FM TUNERHEAD 8319

This advanced FM front-end module contains 4 tuned circuits, each controlled by means of a double varactor diode (varicap). Careful internal screening, combined with the high Q signal frequency circuits, give the 8319 excellent selectivity and immunity to spurious responses.

The RF stage is built about a dual gate depletion MOSFET, allowing a considerable AGC range - even when in the proximity of powerful transmissions.

The mixer stage, with a double tuned input circuit, also employs a dual gate depletion MOSFET - effectively isolating the oscillator from the pulling influence of strong signals.

The brass core in the tank circuit of the NPN oscillator stage is used to suppress noise that might otherwise result from stray magnetic fields.

There is provision made for a simple AFC arrangement, controlling the oscillator tuned circuit only - though the preferred method is a superimposition of the AFC on the tuning voltage of all circuits, as employed with 7252 tunerset.
To summarize, the 8319 tuner module combines excellent selectivity, high gain and low noise - the essentials of any HiFi FM system. Two NTC resistors ensure that the oscillator stability is not seriously affected by enviromental conditions.

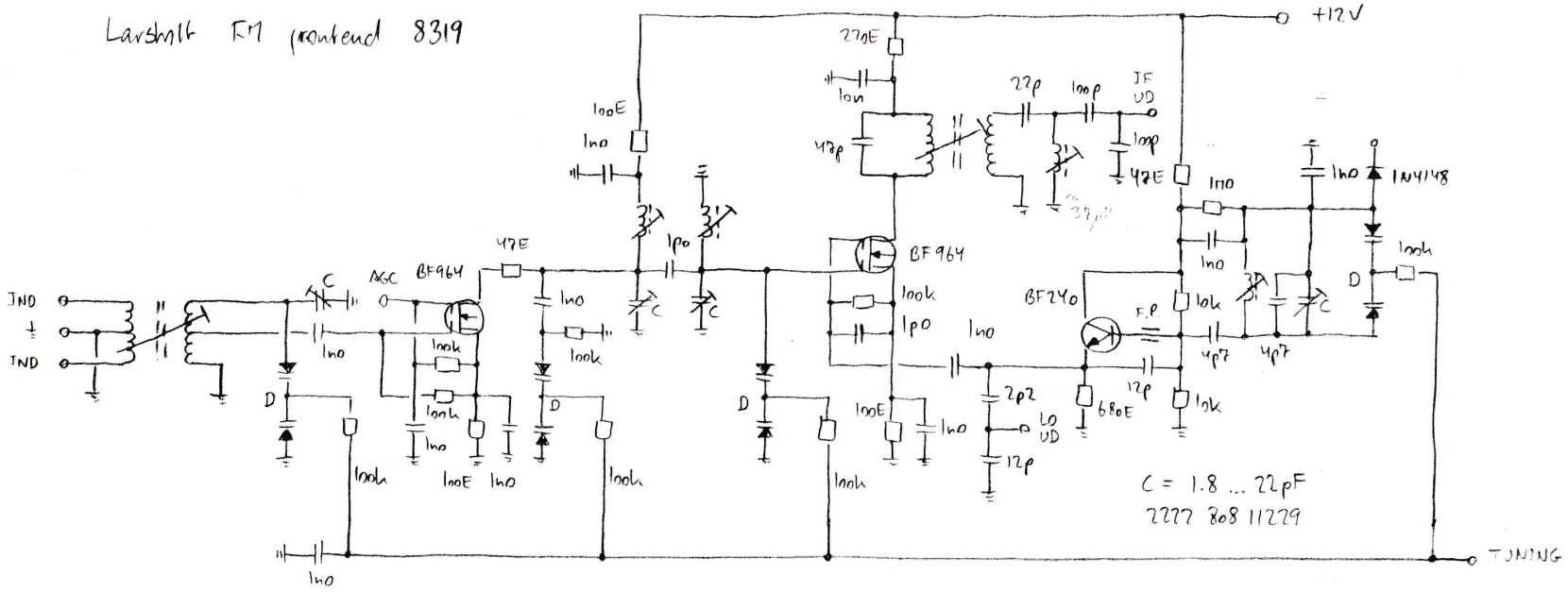
The thorough approach to this design is well illustrated in the symmetrical physical layout. Equipment manufacturers will readily appreciate the importance of this approach - carried through from basic design to alignment and quality control. The small physical size and ease of accessibility to all adjustments allow the module to be easily accomodated in most set design.

FM front-end module, type 8319

TECHNICAL SPECIFICATION

frequency range	87.5-108.5 MHz
IF frequency	10.7 MHz
Supply voltage (negative earth)	+12v DC
Maximum permissable ripple	0.15mV p-p
Supply current	25mA
Tuning voltage (negative earth)	+2.3-18v
Maximum permissable ripple on tuning voltage supply	3uV p-p
AGC voltage: maximum amplification	+4.5v
maximum attenuation	0v
Antenna input impedance:	
Pins B:C	75 ohms
A:C	300 ohms
IF load impedance	150 ohms
Power gain	32dB
Noise figure	5 dB
AFC regulation sensitivity $\frac{d F}{d V}_{afc}$ (100MHz)	1.5MHz / volt
AFC operating point	0v
Image rejection	56dB
IF rejection	80dB
Frequency change with supply voltage fluctation $\frac{d F}{d Vs}$	less than 50 KHz/v
Spurious radiation from antenna terminal (75 ohm)	less than 500uV

Larsholt FM frontend 8319



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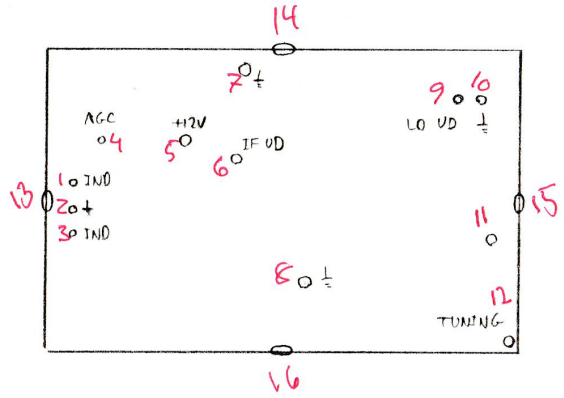

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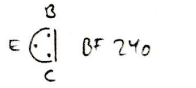

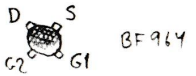

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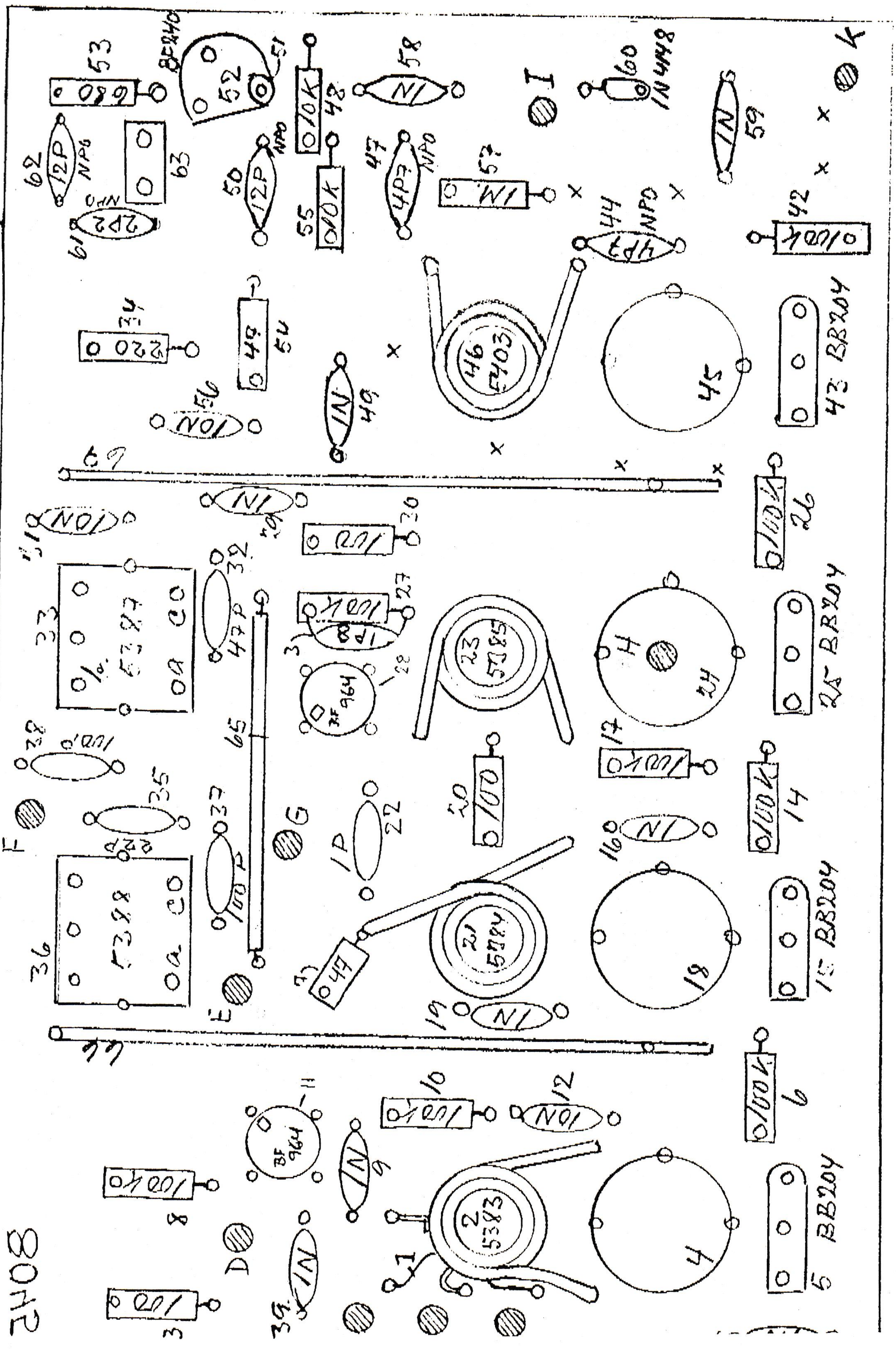
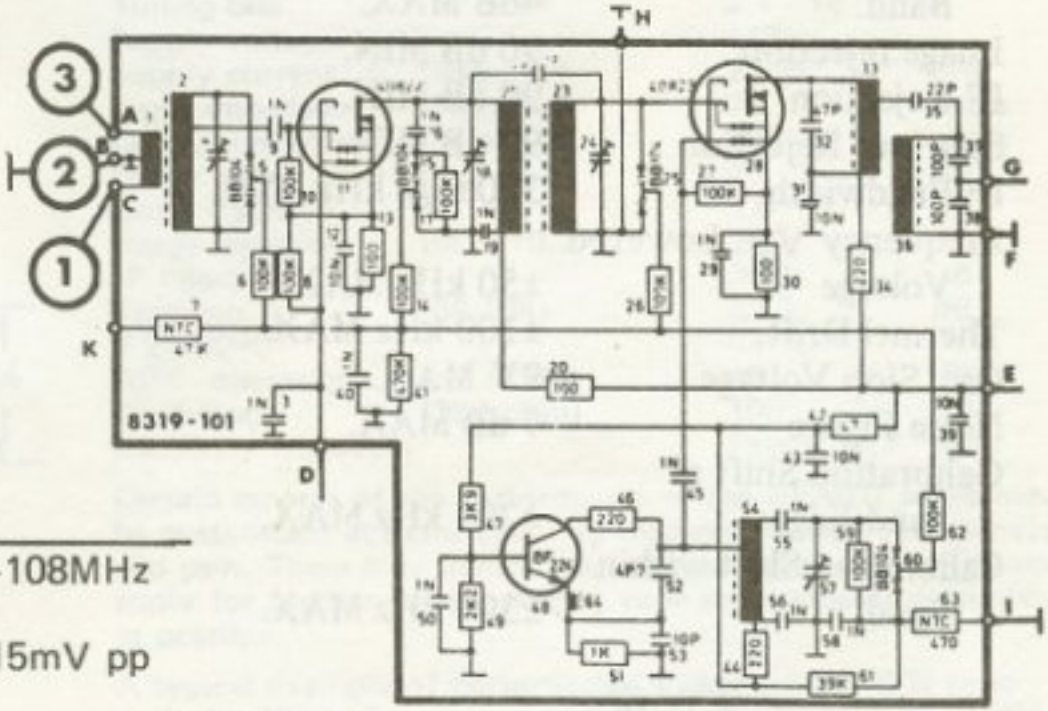
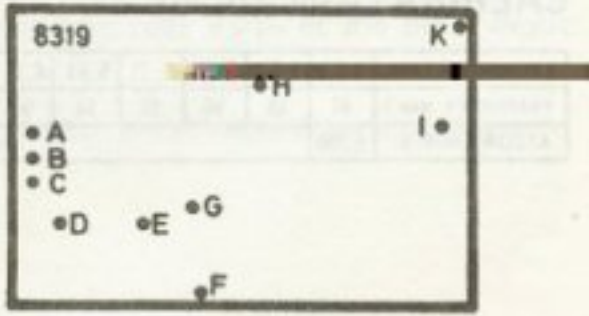


The Larsholt 8319 is a PC mounted varicap tuner that features low noise combined with high gain. This unit is employed in the famous 7252 tunerset, where all HiFi functions of tuning meter, signal level meter etc. are fully exploited.

The AFC provision must be made through the main tuning voltage, though a provision is made for ratio detector AFC on the oscillator tuned circuit.

This unit is recommended for use in OEM designs, and is readily available in quantity.





Specifications

Frequency range	2.3 to 18v bias 87.5–108MHz
IF output frequency	10.7MHz nom.
Supply voltage/current	12v/25mA max ripple 0.15mV pp
Max ripple on tuning voltage	3uV pp
AGC voltage for max gain	+4.5V dc
Input impedance	75 & 300 ohms
IF output impedance	150 ohms
Power gain / noise figure	32dB /5dB
Image rejection/IF rejection	56dB /80dB
Radiation from antenna	iess than 500uV

Terminations A/B:75ohms input - A/C:300ohms input - B:Ground - D:AGC - E:V supply F:Ground - G:IF output - H:Ground - I:Ratio detector AFC otherwise ground - K:tuning bias