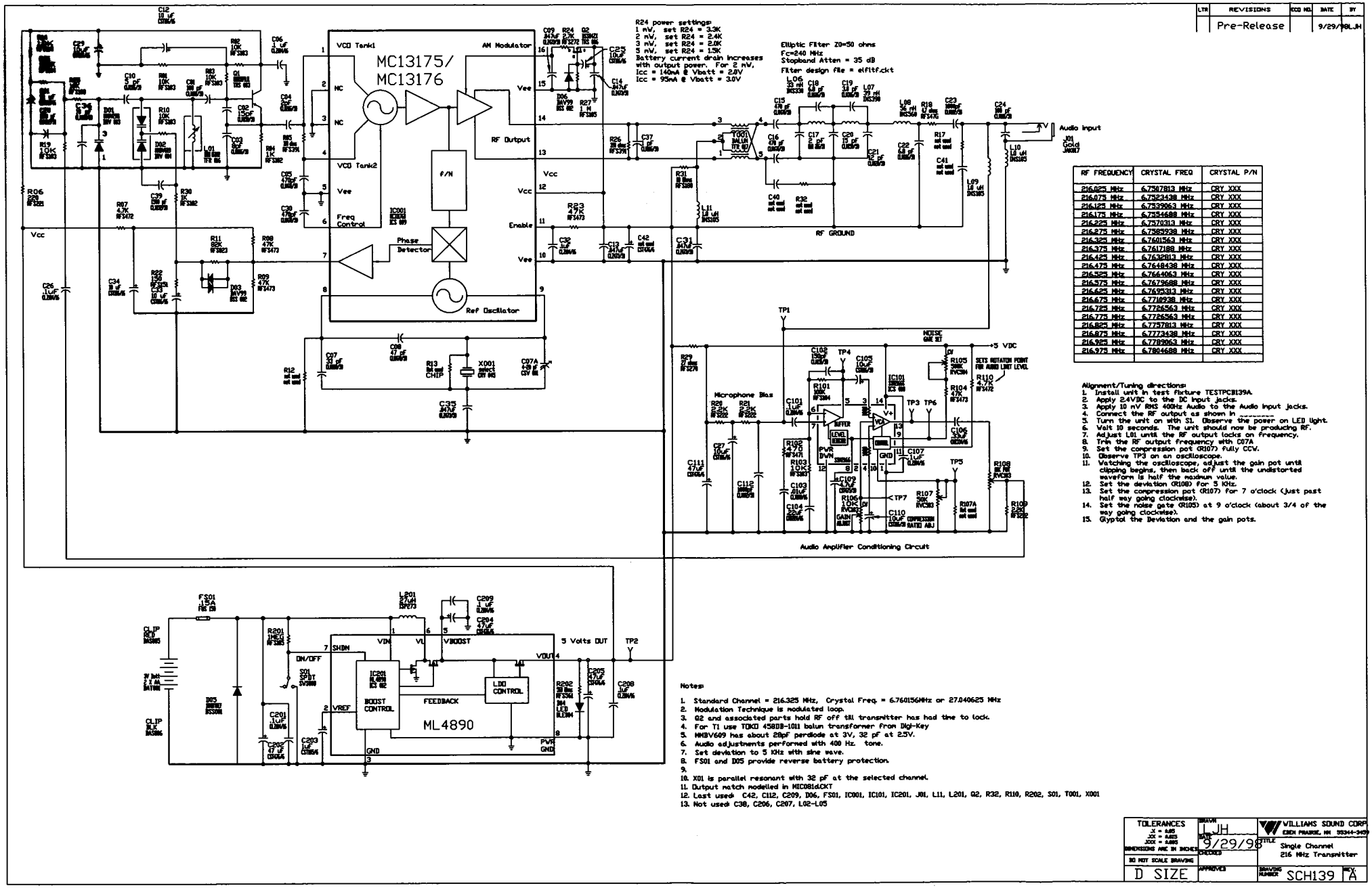

RF FREQUENCY	CRYSTAL FREQ	CRYSTAL P/N
216.025 MHz	6.7507813 MHz	CRY XXX
216.075 MHz	6.7523438 MHz	CRY XXX
216.125 MHz	6.7539063 MHz	CRY XXX
216.175 MHz	6.7554688 MHz	CRY XXX
216.225 MHz	6.7570313 MHz	CRY XXX
216.275 MHz	6.7585938 MHz	CRY XXX
216.325 MHz	6.7601563 MHz	CRY XXX
216.375 MHz	6.7617188 MHz	CRY XXX
216.425 MHz	6.7632813 MHz	CRY XXX
216.475 MHz	6.7648438 MHz	CRY XXX
216.525 MHz	6.7664063 MHz	CRY XXX
216.575 MHz	6.7679688 MHz	CRY XXX
216.625 MHz	6.7695313 MHz	CRY XXX
216.675 MHz	6.7710938 MHz	CRY XXX
216.725 MHz	6.7726563 MHz	CRY XXX
216.775 MHz	6.7726563 MHz	CRY XXX
216.825 MHz	6.7757813 MHz	CRY XXX
216.875 MHz	6.7773438 MHz	CRY XXX
216.925 MHz	6.7789063 MHz	CRY XXX
216.975 MHz	6.7804688 MHz	CRY XXX

Alignment/Tuning directions:
1. Install unit in test fixture TESTPCB139A.
2. Apply 2.4VDC to the DC input jacks.
3. Apply 10 mV RMS 400Hz Audio to the Audio input jacks.
4. Connect the RF output as shown in _____
5. Turn the unit on with S1. Observe the power on LED light.
6. Wait 10 seconds. The unit should now be producing RF.
7. Adjust L01 until the RF output locks on frequency.
8. Trim the RF output frequency with C07A
9. Set the compression pot (R107) fully CCW.
10. Observe TP3 on an oscilloscope.
11. Watching the oscilloscope, adjust the gain pot until clipping begins, then back off until the undistorted waveform is half the maximum value.
12. Set the deviation (R108) for 5 KHz.
13. Set the compression pot (R107) for 7 o'clock (just past half way going clockwise).
14. Set the noise gate (R105) at 9 o'clock (about 3/4 of the way going clockwise).
15. Glyptal the Deviation and the gain pots.

Notes:
1. Standard Channel = 216.325 MHz, Crystal Freq. = 6.760156MHz or 27.040625 MHz
2. Modulation Technique is modulated loop.
3. Q2 and associated parts hold RF off till transmitter has had time to lock.
4. For T1 use TOKO 458DB-1011 balun transformer from Digi-Key
5. MMBV609 has about 28pF perdiode at 3V, 32 pF at 2.5V.
6. Audio adjustments performed with 400 Hz. tone.
7. Set deviation to 5 KHz with sine wave.
8. FS01 and D05 provide reverse battery protection.
9.
10. X01 is parallel resonant with 32 pF at the selected channel.
11. Output match modelled in MICROLDCKT
12. Last used: C42, C112, C209, D06, FS01, IC001, IC101, IC201, J01, L11, L201, Q2, R32, R110, R202, S01, T001, X001
13. Not used: C38, C206, C207, L02-L05

LTR	REVISIONS	ECO NO.	DATE	BY
	Pre-Release		9/29/98	LJH

TOLERANCES: X = ±.05, .XX = ±.025, .XXX = ±.005; DIMENSIONS ARE IN INCHES; DO NOT SCALE DRAWING	DRAWN: LJH; DATE: 9/29/98; CHECKED; APPROVED	WILLIAMS SOUND CORP, EDEN PRAIRIE, MN 55344-3459
D SIZE		TITLE: Single Channel 216 MHz Transmitter
		DRAWING NUMBER: SCH139; REV: A