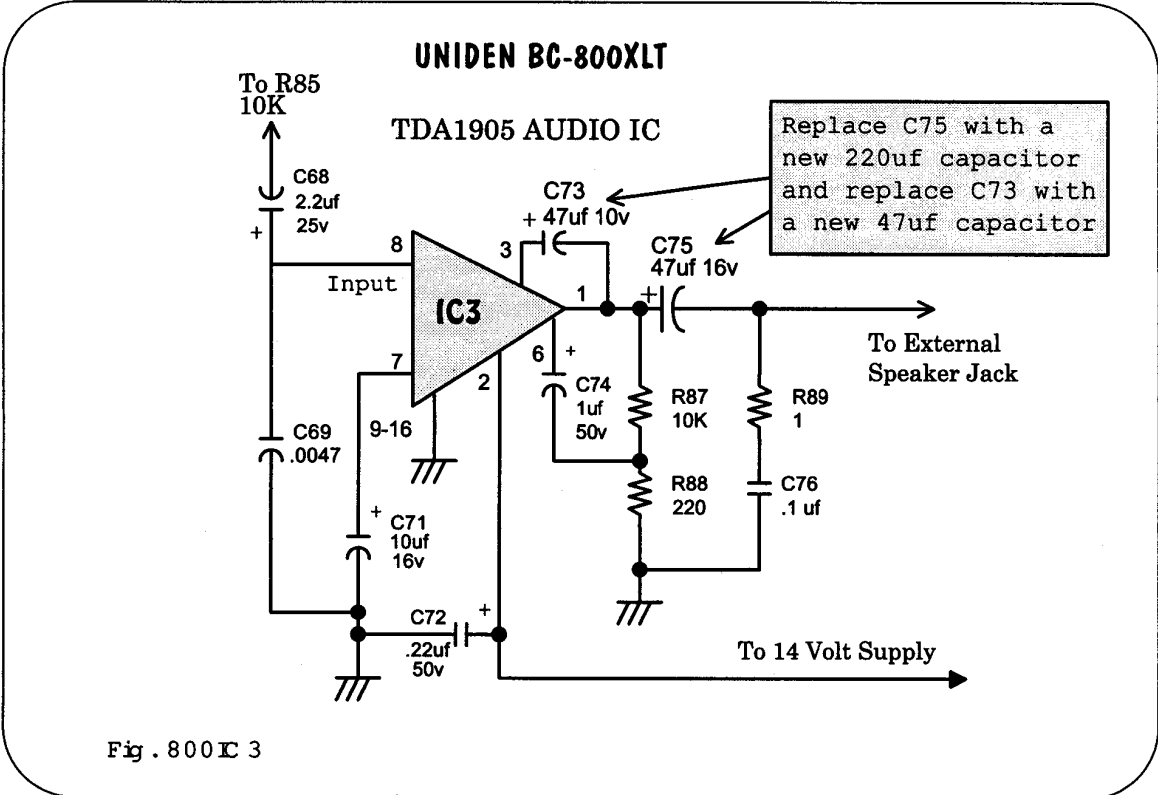
	ORIGINAL PART #	NTE	RCA	RADIO SHACK
IC7	LM386N-1	823	SK9210	276-1731

Fig IC7

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PROBLEM: Distorted Audio, Speaker Sounds Bad, however unit still sounds distorted with an external speaker connected. Voltages check OK on Audio Chip.

CURE : This problem has been traced to the coupling capacitor (C75) which connects the Audio Chip output on Pin 1 to the speaker and/or the feedback capacitor (C73) connected between Pin 3 and Pin 1 of the Audio Chip. C75 is a 47uf 16 Volt electrolytic capacitor, and C73 is a 47uf 10 volt electrolytic capacitor. First you will need two replacement capacitors. A 47uf electrolytic (16 volt or higher) and a 220uf electrolytic (25 volt or higher). Next replace C75 with the new 220uf electrolytic and replace C73 with the new 47uf electrolytic. Observe polarity when replacing. Not only should this eliminate the problem, it will also greatly improve the scanner's audio quality.



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IC7 Voltage Tripler Circuit

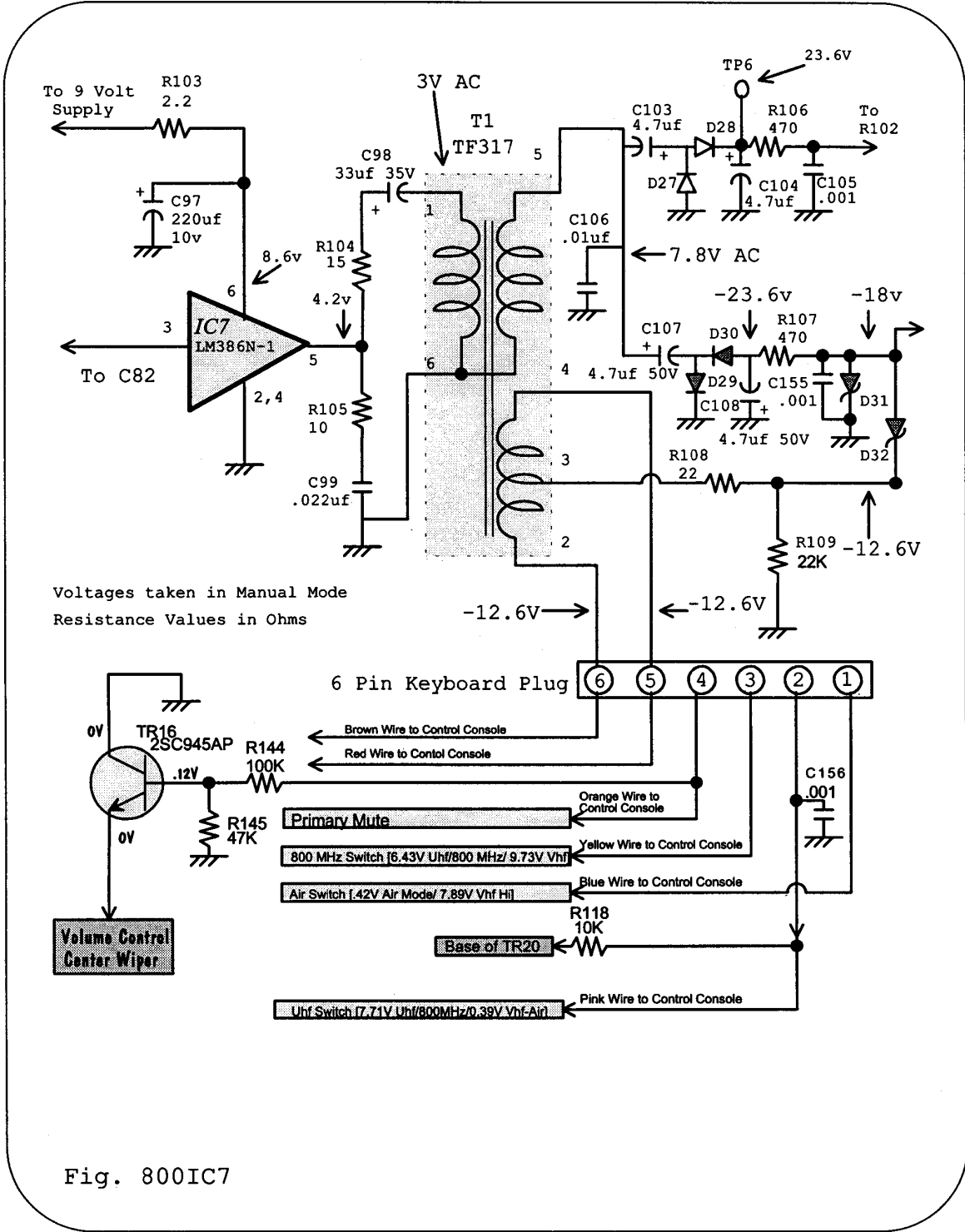
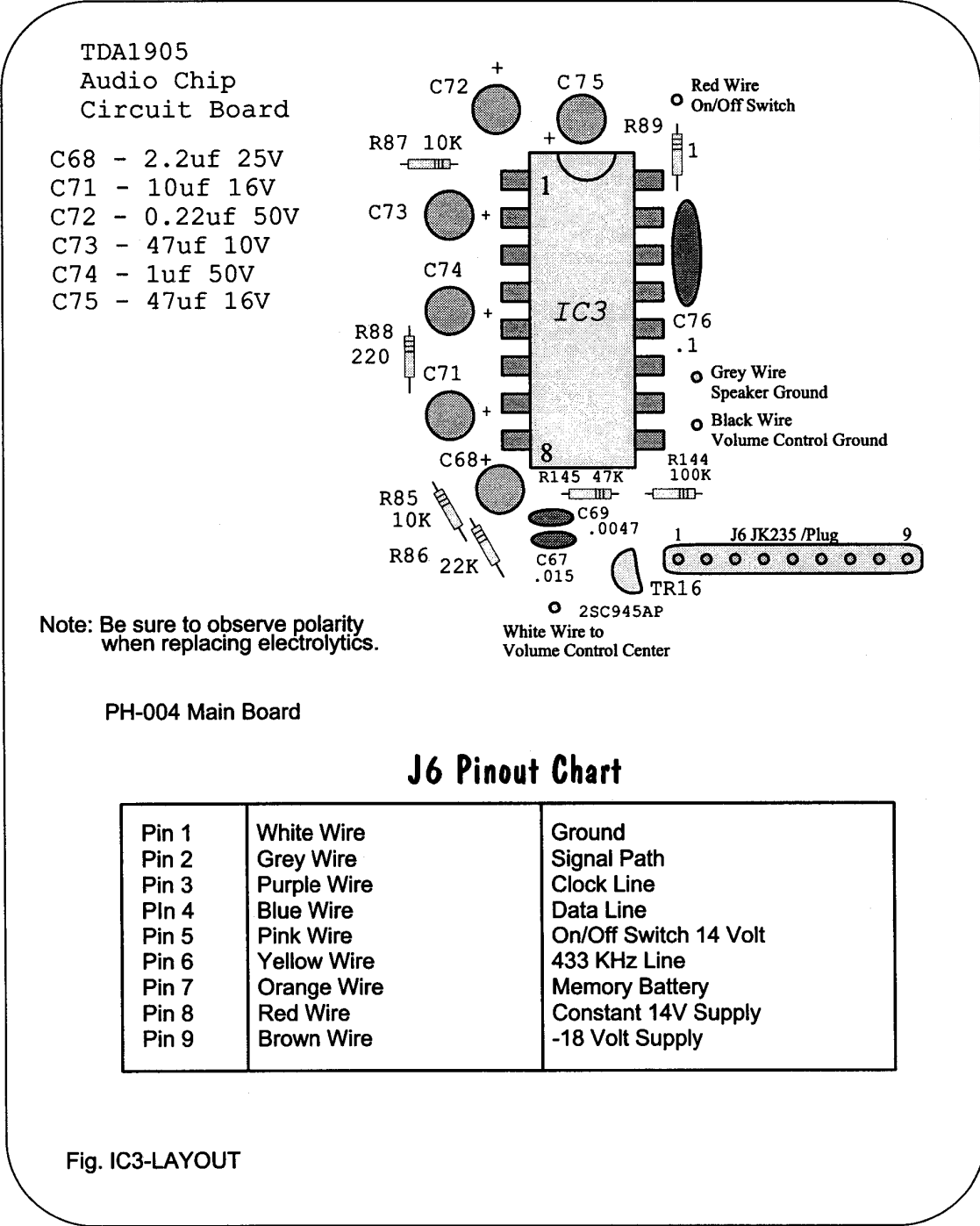
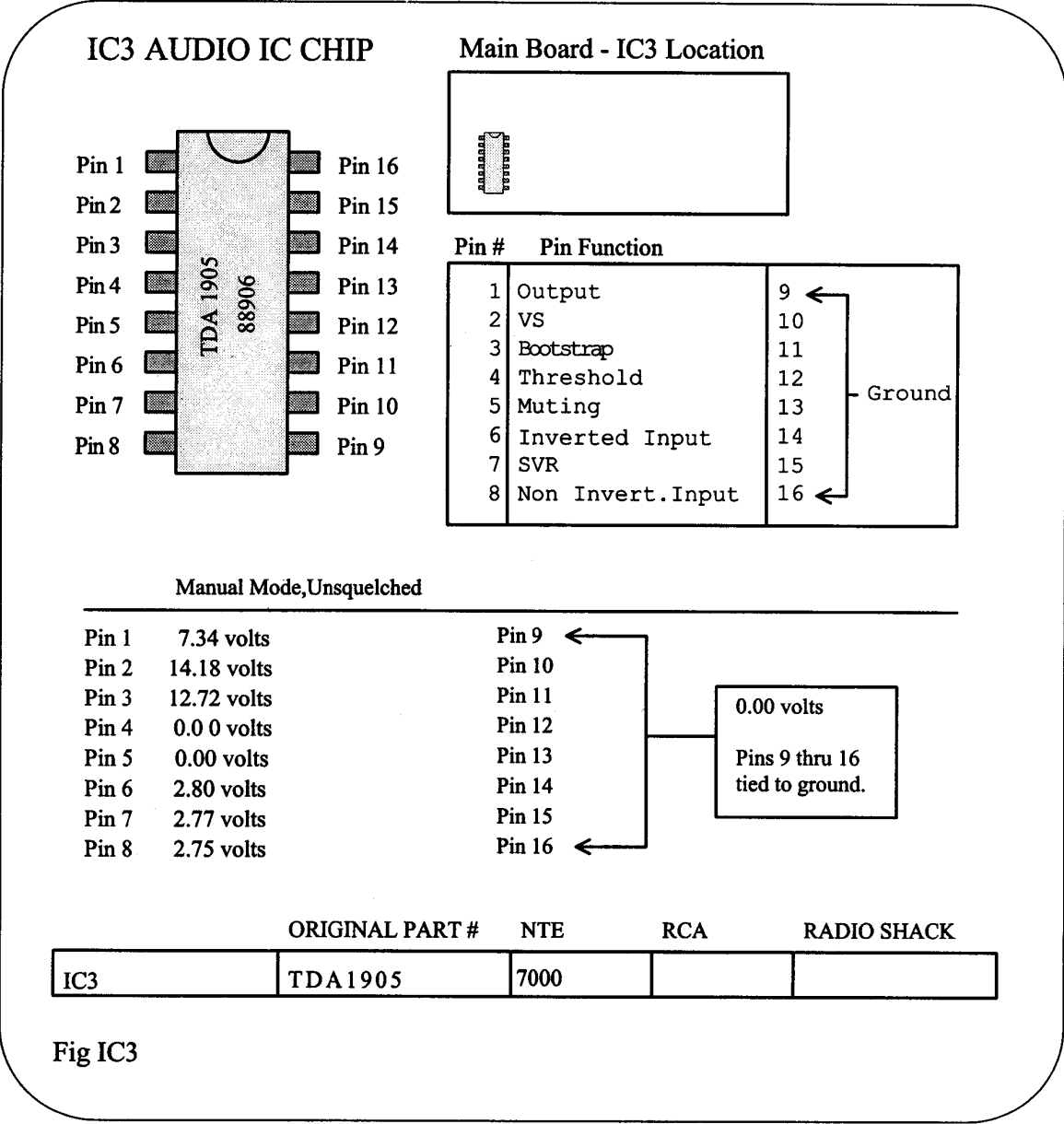


Fig. 800IC7

Uniden® BC-800XL
IC3 Audio Chip Layout



**Uniden® Bearcat BC-800 XLT
IC3 Voltage Pin-Out Information**



NOTE: At the present time there is no substitute available for the TDA1905 IC from RCA or Radio Shack®. We left the substitute area blank in order for you to fill in when substitute replacements are available.....