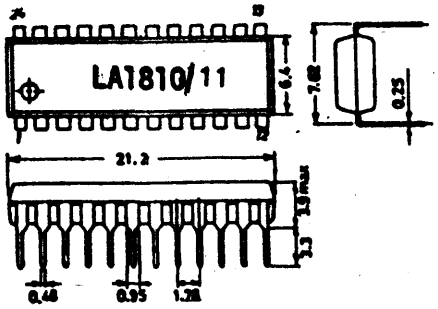


图1 LA1810/11外形图

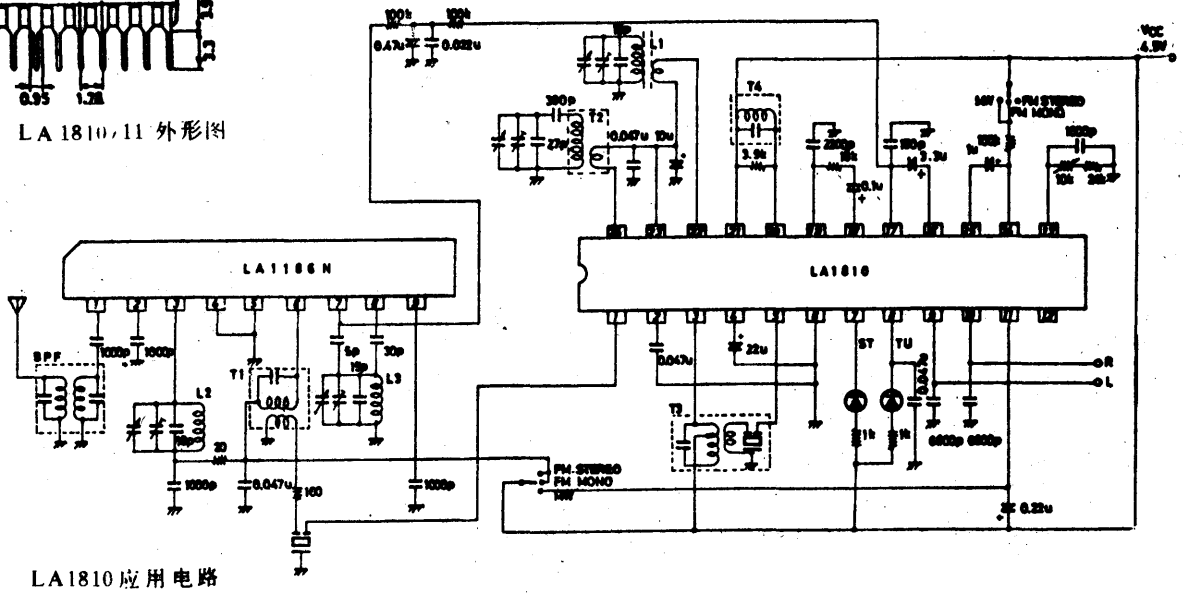


图5 LA1810应用电路

LA1816/M LA1817/M 3VAM/FM 立体声收音机电路

LA1816/M和LA1817 M四种集成电路的电性能一致、内部结构及应用电路相同。但它们的外形封装及FM IF的S抑制特性不同，即LA1816、LA1817采用24脚双列直插封装，LA1816M、LA1817M采用24脚双列扁平封装；LA1816/M采用超外差式（即反向特性或N型曲线），LA1817/M采用超内差式（即正向特性或S型曲线）。电路内部AM部分包含了从高放级至检波音频输出的全部功能；FM部分包含了从高放级至FM立体声解码左、右声道音频输出的全部功能。每种集成块只要再外接一块双声道功放集成电路，就可组装成一部完整的AM FM立体声收音机。它们的工作电源电压范围为1.8～6V，推荐值为3V，适用于低电压微小型AM FM立体声收音机或收录机。

极限参数（T、25℃）

参数	单位	额定值
电源电压(8，9，11，18，20，22脚)	V_{CC}（V）	7
电源电流(8，18，20，22脚电流之和)	I_{CC}（mA）	50
LED驱动电流	I_{LED}（mA）	20
工作温度	T_{opr}（℃）	20～+70
贮存温度	T_{stg}（℃）	40～+125

电参数（V_{CC} = 3V，T_A = 25℃）

参　数	单　位	测试条件	最小值	典型值	最大值
AM部分：f = 1MHz					
静态电流	I_Q（mA）			3.0	
检波输出	V_{O1}（mV）	V_{IN} = 30dBμ，1 kHz，30%Mod		32	
检波输出	V_{O2}（mV）	V_{IN} = 80dBμ，1 kHz，30%Mod		76	
信噪比	S/N（dB）	V_{IN} = 23 dBμ，1 kHz－30%Mod		20	
信噪比	S/N（dB）	V_{IN} = 80dBμ，1 kHz－30%Mod		52	
谐波失真	THD（%）	V_{IN} = 80d Bμ，1 kHz－30%Mod		0.6	
FM部分：f = 98MHz					
静态电流	I_Q（mA）			8.5	
－3 dB 灵敏度	V_{IN}（dBμ）	1 kHz－30%Mod		9.0	
鉴频输出	V_O（mV）	V_{IN} = 60dBμ，1 kHz－30%Mod		70	
信噪比	S/N（dB）	V_{IN} = 60dBμ		57	
谐波失真	THD(%)	V_{IN} = 60dBμ，1 kHz－30%Mod		0.3	
AM抑制比	AMR（dB）			50	
解码电路部分：V_{IN} = 150mV，f = 1 kHz，L＋R = 90%，P = 10%					
输入电阻	R_{IN}（kΩ）			50	
输出电阻	R_O（kΩ）			7.5	
声道分离度	Sep（dB）			35	
谐波失真	THD（%）	单声道		0.7	
		立体声		0.3	
输出电压	V_O（mV）	单声道		150	
允许输入电压	$V_{IN\,max}$（mV）	立体声，THD = 5 %		350	
声道平衡	CB（dB）	单声道		0	
亮灯电平	$V_{L(ON)}$（mV）	导频信号		6.5	
灯滞后	H_Y（dB）			3	
捕捉范围	CR（%）	导频，15mV		± 3	
信噪比	S/N（dB）	单声道		80	
VCO停振电压	V_{11}（V）	11脚电压		3.0	

管脚功能及直流电压（V_{cc} = 3V）

管脚号	功　能	直流电压（V）		管脚号	功　能	直流电压（V）	
		AM	FM			AM	FM
1	AM高频输出	1.3	1.3	13	左声道输出	1.0	1.0
2	FM-IF输出	2.2	1.3	14	右声道输出	1.0	1.0
3	AM AGC	0.8	0	15	复合信号输入	0.6	0.6
4	FM－IF输入	1.2	1.2	16	音频输出	0.3	1.2
5	AM-IF输出	0.4	0.4	17	FM鉴频	2.1	1.6
6	地	0	0	18	V_{cc}	3.0	3.0
7	AM-IF输入	1.2	1.2	19	AM本振	1.3	1.3
8	V_{cc}	3.0	3.0	20	FM本振	2.9	2.3
9	立体声指示	－	－	21	参考电压输出	1.2	1.2
10	PLL低通滤波	1.8	1.1	22	FM高放线圈	2.9	2.3
11	滤波及FM/AM转换	2.9	1.5	23	地	0	0
12	VCO	0	1.7	24	FM高频输入	0	0.1

外形图、测试及应用电路

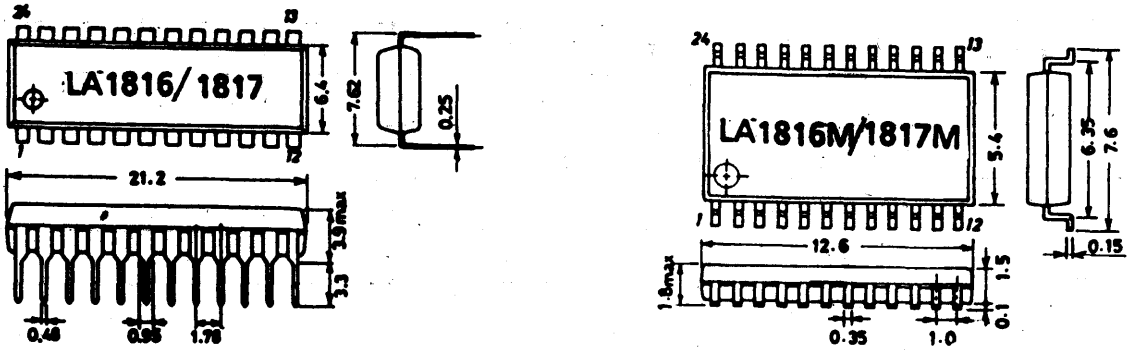


图1　LA1816 LA1817外形图

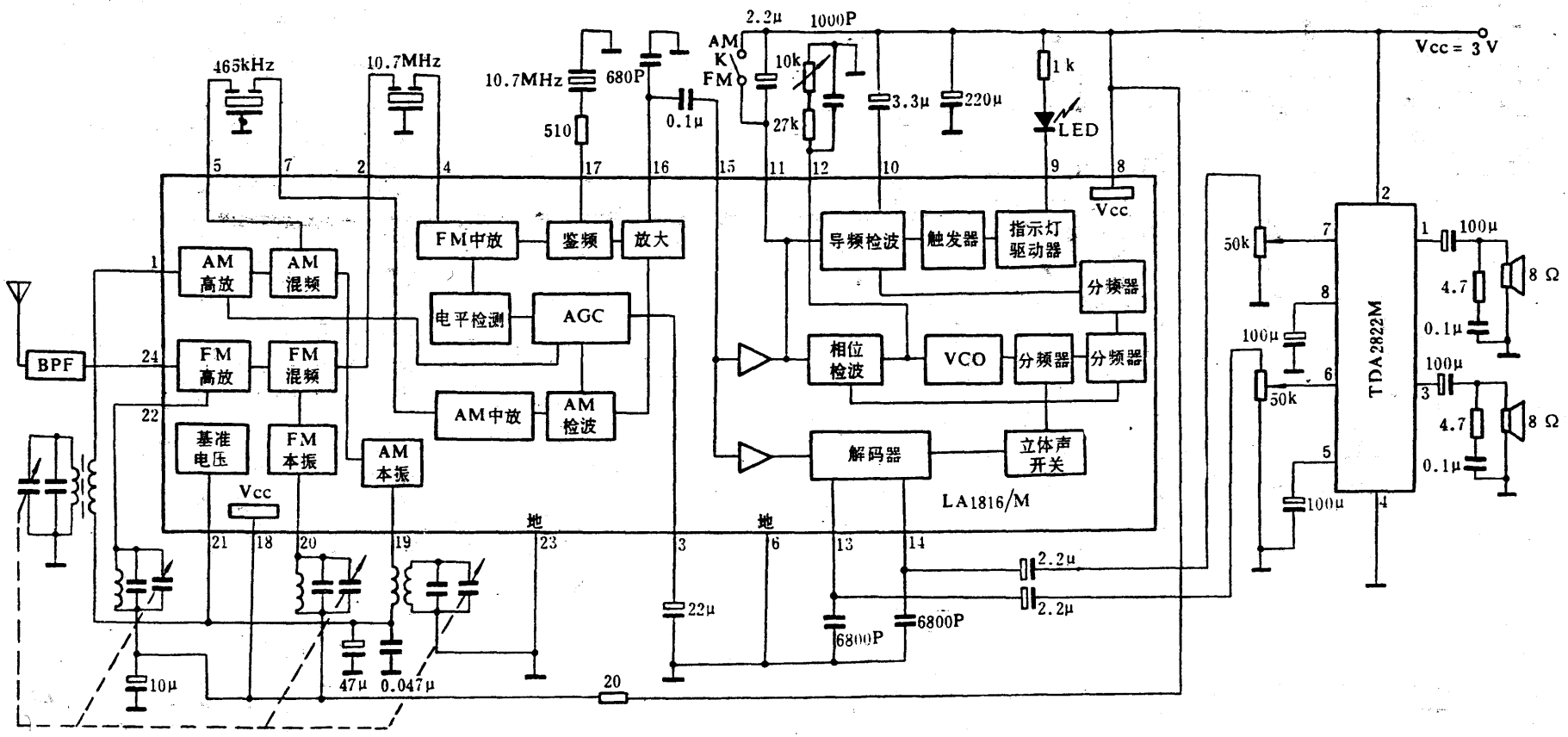


图 2　LA1816应用电路

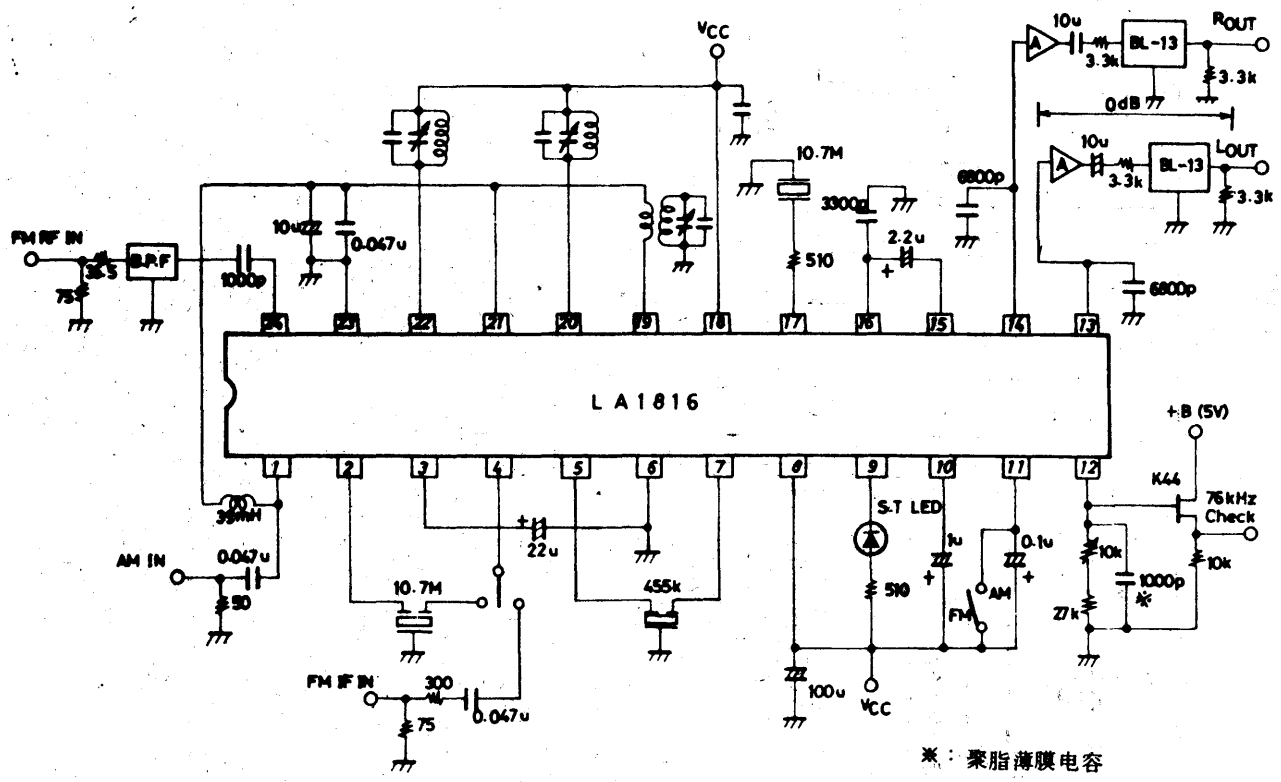


图3　LA1816测试电路

LA1875M AM/FM 立体声收音机电路

LA1875M是一种电调谐AM/FM立体声收音机电路。AM部分包含有：混频、本振、高放AGC、天线阻尼衰减AGC、中放、IF缓冲输出、检波、AGC急速充放电回路、信号表、调谐指示LED；FM部分包含有中放、鉴频、信号表、调谐指示LED、IF缓冲输出、静噪、FM立体声解码，强制单声道、立体声指示LED、立体声噪声切割和高频切割电路。LA1875M工作电源电压范围为7～11V，推荐值为8.5V，外形采用36脚双列扁平封装。

高周波複合IC

◎ New Product ※ Under Development ●：適 Suitable ◉：最適 Most Suitable

Type No.	Package	FM				AM	Electronic Tuning	Voltage Range(V)	Uses		
		FE	IF	NC	MPX				R & C	Music C	Car
LA1805 LA1806	DIP-24S DIP-24S		●		●	●		3.0~8.0	●	●	
LA1810 LA1811	DIP-24S DIP-24S		●		●	●		3.0~8.0	●	●	
LA1816 LA1816M	DIP-24S MFP-24S	●	●		●	●		1.8~6.0	●		
◎LA1826	DIP-24S	●	●		●	●		1.8~6.0	●		
◎LA1831 ◎LA1831M	DIP-24S MPF-24S		●		●	for stereo ●	●	4.0~8.0	●	●	
LA1851N LA1851NM	DIP-30S MFP-30SD		●		●	●	●	6.0~12	●	●	
LA1861M LA1862M	MFP-36S MFP-36S		●	●	●		●	7.5~10			●
LA1875M	MFP-36S		●		●	●	●	7.5~11			●
LA1883M	QIP-64E	●	●	●	●	●	●	7.5~9.2			●
LA1886M	QIP-64E	●	●	●	●	●	●	7.5~9.0			●
※LA1888M	QIP-64E	●	●	●	●	●	●	8.0~9.0			◉

Features

- 外付け部品が少ない
- 同調インジケータ付き
- 低電圧動作可能
- MPXキャリアリーク少(無入力,モノラル入力時)
- ステレオインジケータの誤動作が少ない(過変調時)

- Fewer external parts. • Tuning indicator.
- Low-voltage operation available.
- Less MPX carrier leak (No input, monaural input mode).
- Less malfunction of stereo indicator (Overmodulation mode).

- FM検波・AMのIF無調 ・低電圧動作,低消費電流
- LA1816/M US/バンド(Nカーブ)
- MPXキャリアリーク少(無入力,モノラル入力時)

- Adjustment-free FM detector and AM IF. • Low-voltage operation and low current dissipation. • LA1816/M: N curve (for US band).
- Less carrier leak of MPX (No input, monaural input mode).

- FM/AMオール1チップチューナ ・外付け部品が少ない ・低電圧動作,低消費電流 ・MPXのキャリアリーク少(無入力,モノラル入力時)
- LA4525と組み合わせることによりステレオラジカセが容易に構成できる

- Complete one-chip FM/AM tuner. • Fewer external parts. • Low-voltage operation, low-current dissipation. • Less MPX carrier leak (in no input and monaural input mode.) • The combination of the LA4525 and this IC could easily make up radio cassette player.

- AMステレオ対応IF出力機能内蔵
- SD併用IFカウント方式 ・FM DET/MPX VCC無調整
- 同調インジケータ端子機能 ・FMストップ感度,帯域幅可変
- AM局発バッファ内蔵 ・AM低域カットコントロールが可能

- On-chip IF output for AM stereo.
- Adjust-free FM DET/MPX VCO. • Tuning indicator pin function.
- FM stop sensitivity and variable bandwidth. • Internal AM local oscillation buffer.
- AM low frequency area cut control.

- MPX無調整化 ・ステレオセパレーション制御
- 電子同調対応IFカウント用バッファ出力(FM/AM)

- Adjustment-free MPX. Stereo separation control.
- Buffer output for electronic tuner IF count (FM/AM).

- FM IF+NC+MPXが1チップ
- IF増幅,ピーク検波,AFプリアンプ,AFC出力,シグナルメータ,ソフトミュート,IFバッファ出力,ノイズキャンセラ,無調整VCO,パイロットキャンセル(レベル追従型),HCC,SNC,LPF/HPF内蔵

- FM IF+ NC+ MPX contained on a signal chip.
- IF amp, peak detector, AF preamp, AFC output, signal meter, soft muting, IF buffer output, Noise canceler, Adjustment-free VCO, pilot canceler (level follow-up type), HCC, SNC, Low-pass filter/high-pass filter.

- FM/AM IF+MPXが1チップ
- AM: MIX,OSC,RF-AGC,ANTダンピングAGC,IFアンプ,IFバッファ出力,検波,AGC急速充放電回路,Sメータ,Tu-LED
- FM: IFアンプ,QD検波,Sメータ,Tu-LED,IFバッファ出力,ソフトミュート,帯域ミュート
- MPX: VCO無調整,SNC,HCC,強制モノラル,ST-LED

- FM/AM IF+ MPX (Housed on a single chip.)
- AM: MIX, OSC, RF-AGC, ANT damping AGC, IF AMP, IF buffer output, Detecter, AGC high-speed charger/discharger, S meter, Tu-LED.
- FM: IF AMP, QD detector, S meter, Tu-LED, IF buffer output, Soft mute, Band mute.
- MPX: Adjustment-free VCO, SNC, HCC, Forced monaural, ST-LED.

- FM局部発振器強化および安定化の向上
- IF時安定度の向上のため15/30ピンにGNDピン増設
- チャネルセパレーション特性アップ ・FM無入力ノイズ減衰度アップ

- Improved FM local oscillation and stability. • New GND pin for 15/30 pins to improve IF processing. • Better channel isolation characteristics.
- Better noise attenuation at no FM input.

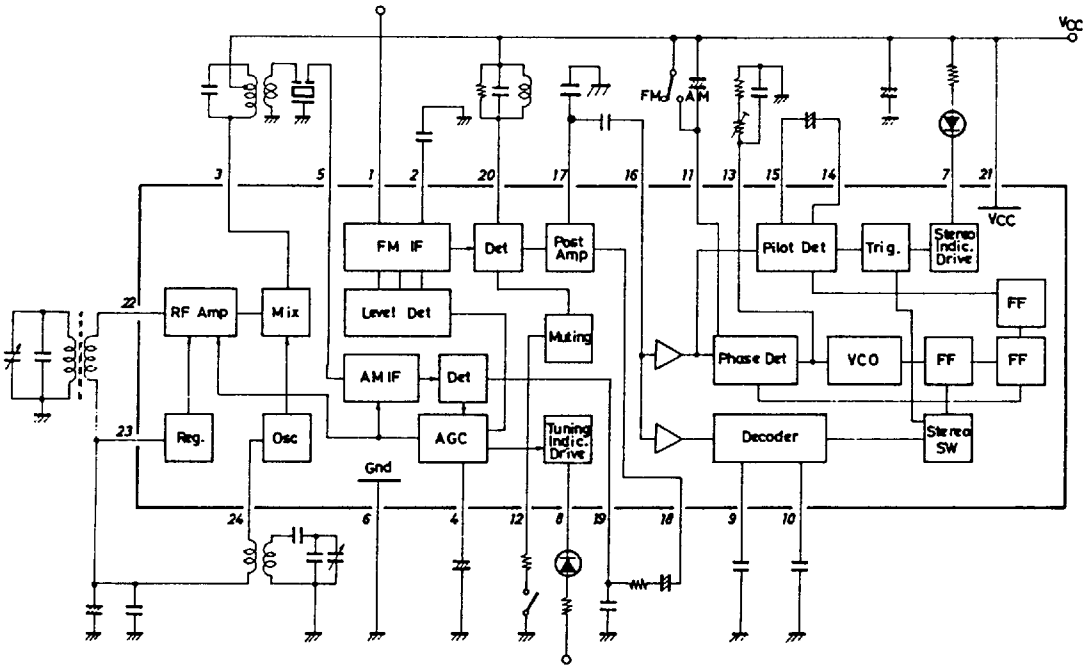
- AM/FMステレオチューナ基本5BLOCKを1チップ化
- FM/AM切換えSW内蔵 ・FM FEとFM IFのアイソレーション対策

- Five basic blocks of AM/FM stereo tuner contained on a single chip. • FM/AM select SW. • Isolation of FM FE and FM IF.

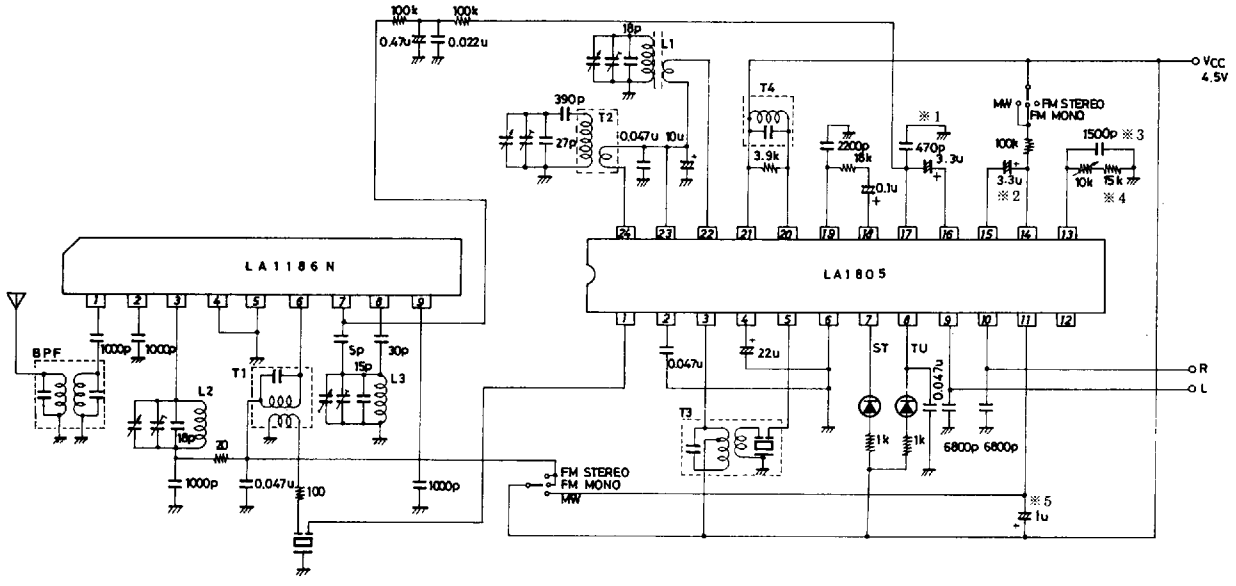
- AM/FMステレオチューナ基本6BLOCKを1チップ化
- FM FE: 3D AGCシステム内蔵,MIX入力ダイナミックレンジの拡大
- FM IF: シグナルメータのリニアティおよび温度特性の改善
- MPX: 高域セパレーションの向上,アンチパーティフィルタ内蔵,パイロットキャンセル度の向上,ステレオS/Nの改善
- NC: 当社従来NCより特性向上
- AM: ローカットフィルタ内蔵
- マルチパス対策回路内蔵

- Five basic blocks of AM/FM stereo tuner contained on a single chip.
- FM FE: on-chip 3-D AGC system. Wider MIX input dynamic range.
- FM IF: Signal meter/linearity, Better temperature characteristic.
- MPX: Better high band separation, On-chip anti-party filter, Improved pilot canceler, Better stereo S/N. • NC: Improved characteristic.
- AM: On-chip low frequency area cut filter. • On-chip multipath circuit

LA1805



LA1805



L1: TN-10896(ミツミ)
L2: YT-30196(ミツミ)
L3: YT-40001(ミツミ)
T1: YT-30224(ミツミ)
T2: HW-6193(ミツミ)
T3: HW-6215(ミツミ)
T4: YT-30103(ミツミ)

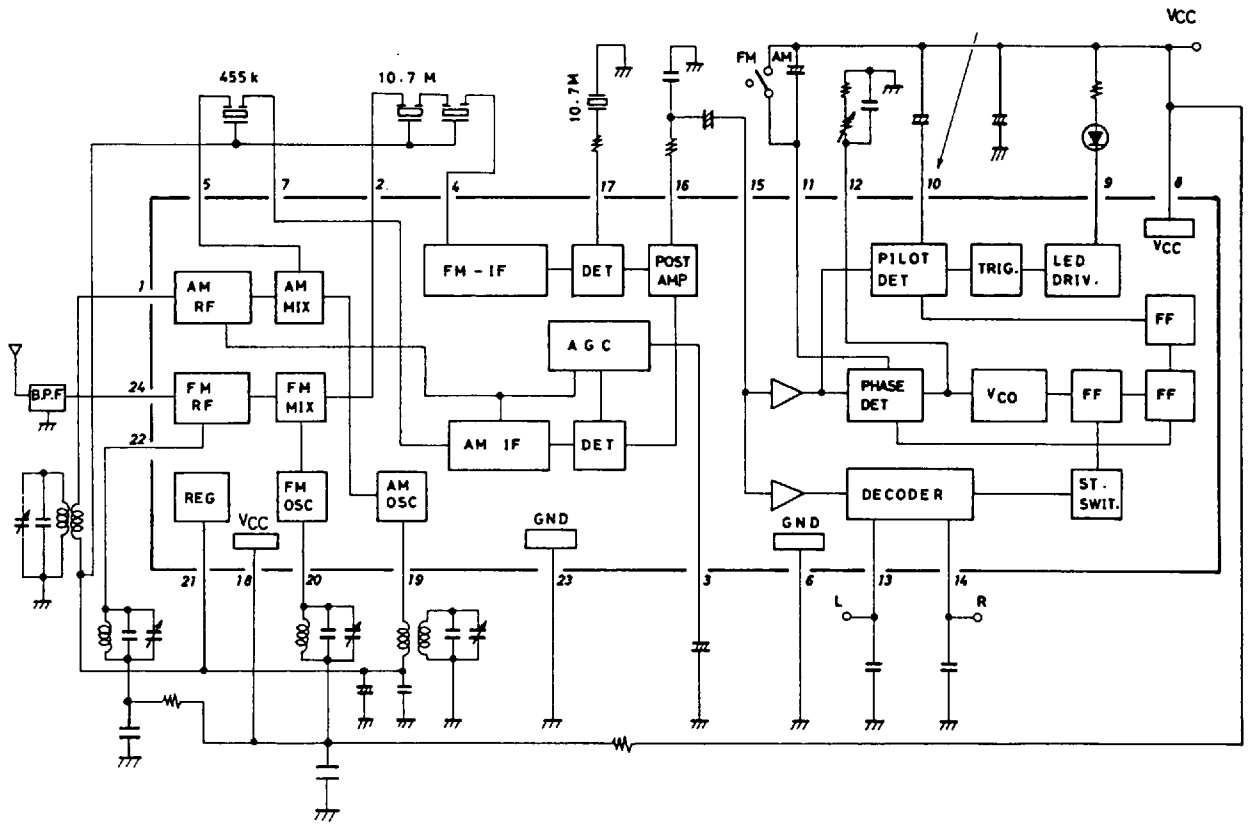
注：※1～※5の部品定数はLA1810よりの変更個所である。

The constants of the parts (※1 to※5) indicated by an asterisk are different from those of the LA1810.

LA1816, 1816M

Vcc接続で強制モノラル

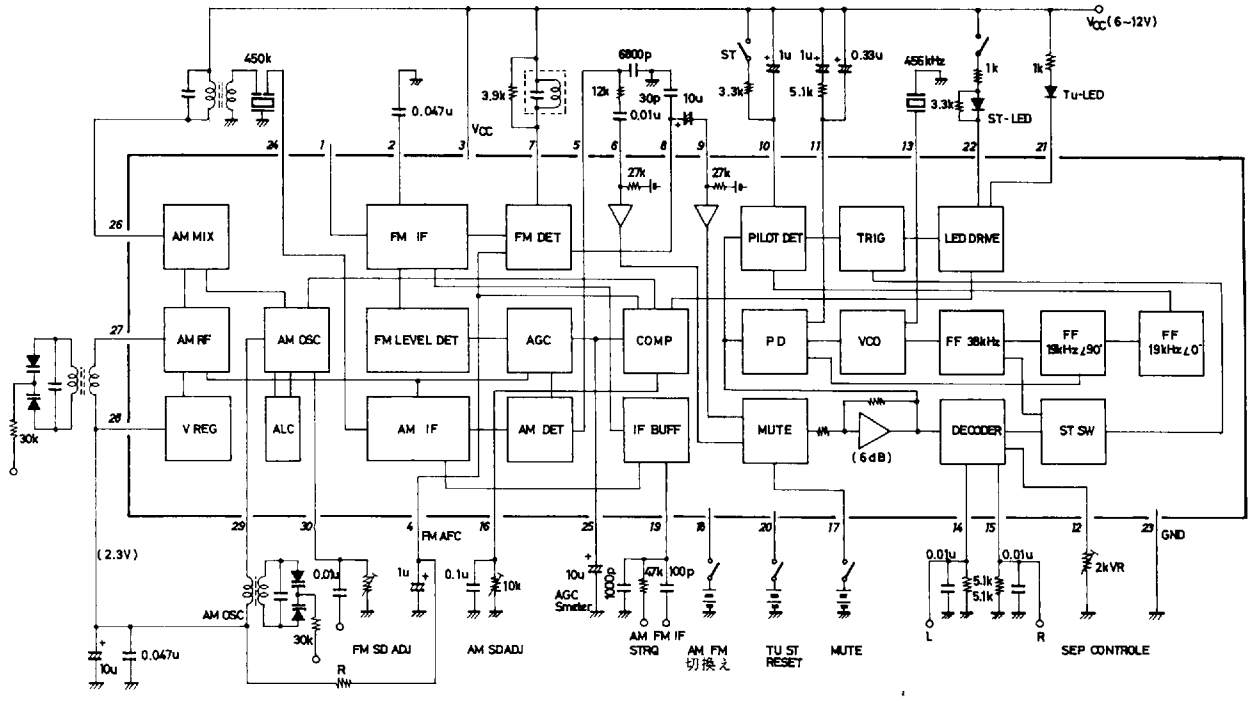
IF this pin is set to Vcc level, a monaural mode is forcibly activated.



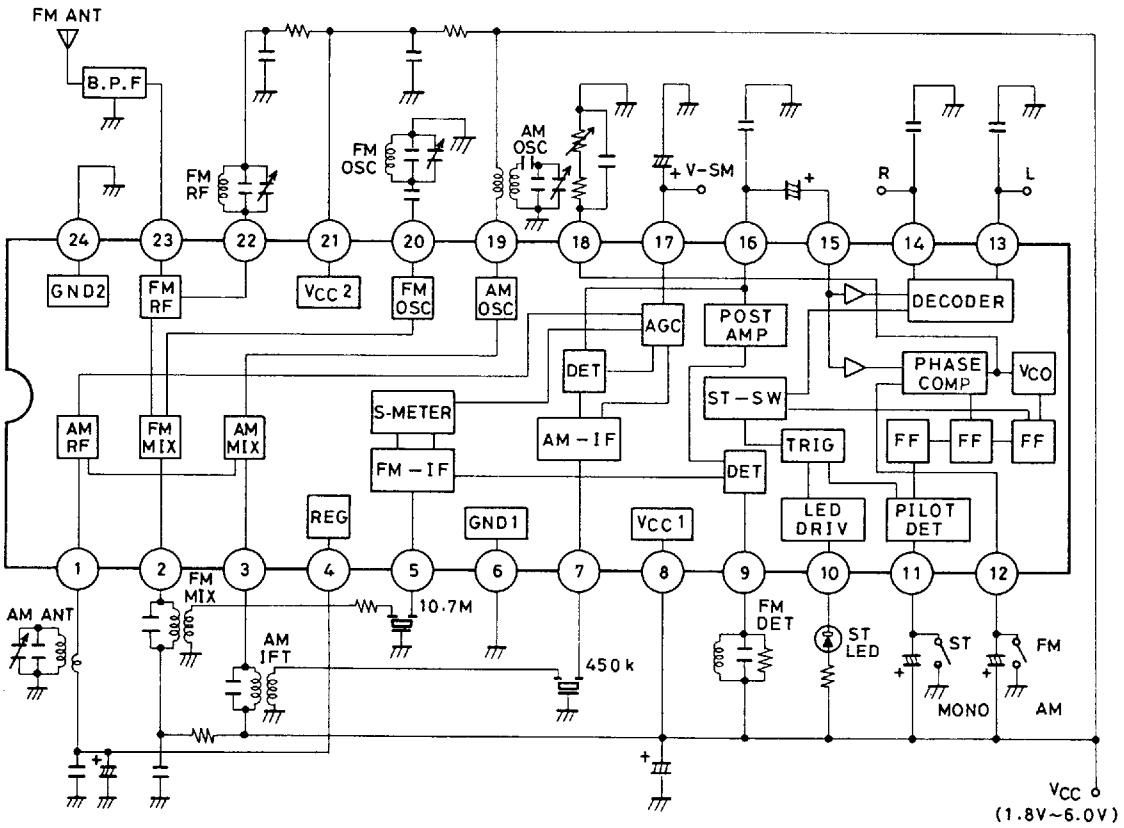
LA1851N

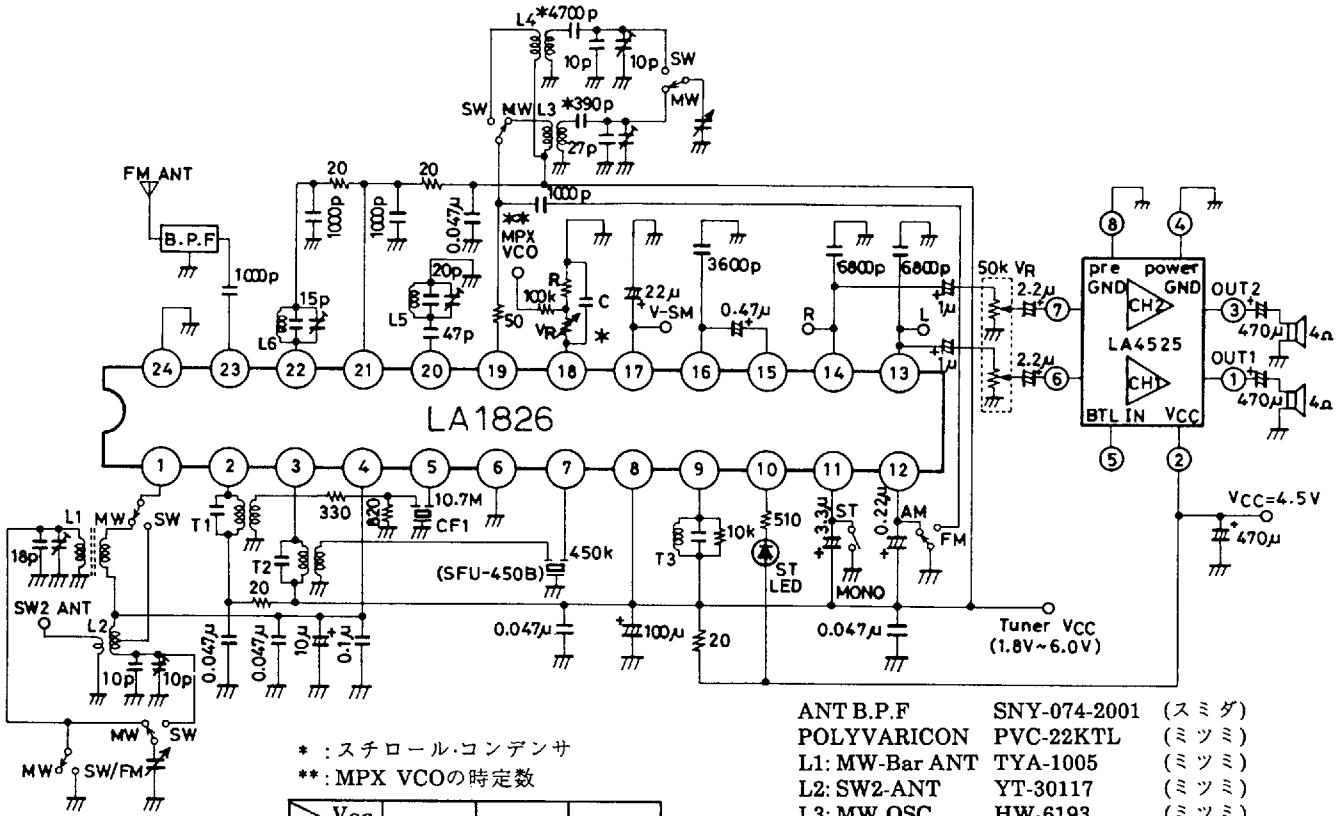
* 強制モノラル(→VCO STOP) *ST オン時OPEN→ショートで強制モノラル (VCO STOP) 切換え

* Forced monaural (→VCO stop). If ST is turned on, the Open circuit is shorted and the forced monaural mode is started (VCO stop).



LA1826





* : スチロール・コンデンサ
** : MPX VCOの時定数

VCC	~3V	~4.5V	~6V
C	1000pF	820pF	620pF
R	27kΩ	33kΩ	51kΩ
VR	10kΩ	20kΩ	30kΩ

ANT B.P.F	SNY-074-2001	(スミダ)
POLYVARICON	PVC-22KTL	(ミツミ)
L1: MW-Bar ANT	TYA-1005	(ミツミ)
L2: SW2-ANT	YT-30117	(ミツミ)
L3: MW-OSC	HW-6193	(ミツミ)
L4: SW2-OSC	HW-40184	(ミツミ)
L5: FM-OSC	SA-151	(スミダ)
L6: FM-RF	SA-149	(スミダ)
T1: FM-MIX	YT-30224	(ミツミ)
T2: AM-IFT	HW-6215	(ミツミ)
T3: FM-DET	SA-179	(スミダ)
CF1: FM-IF C.F	SFE10.7MS2	(ムラタ)

LA1831/M ラジカセミュージックセンタ用 AMステレオ対応電子同調1チップチューナ

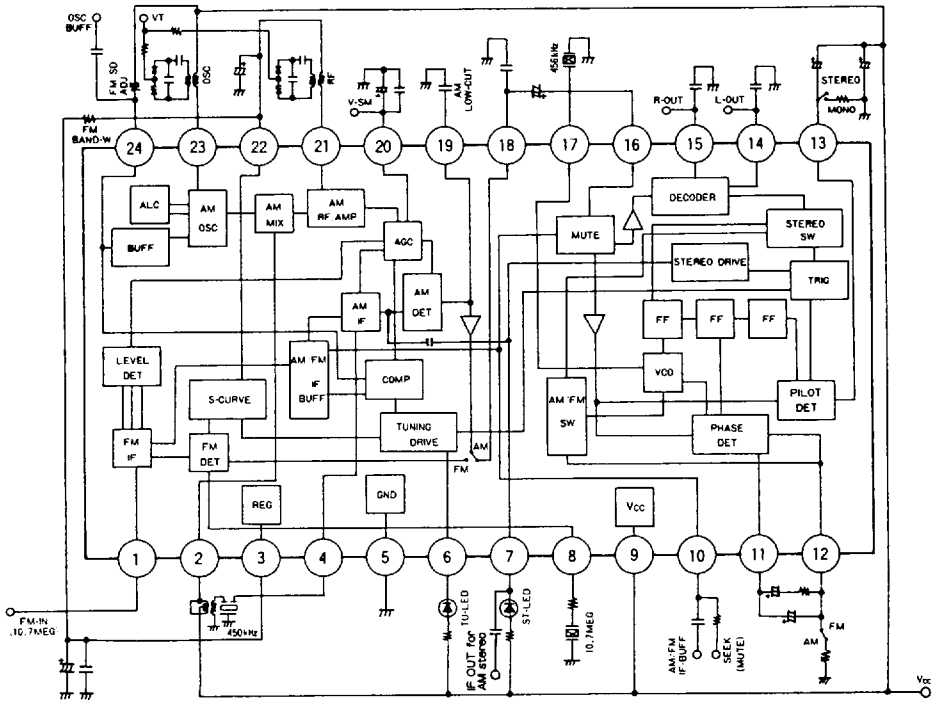
機能 AM ：RFアンプ，MIX，OSC（ALC付き），IFアンプ，検波，AGC
OSC Buff，同調インジケータ，IF Buff出力，
AMステレオ対応IF出力
FM ：IFアンプ，クオドラチャ検波，Sカーブ検出，同調インジケータ，Sカーブ
IF Buff出力
MPX ：PLLステレオデコーダ，ステレオインジケータ，強制モノラル，VCOストップ

特長
1．調整工数の大幅な削減
・FM DET 無調整 （セラミックディスクリミネータ採用）
・MPX VCO 無調整 （セラミックレゾネータ採用）
2．同調インジケータ端子付き（狭帯域ストップ信号及びミューティング駆動出力として使用できる）：SD出力
3．AMステレオ対応IF出力機能
4．SD併用IFカウント方式
5．FMストップ感度，帯域幅可変
6．AM局発バッファ内蔵
7．AM低域カットコントロールが可能

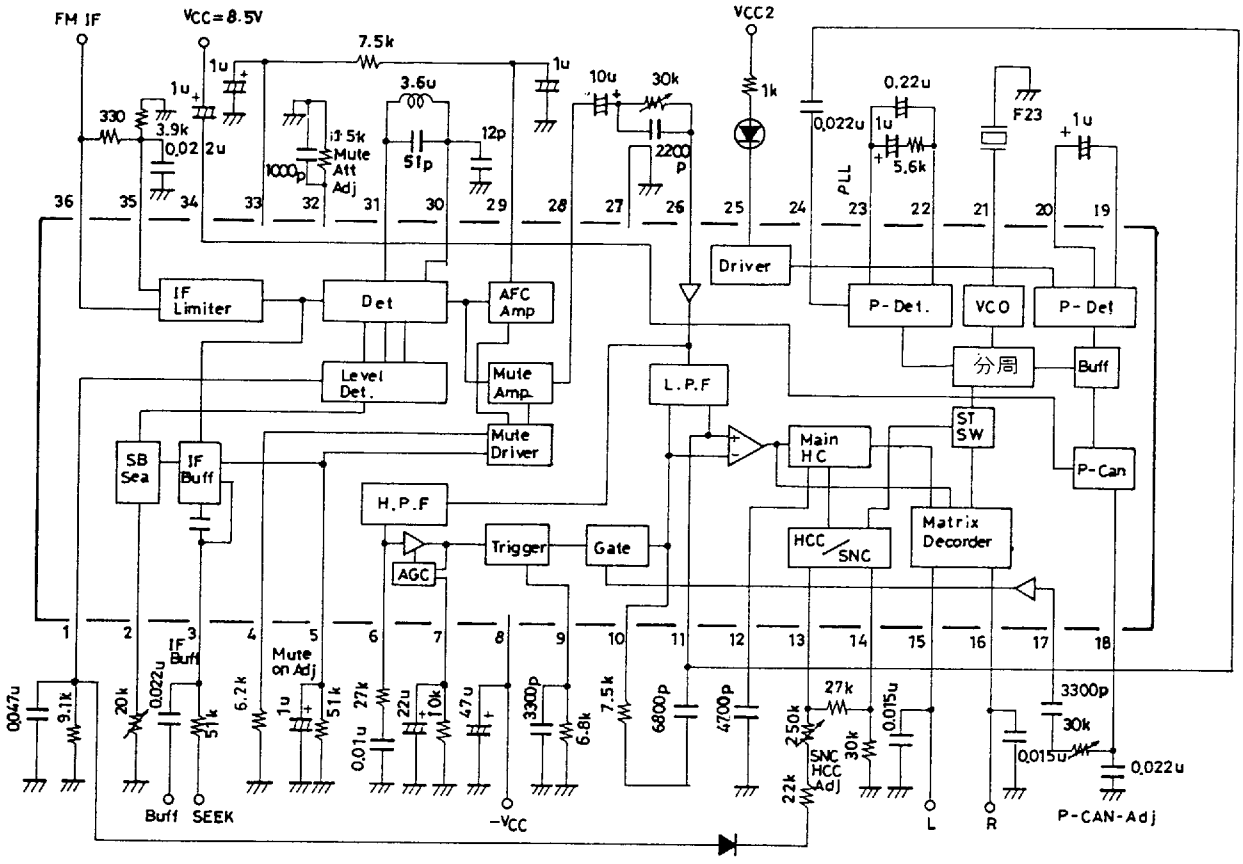
LA1831/M single chip tuner for AM stereo electronic tuning.

FUNCTIONS
AM: RF AMP, MIX, OSC (with ALC), IF AMP, detection, AGC,
OSC buffer, Tuning indicator, IF buffer output, AM stereo IF output.
FM: IF AMP, Quadrature detector, S curve detection, Tuning indicator, IF buffer output.
MPX: PLL stereo decoder, Stereo indicator, Forced monaural, VCO stop.

FEATURES
1. Simple adjustments
• FM DET: Adjust-free (ceramic discriminator)
• MPX VCO: Adjust-free (ceramic resonator)
2. Tuning indicator pin (can be used as a narrow-band stop signal and a mute drive output.): SD output.
3. AM stereo IF output function
4. SD IF count type
5. FM stop sensitivity and variable bandwidth
6. AM low frequency area cut control



LA1862M



LA1862M 対 従来IC部品数比較

Comparison of Number of Parts between LA1861M and Conventional IC

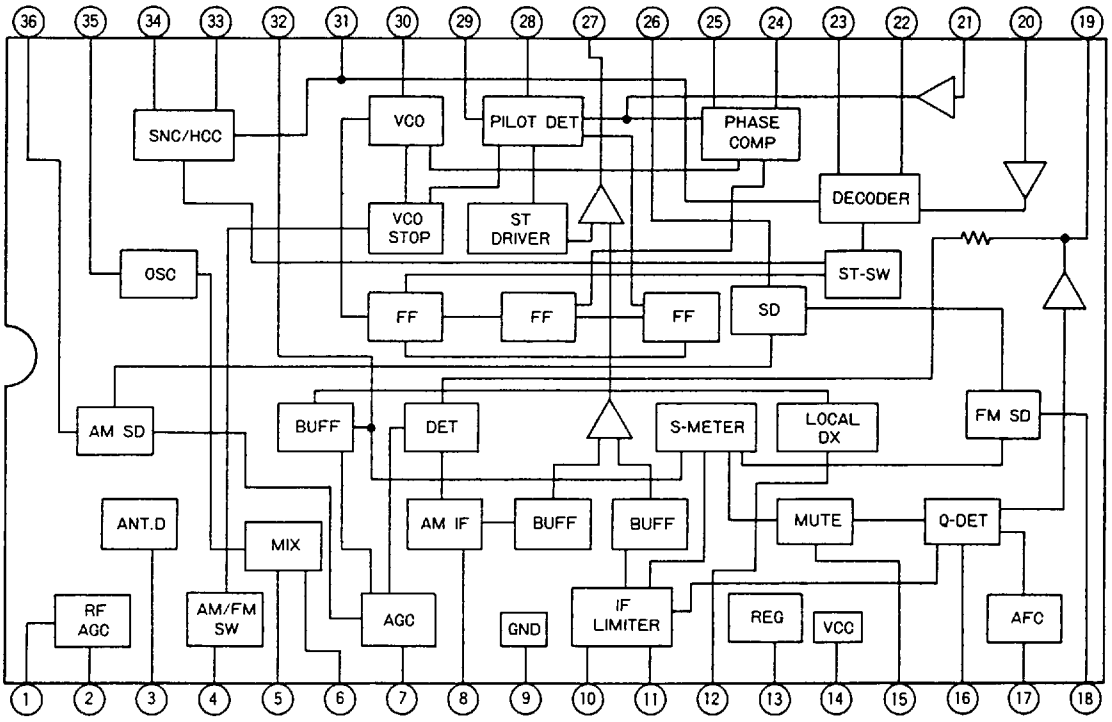
Name of Parts	LA1861M	LA1140+LA2110+LA3375
Resistor	16	29
Ceramic Capacitor	15	21
Electrolytic Capacitor & Polystyrene Film Capacitor	8	10
Semifixed Variable Resistor	4	5
Diode	1	1
Coil	1	1
Ceramic Resonator	1	—
Total	46	77

LA3375
LA3430 ― VCOの部分比較
Partial comparison of VCO

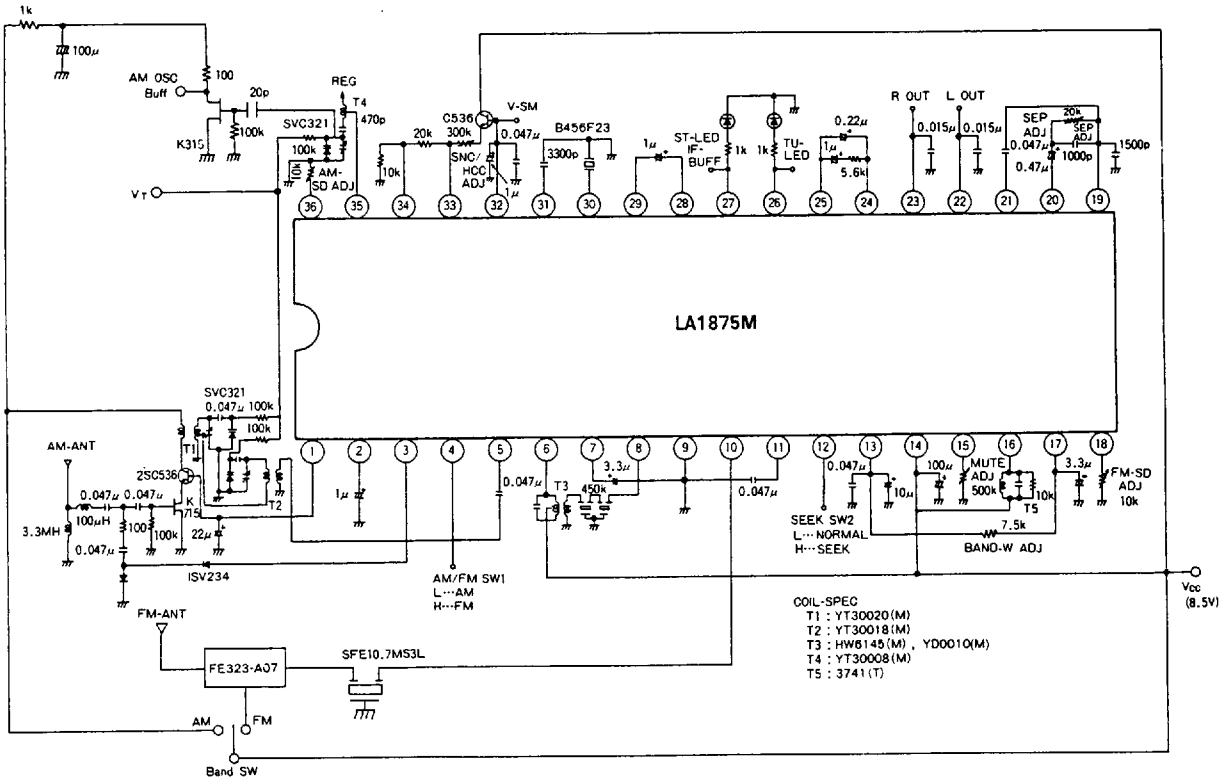
〈LA3375〉
R 1
VR 1
C（スチコン） 1
Polystyrene film capacitor

〈LA3430〉
セラミック 1
Ceramic resonator

LA1875M



フロントエンド対応アプリケーション例



□LA1875M 対 従来IC部品数比較

Comparison of Number of Parts between LA1875M and Conventional IC

Number of Parts	LA1875M	LA1140+LA1135+LA3370
Resistor	4	19
Ceramic Capacitor	12	22
Electrolytic Capacitor & Polystyrene Film Capacitor	10	13
Semifixed Variable Resistor	5	6
Coil	3	4
Ceramic Filter	1	1
Ceramic Resonator	1	—
Total	36	65

※AM ANT段の外付け回路は省略

◇LA3370/LA1875M VCOの部分比較

〈LA3370〉 〈LA1875M〉

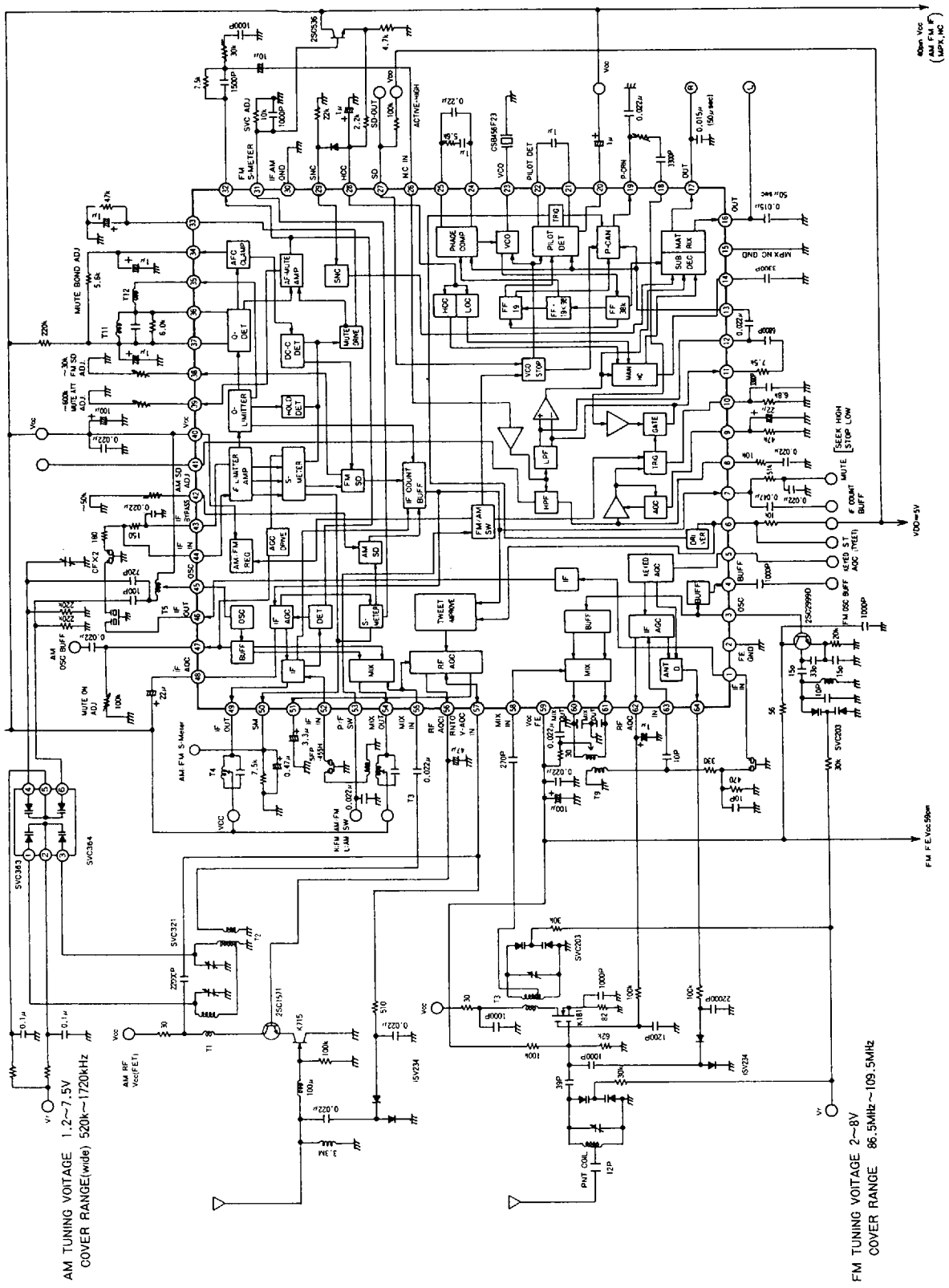
R 1
VR 1 ⇨ Ceramic 1
C 1

□LA1883M 対 従来IC部品数比較

Comparison of Number of Parts between LA1886M and Conventional IC

Number of Parts	LA1886M	LA1175,1140,2110,3370,1135
F E T	2	2
Pin Diode	2	2
Transformer	9	9
Choke Coil	3	3
Ceramic Filter	5	5
Resistor	30	60
Semifixed Variable Resistor	4	5
Chmical Condenser	13	16
Ceramic Capacitor	40	61
Trimmer	4	4
Transistor	1	5
Varactor Diode	6	6
Total	119（外付33%削減）	178

LA1883M


AM TUNING VOITAGE 1.2~7.5V
COVER RANGE(wide) 520k~1720kHz
FM TUNING VOITAGE 2~8V
COVER RANGE 86.5MHz~109.5MHz

Monolithic Linear IC

LA1816, 1816M

Single-Chip AM/FM, MPX Tuner System for Headphone Stereos, Radio-Cassette Recorders

Functions

- FM: RF amplifier, MIX, OSC, IF amplifier, quadrature detector
- AM: RF amplifier, MIX, OSC, IF amplifier, detector, AGC
- MPX: PLL stereo decoder, stereo indicator, VCO stop

Features

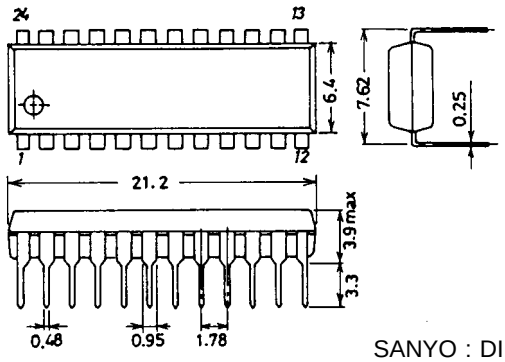
- Contains FM tuner, AM tuner, MPX on a single chip.
- Adjustment-free FM detector and AM IF
- Minimum number of external parts required
- Low-voltage operation
- Low current drain
- Less carrier leak of MPX (no-input, monaural-input mode)

Package Dimensions

unit : mm

3067-DIP24S

[LA1816]

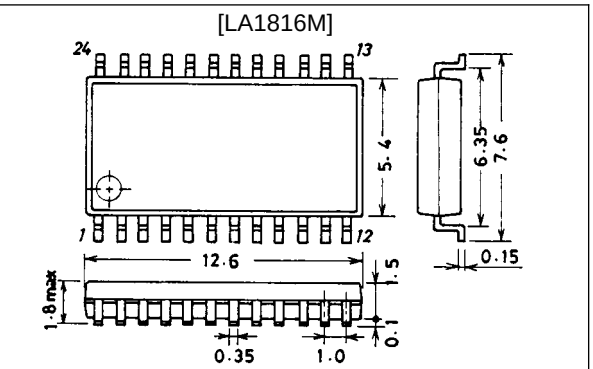


SANYO : DIP24S

unit : mm

3112-MFP24S

[LA1816M]



SANYO : MFP24S

Specifications

Maximum Ratings at Ta = 25°C, See specified Test Circuit

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max	Pins 8, 9, 11, 18, 20, 22	7	V
Maximum supply current	I_{CC} max	Pins 8 + 18 + 20 + 22	50	mA
Flow-in current (Indicator drive current)	I_{LED}	Pin 9	10	mA
Flow-out current	I_{21}	Pin 21	0.1	mA
Allowable power dissipation	Pd max	Ta ≦ 70°C	350	mW
Operating temperature	Topr		–20 to +70	°C
Storage temperature	Tstg		–40 to +125	°C

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Operating Conditions at Ta = 25°C

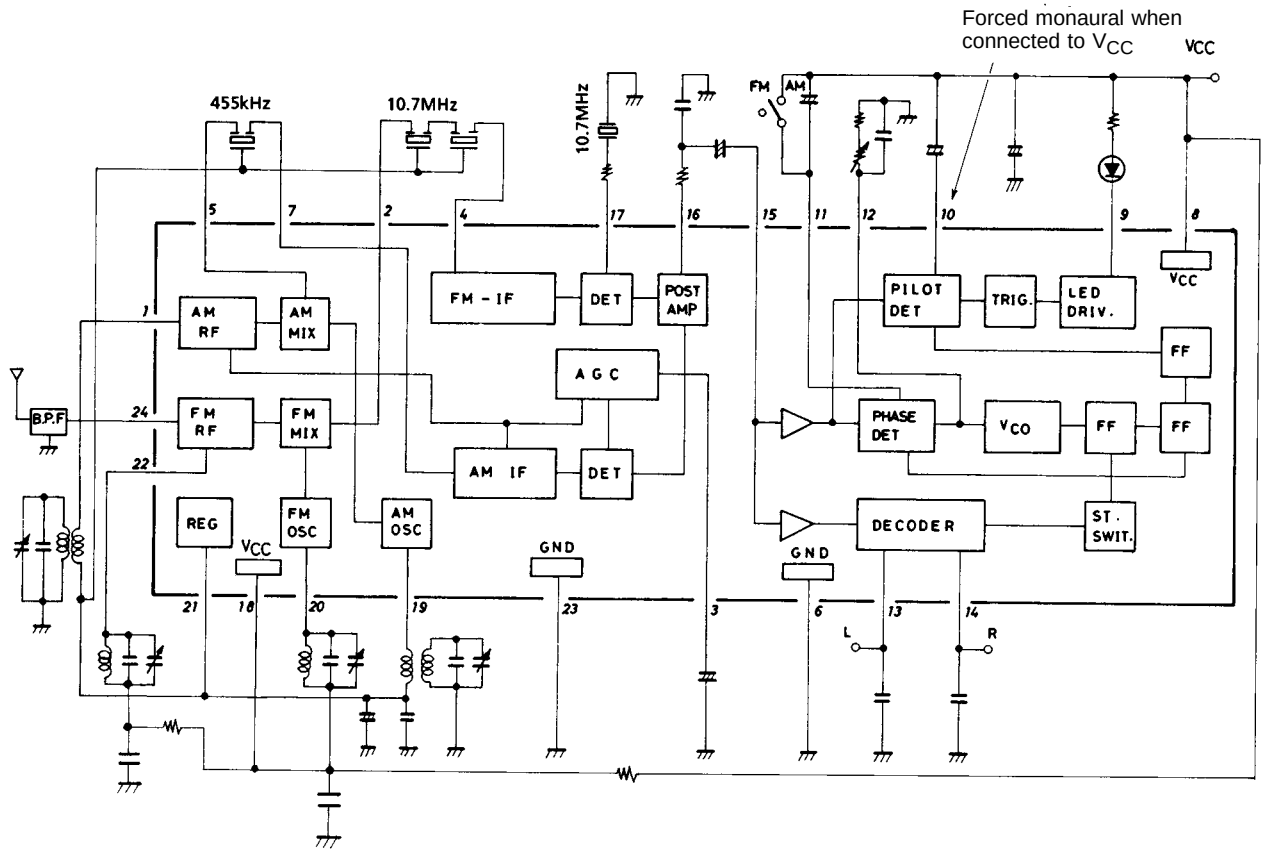
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		3	V
Operating voltage range	V_{CC} op		1.8 to 6.0	V

Operating Characteristics at Ta = 25°C , V_{CC} = 3 V, See specified Test Circuit

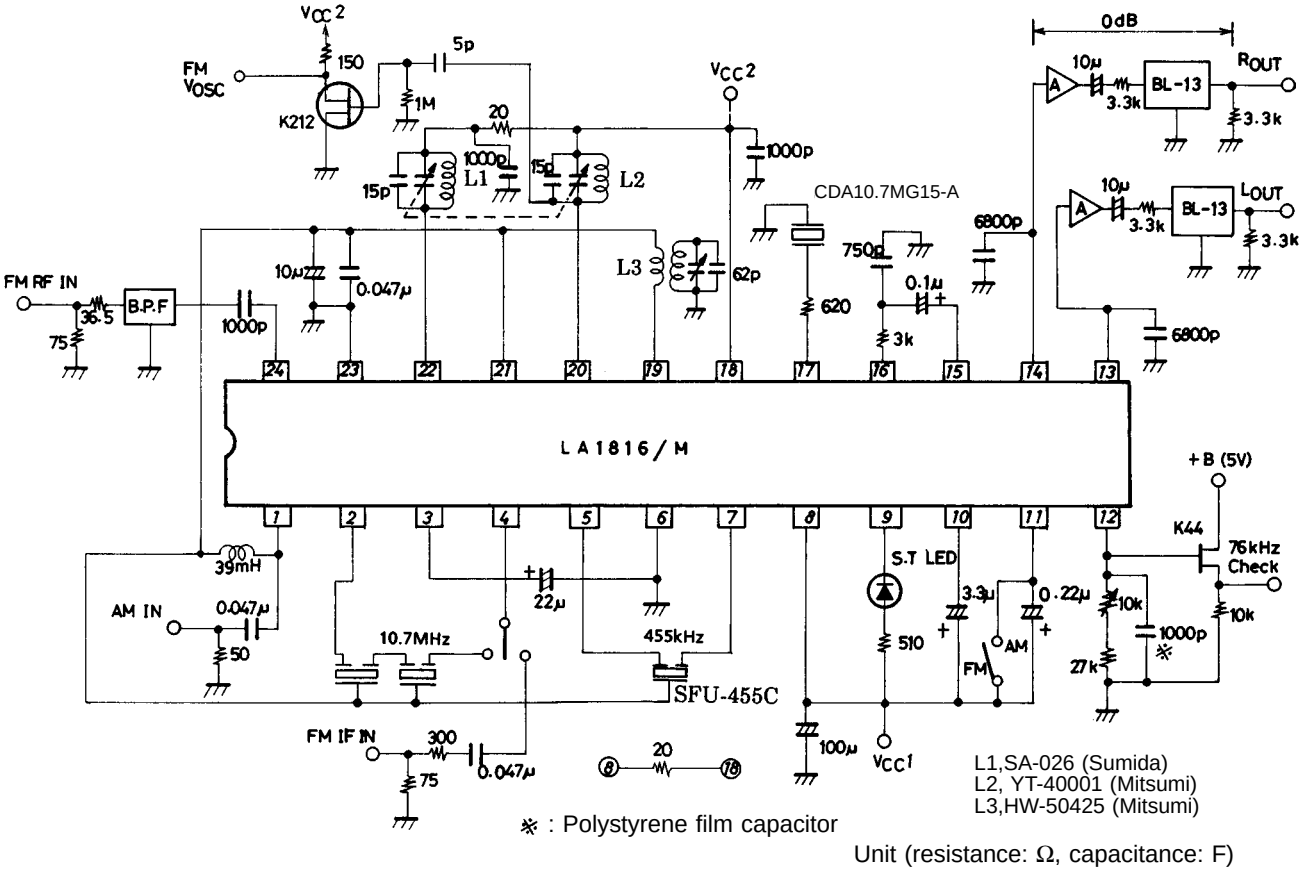
Parameter	Symbol	Conditions	min	typ	max	Unit
Quiescent current	I_{CCO} (FM)	FM mode V_{IN} = 0		8.9	15	mA
	I_{CCO} (AM)	AM mode V_{IN} = 0		3.3	5.5	mA
[AM Characteristics] : f_c = 1000 kHz, f_m = 1 kHz						
Detection output	V_O1	V_{IN} = 23 dBμ, 30% mod.	12	23	41	mV
	V_O2	V_{IN} = 80 dBμ, 30% mod.	48	74	120	mV
Signal to noise ratio	S/N1	V_{IN} = 23 dBμ, 30% mod.	16	21		dB
	S/N2	V_{IN} = 80 dBμ, 30% mod.	45	52		dB
Total harmonic distortion	THD1	V_{IN} = 80 dBμ, 30% mod.		0.3	1.3	%
	THD2	V_{IN} = 107 dBμ, 30% mod.		0.6	2.0	%
[FM Characteristics] (F.E.) : f_c = 98 MHz, f_m = 1 kHz						
–3 dB sensitivity	–3dBL.S.	Referenced to V_{IN} = 80 dBμ , 30% mod., 3 dB down		12		dBμ
Local oscillation voltage	V_{OSC}	f_{OSC} = 108.7 MHz	75	110	160	mV
[FM Characteristics] (IF + MPX, MONO) : f_c = 10.7 MHz, f_m = 1 kHz						
–3 dB sensitivity	–3dBL.S.	Referenced to V_{IN} = 100 dBμ, 100% mod., 3 dB down		39	46	dBμ
Demodulation output	V_O	V_{IN} = 100 dBμ, 100% mod.	100	135	200	mV
Channel balance	C.B.	V_{IN} = 100 dBμ, 100% mod.		0	2.0	dB
Total harmonic distortion	THD (mono)	V_{IN} = 100 dBμ, 100% mod.		0.7	3.0	%
Signal to noise ratio	S/N	V_{IN} = 100 dBμ, 100% mod.	70	75		dB
[FM Characteristics] (IF + MPX, STEREO) : f_c = 10.7 MHz, f_m = 1 kHz, L + R = 90%, pilot = 10%, V_{IN} = 100 dBμ						
Channel separation*	Sep		25	34		dB
Total harmonic distortion	THD (main)			0.6	2.5	%
LED-ON level	V_{LED-ON}		2.0	3.5	5.0	%
LED-OFF level	$V_{LED-OFF}$			2.7		%

* Sep = 45 dB (typ) at MPX IN

Equivalent Circuit Block Diagram



Test Circuit



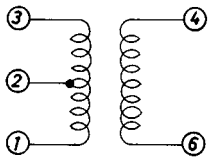
Coil Specifications

FM

- ANT B.P.F
  SNY-074-2001 (Sumida)
- OSC
  YT-40001 (Mitsumi)
  5.5 mm ø air core, 0.8 mm wire, 3T
- RF SA-026(Sumida)
  3.5 mm ø air core, 1.0 mm wire, 5T
- Discriminator
  CDA 10.7MG (15) (Murata)

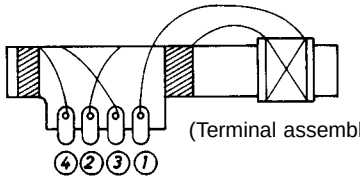
AM

- MW OSC
  HW-50425
  (Mitsumi)



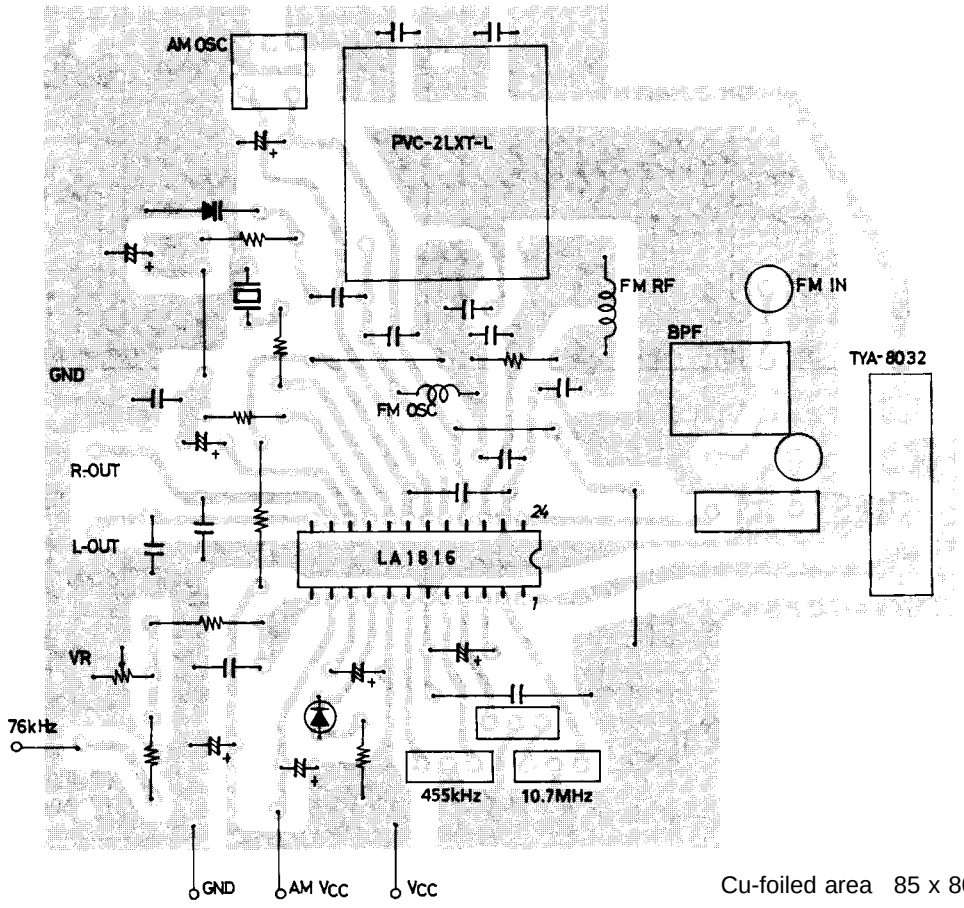
③ – ② 2T
④ – ⑥ 9T Qo ≧ 80
② – ① 86T L = 270 µH

- Bar antenna
  TYA-8032 (PVC-2LXT-L)
  (Mitsumi)



① – ② 21T • 100T
③ – ④ 30T
① – ② L = 604 µH
Qo ≧ 120

Sample Printed Circuit Pattern



Cu-foiled area 85 x 80 mm²

How to use the LA1816

1. VCO stop
   The VCO is stopped by shorting pin 10 and pin 8 (V_{CC} pin).
   Note) The maximum supply voltage on pin 10 must not exceed the voltage on pin 8.
2. Free-running frequency check
   Either of the following two methods is used to check the free-running frequency.
   (a) Connect pin 12 to a frequency counter through the high input impedance amplifier.

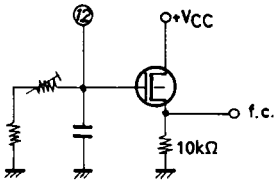


Figure 1

(b) Connect the connection point of the semifixed resistor connected to pin 12 and the fixed resistor to a frequency counter through the resistor of 240 kΩ or greater.
How the error changes with the resistor value is shown in Figure 2.

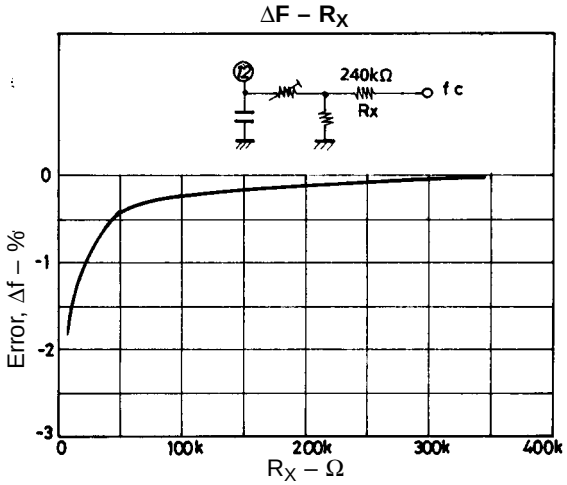


Figure 2

3. How to use the FM DET coil
   For pin 17 (FM DET), a coil may be used instead of adjustment-free FM discriminator.

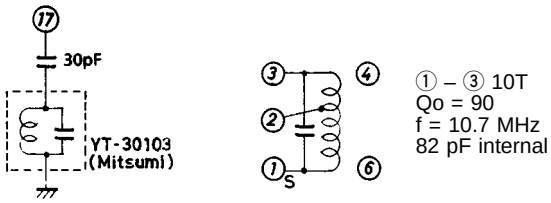


Figure 3 How to use the FM DET coil

Figure 4 FM DET Coil Characteristics

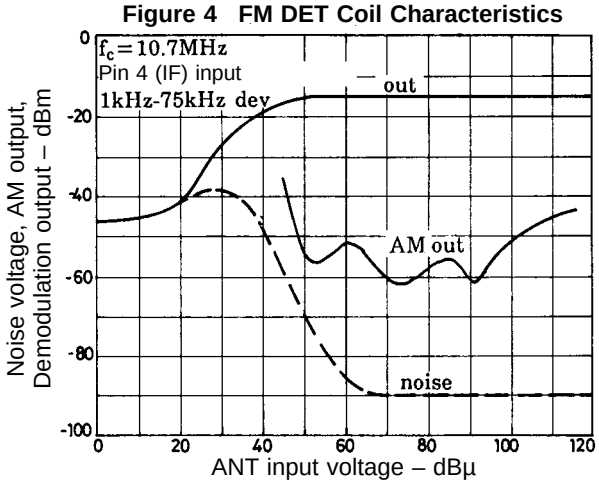
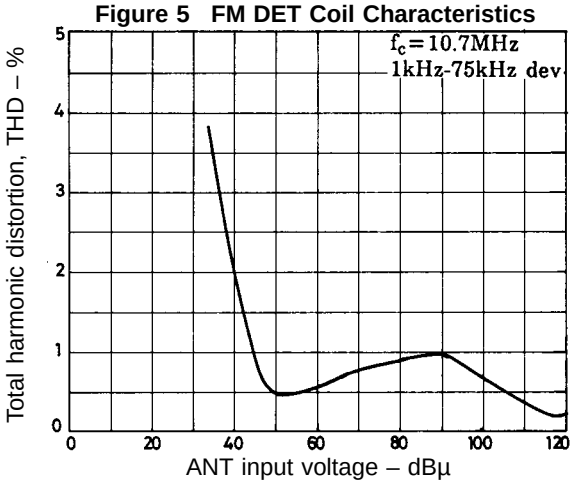


Figure 5 FM DET Coil Characteristics



4. How to use the FM AFC
The S curve at output pin 16 is as shown Figure 6. Figure 7 shows how to provide FM AFC.

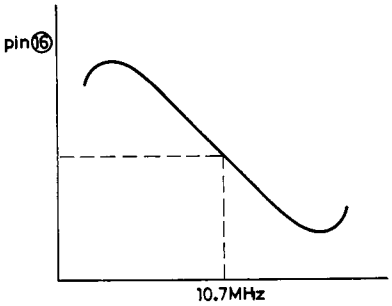


Figure 6

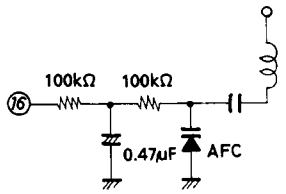


Figure 7

5. AM-FM selection
The FM mode is entered with pin 11 open as shown in Figure 8 . When pin 11 and pin 8 are made to be at the same potential in terms of DC, the AM mode is entered. It should be noted that the dynamic range is narrowed whether the potential at pin 11 is lower or higher than that at pin 8.

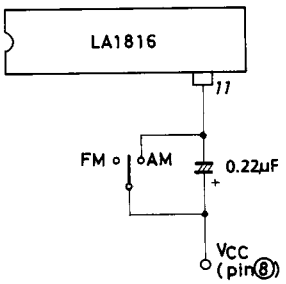
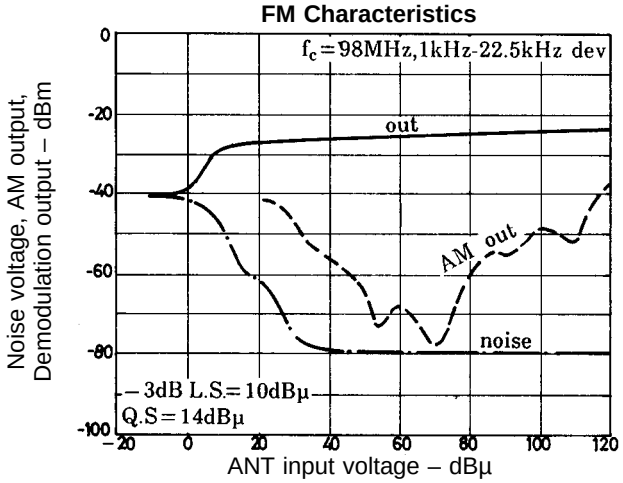
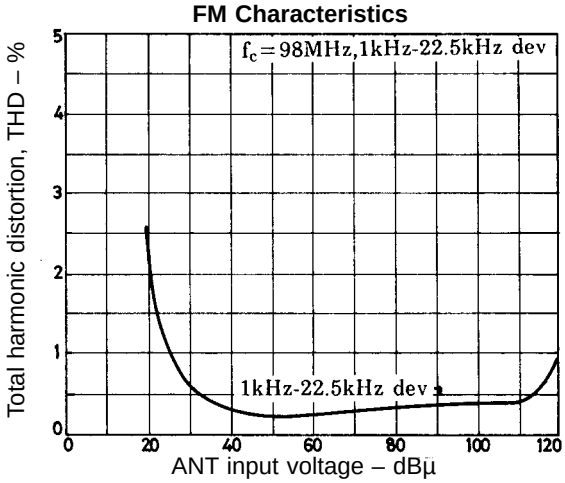


Figure 8

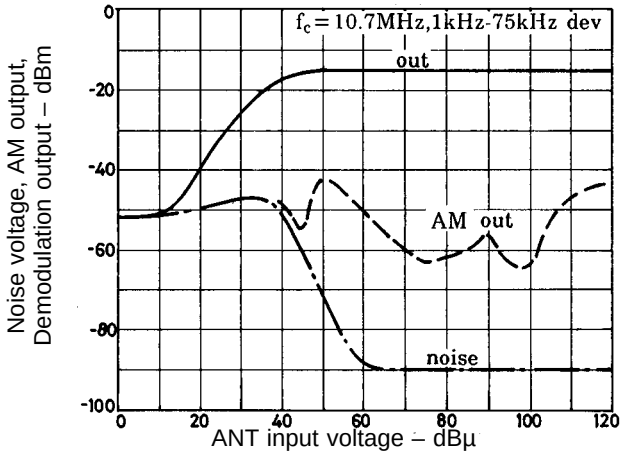
FM Characteristics



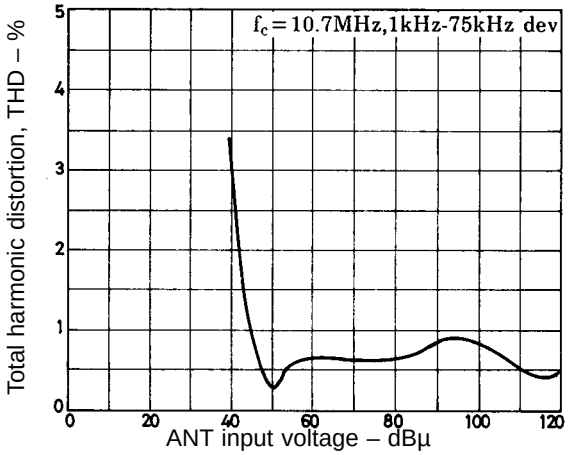
FM Characteristics



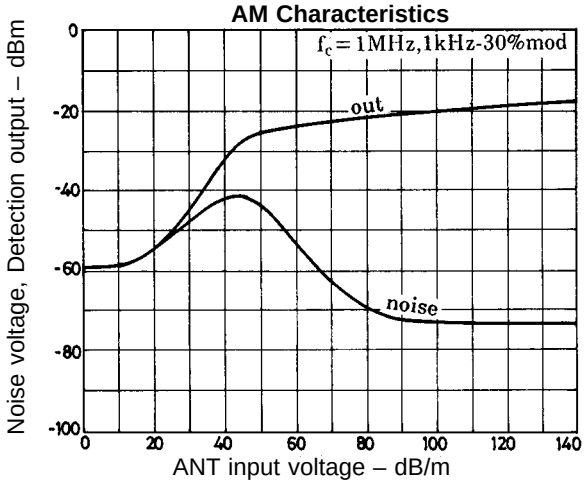
FM IF Characteristics



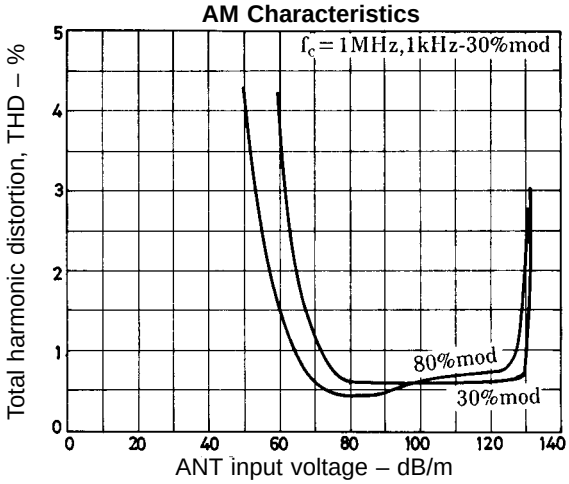
FM IF Characteristics



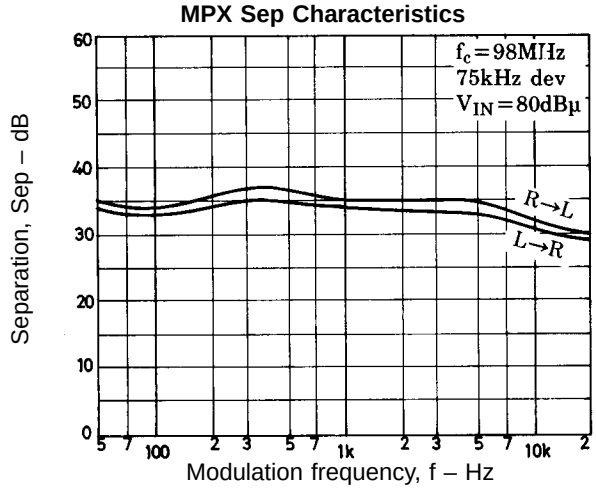
AM Characteristics



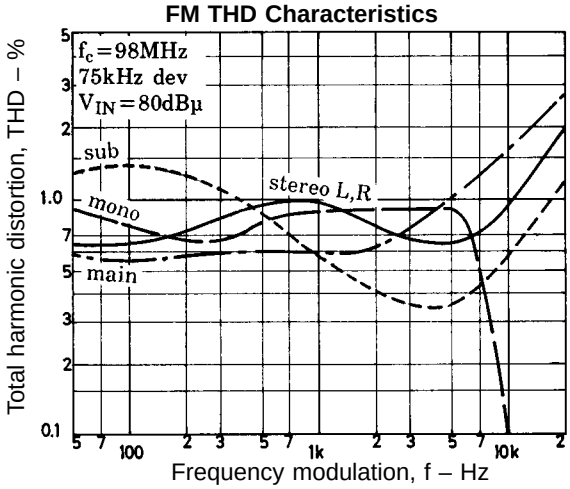
AM Characteristics



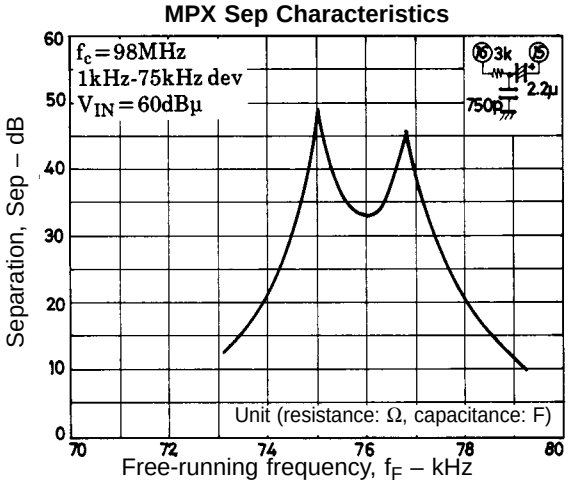
MPX Sep Characteristics



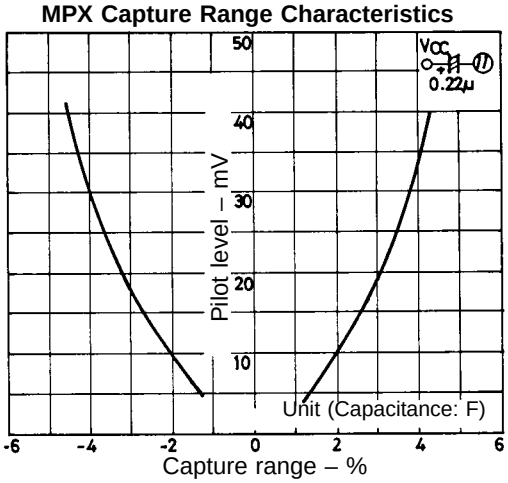
FM THD Characteristics



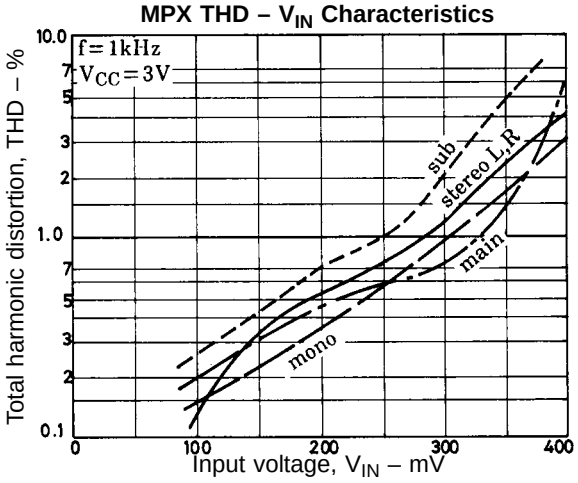
MPX Sep Characteristics



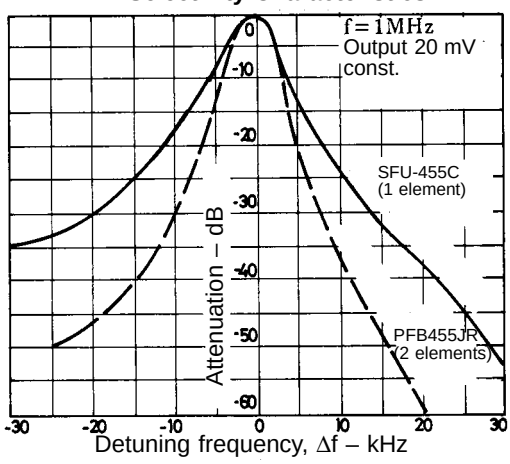
MPX Capture Range Characteristics



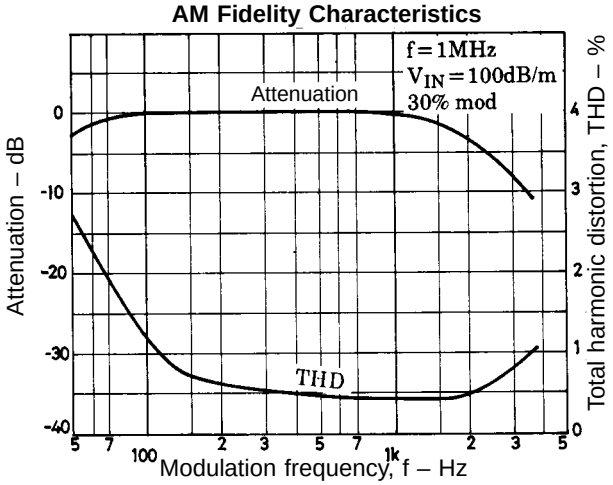
MPX THD – V_{IN} Characteristics



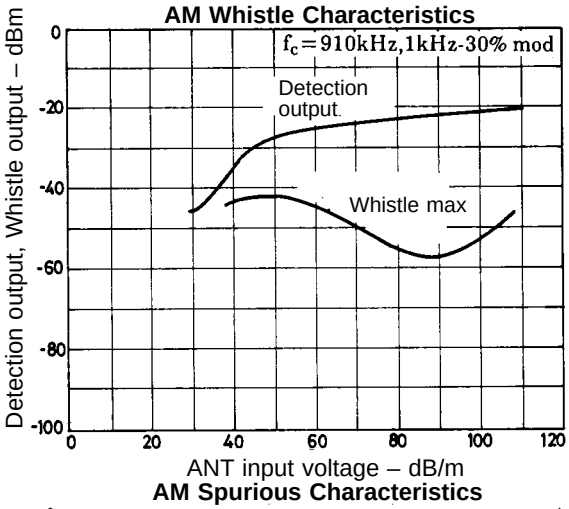
AM Selectivity Characteristics



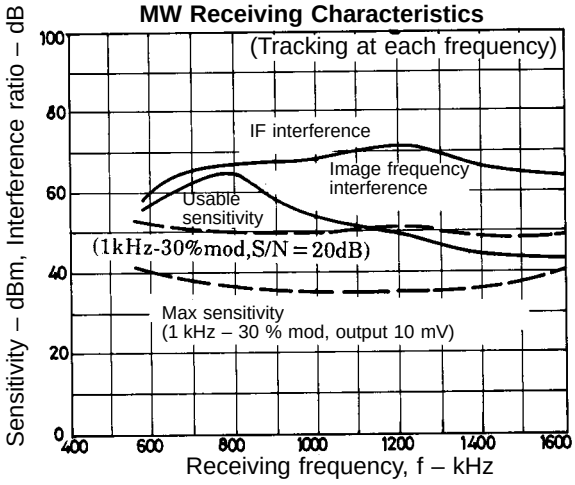
AM Fidelity Characteristics



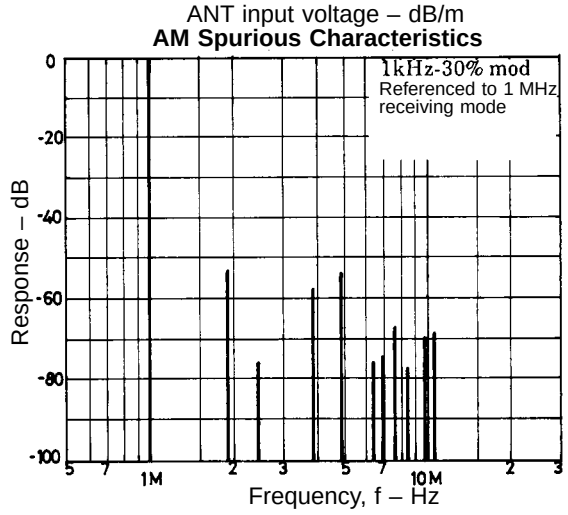
AM Whistle Characteristics



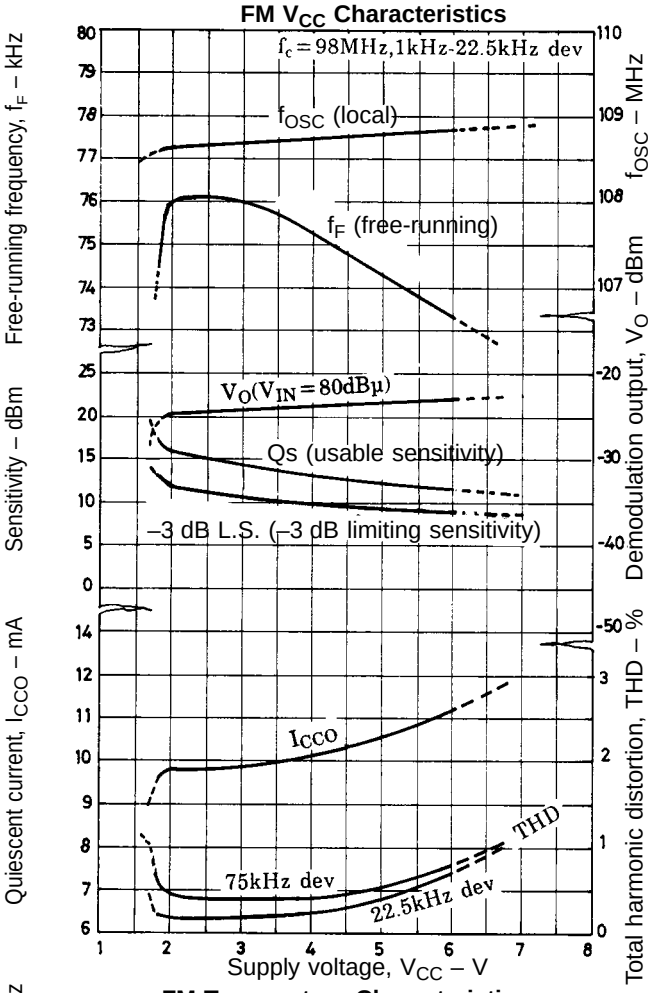
MW Receiving Characteristics



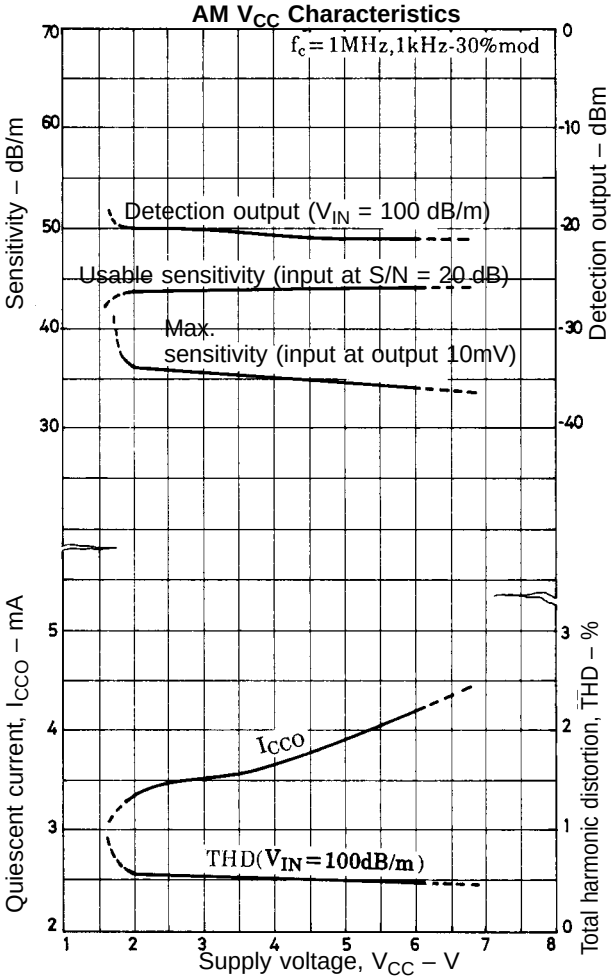
AM Spurious Characteristics



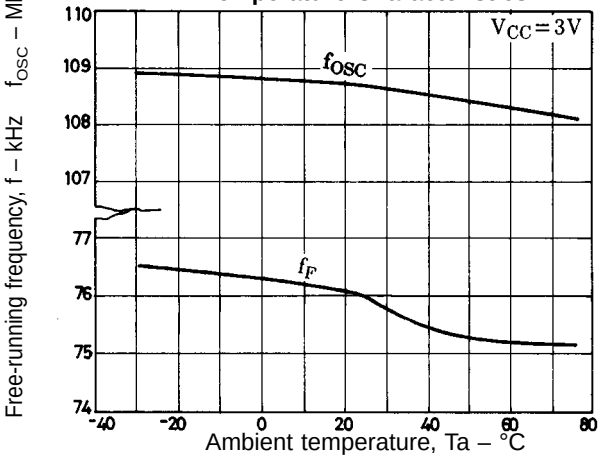
FM V_{CC} Characteristics



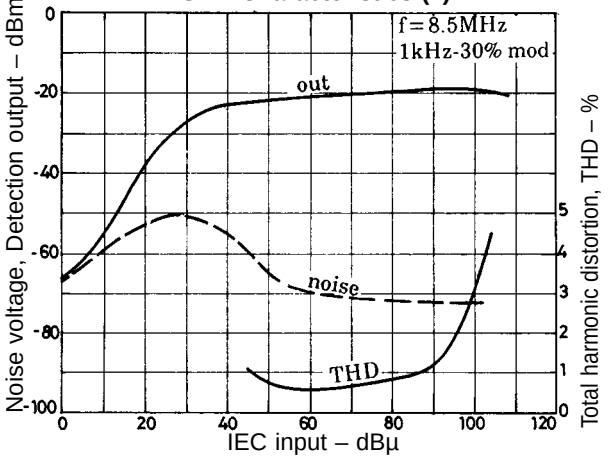
AM V_{CC} Characteristics



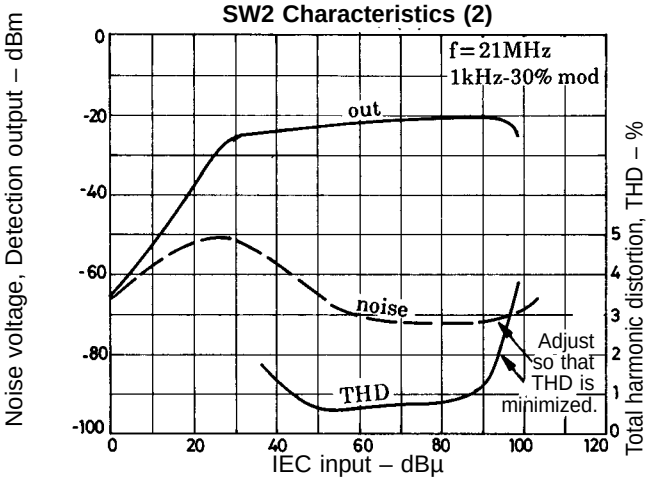
FM Temperature Characteristics



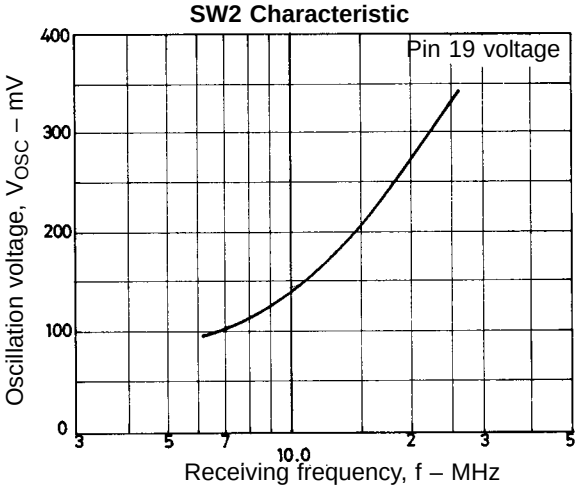
SW2 Characteristics (1)



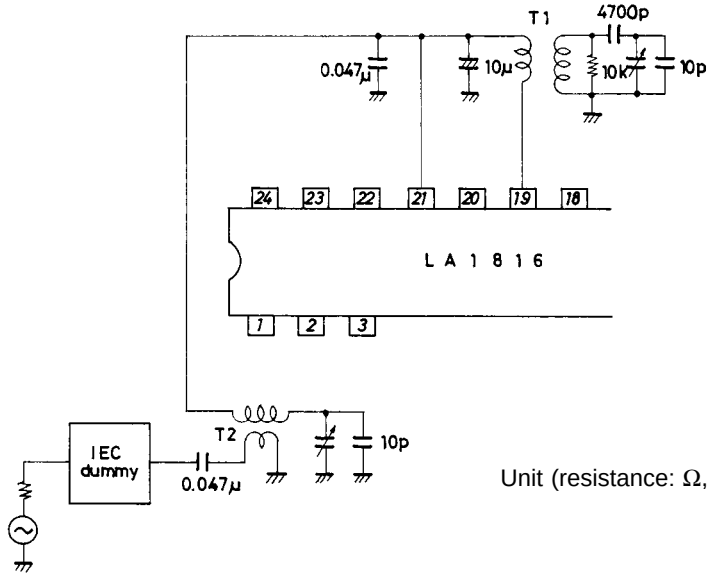
SW2 Characteristics (2)



SW2 Characteristic



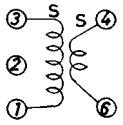
SW Band Test Circuit



Unit (resistance: Ω, capacitance: F)

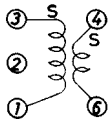
Coil Specifications

T1 SW2 OSC
HW 40184 (Mitsumi)



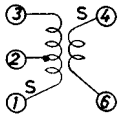
④ – ⑥ 8T
③ – ① 12T
Qo ≧ 28,
L = 1.31μH

0237 1500 (Sumida)



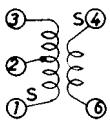
④ – ⑥ 8T
③ – ① 12T
Qo ≧ 20,
L = 1.31 μH

T1 SW2 ANT
YT 30117 (Mitsumi)



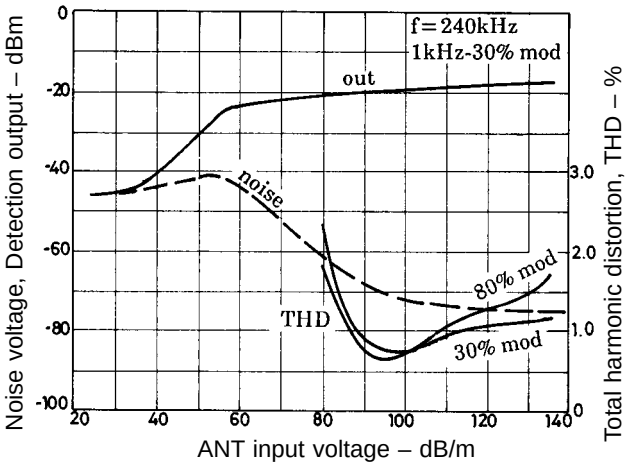
① – ② 4T
④ – ⑥ 2T
② – ③ 4T
Qo = 95,
L = 1.4 μH

2158 4095 319A (Sumida)

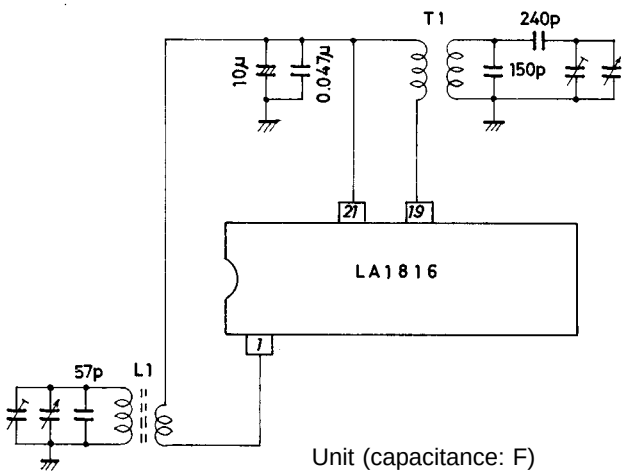


④ – ⑥ 2T
① – ② 5T
② – ③ 5T
Qo ≧ 40,
L = 1.4 μH

LW Characteristics



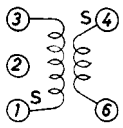
LW Band Test Circuit



Unit (capacitance: F)

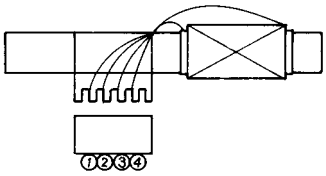
Coil Specifications

T1 • LW OSC
MA-7014 (Mitsumi)



④ – ⑥ 40T
① – ③ 80T
L = 220 μH, Qo = 130

L1 • LW bar antenna
HH-50161 (Mitsumi)



①– ② 20T
③– ④ 200T
③– ④ L = 2.74 mH, Qo ≧ 200