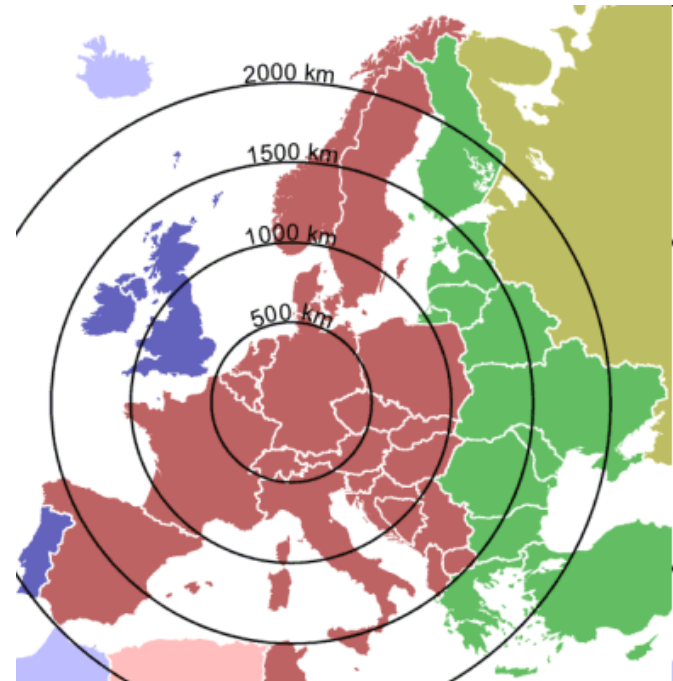
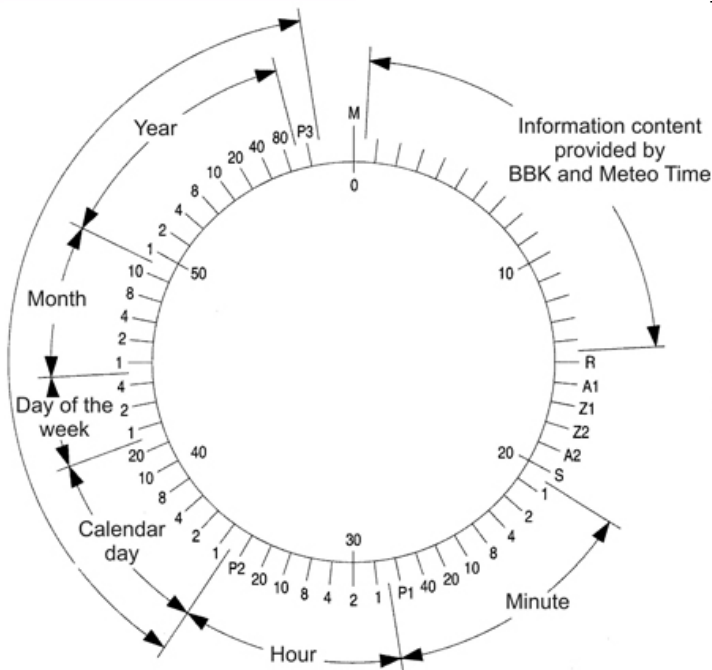


DCF77 Time Code



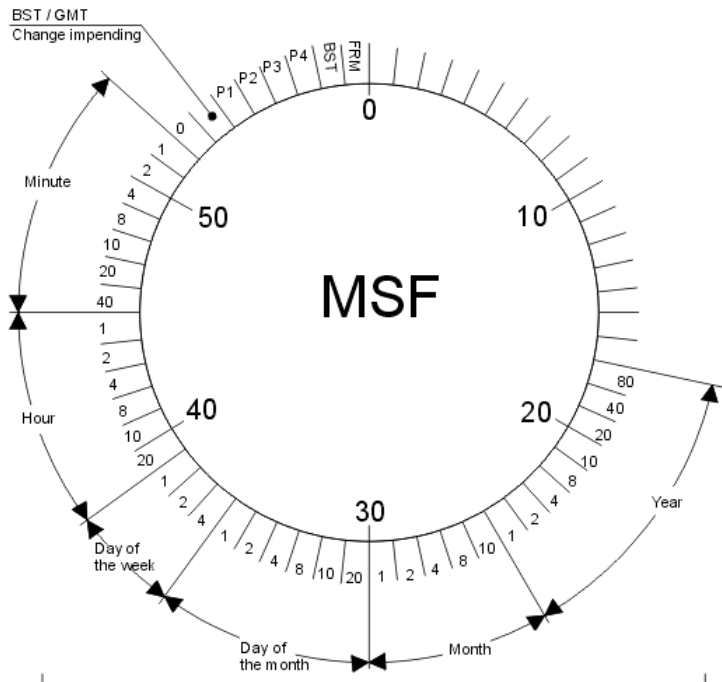
- http://www.ptb.de/en/org/4/44/442/dcf77_kode_e.htm
- <http://en.wikipedia.org/wiki/DCF77>
- Binary 0 = 100ms pulse, binary 1 = 200ms pulse, minute marker = no pulse, 25% AM modulation



MSF Time Code



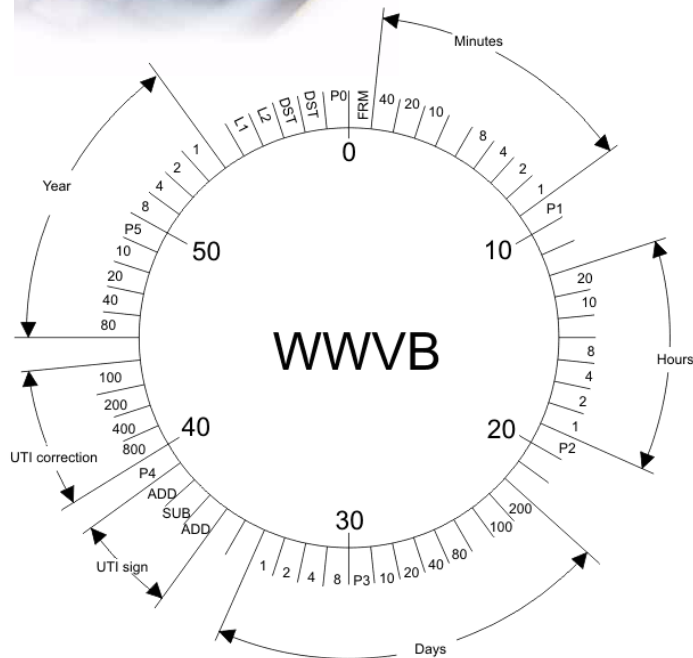
- <http://www.npl.co.uk/science-technology/time-frequency/time/products-and-services/msf-radio-time-signal>
- Binary 0 = 100ms pulse, binary 1 = 200ms pulse, marker = 500ms pulse, 0% AM modulation (on/off)



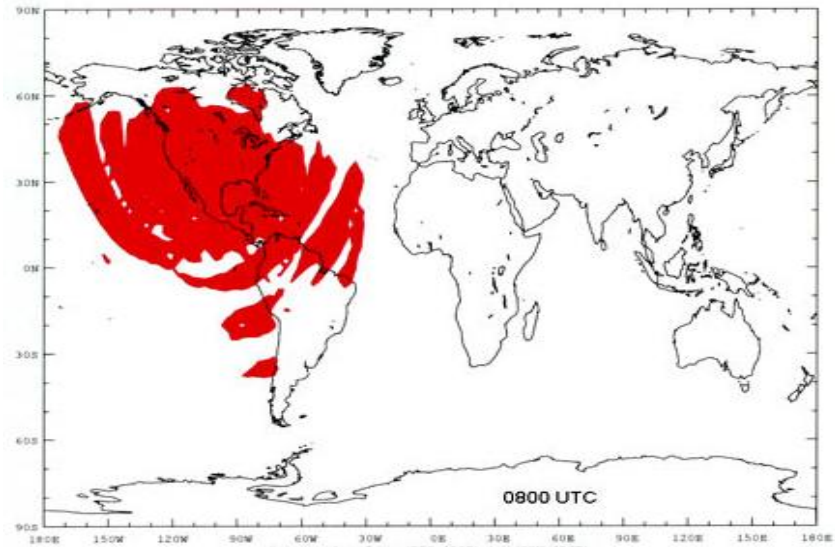
WWVB Time Code



- <http://www.nist.gov/pml/div688/grp40/wwvb.cfm>
- <http://en.wikipedia.org/wiki/WWVB>



Area with signal strength $>100\mu\text{V/m}$



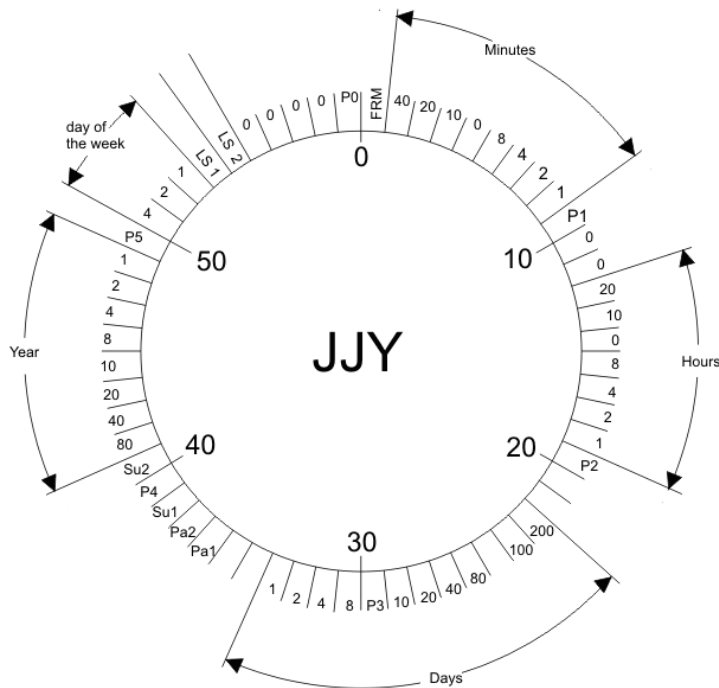
NIST [Recommendations](#) for WWVB:

”We recommend that RCC products should be sensitive enough to successfully synchronize to signals from WWVB with a field strength of $50\mu\text{V/m}$ ”

JJY40/60 Time Code



- <http://jjy.nict.go.jp/jjy/index-e.html>
- <http://en.wikipedia.org/wiki/JJY>
- Binary 0 = 200ms pulse, binary 1 = 500ms pulse, marker = 800ms pulse, 10% AM modulation





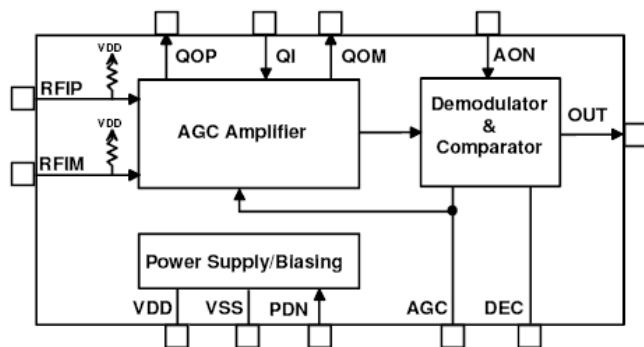
MAS6180

Single band AM receiver

- High Sensitivity, typ 0.4 μVrms
- Low Voltage Operation, down to 1.1 V
- Very Low Current Consumption, typ 40..66 μA
- Only Few External Components Necessary
- High Selectivity by Quartz Crystal Filter
- Differential Input for Improved Noise Immunity
- TSSOP-16 Package or Die (1020 μm x 1260 μm)
- Operating temperature -40 - +85°C

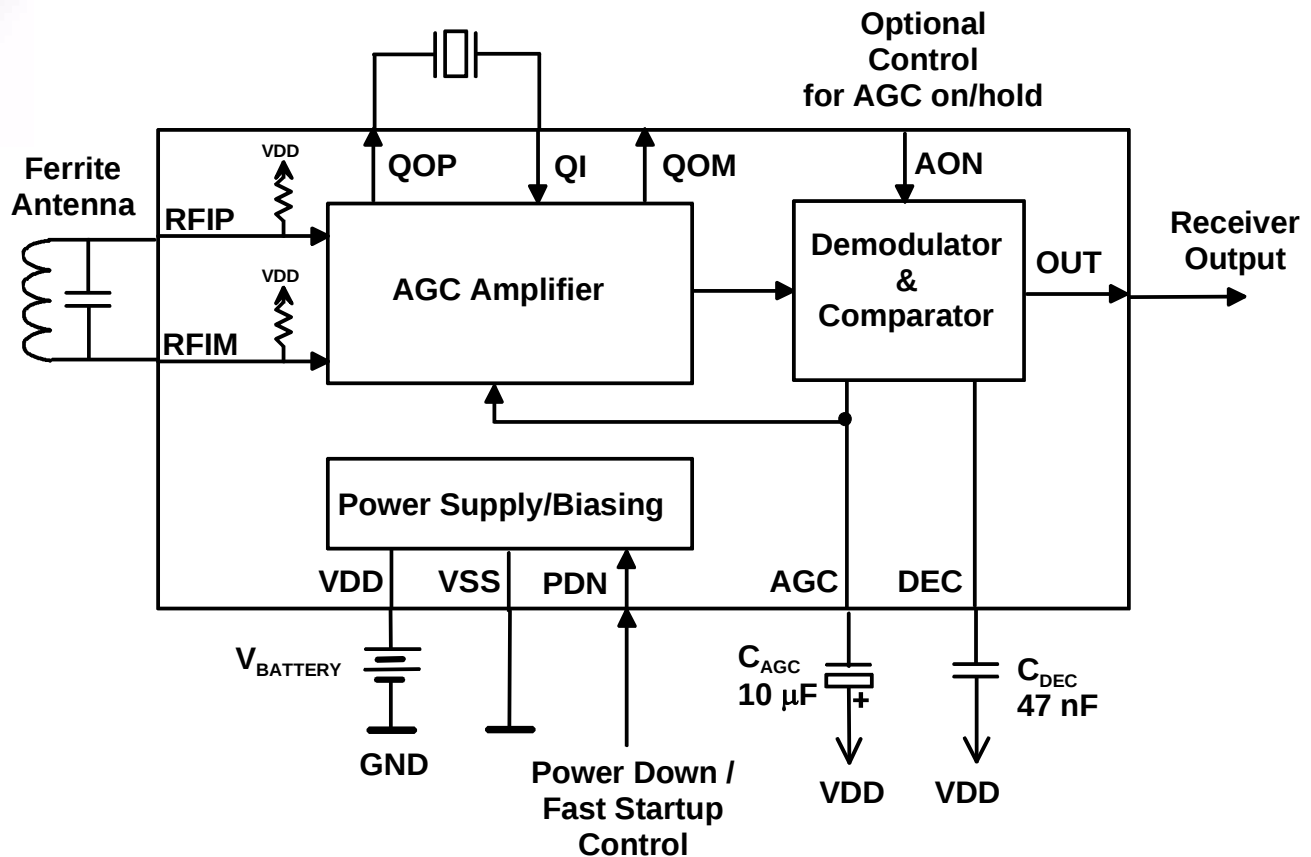
Suitable for

- WWVB (USA)
- JJY (Japan)
- DCF77 (Germany)
- MSF (UK)
- BPC (China)

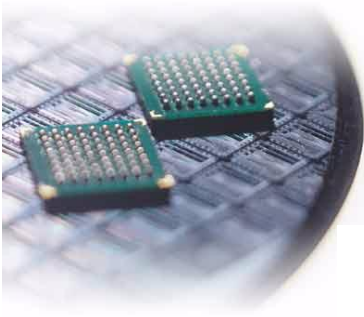


Single Band Receiver IC

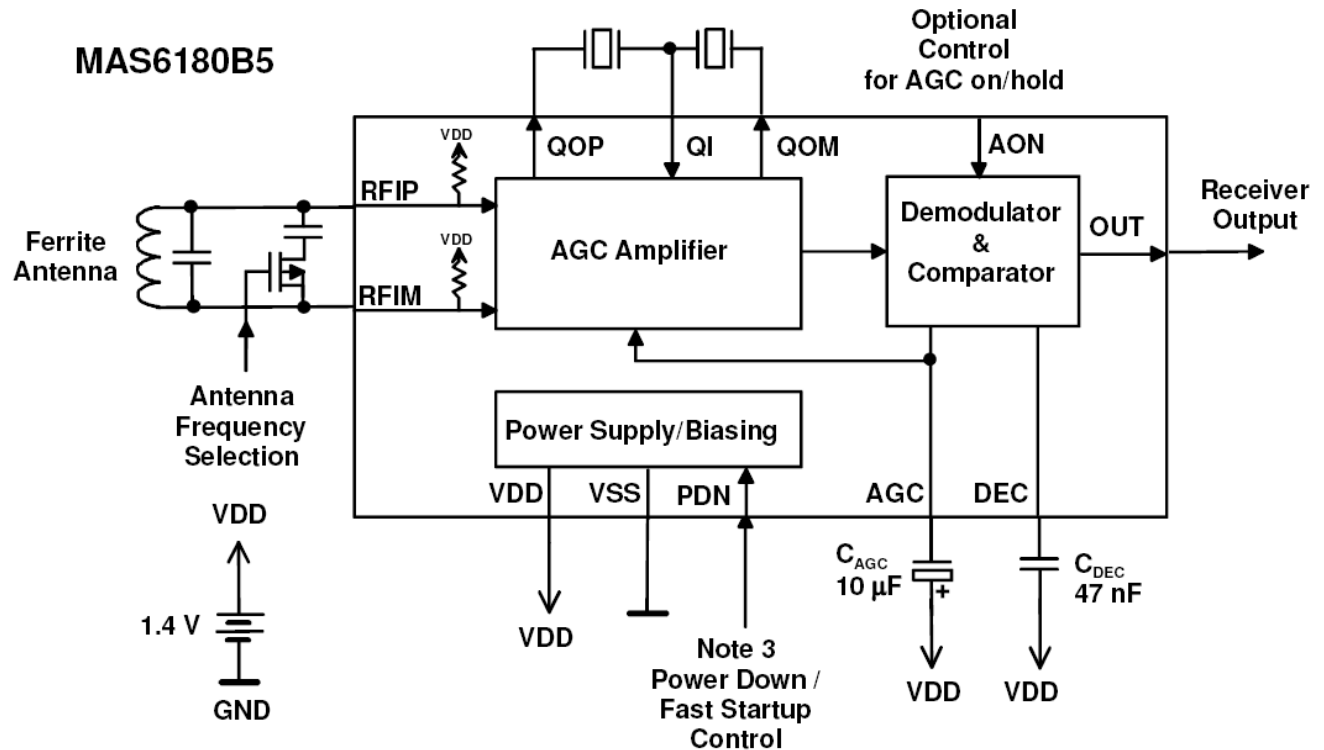
MAS6180B Application Circuit



MAS6180B5 Application Circuit

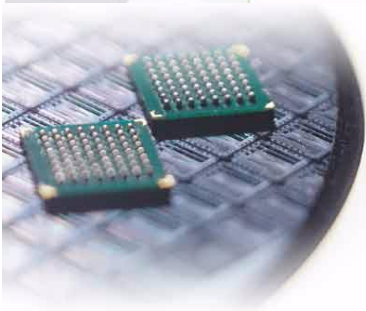


Single Band Time Signal Receiver IC in Dual Band Configuration





MAS6181

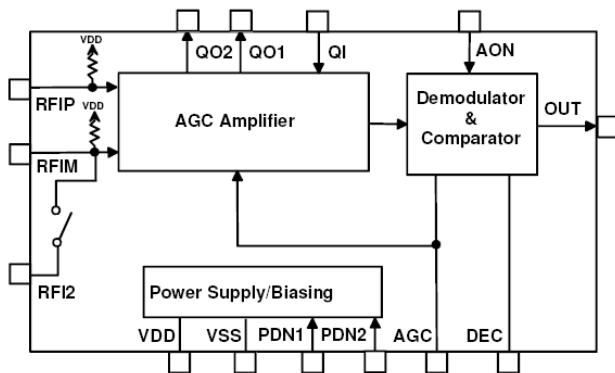


Dual band AM receiver

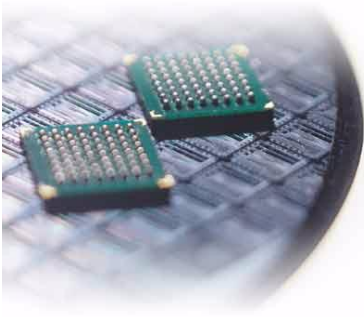
- High Sensitivity, typ $0.4 \mu\text{Vrms}$
- Wide supply voltage range, 1.1 – 3.6V
- Very Low Current Consumption, typ $40..66 \mu\text{A}$
- Only Few External Components
- High Selectivity by Quartz Crystal Filter
- Differential Input for Improved Noise Immunity
- TSSOP-16 Package or Die ($1020 \mu\text{m} \times 1465 \mu\text{m}$)
- Operating temperature $-40 - +85^\circ\text{C}$

Suitable for

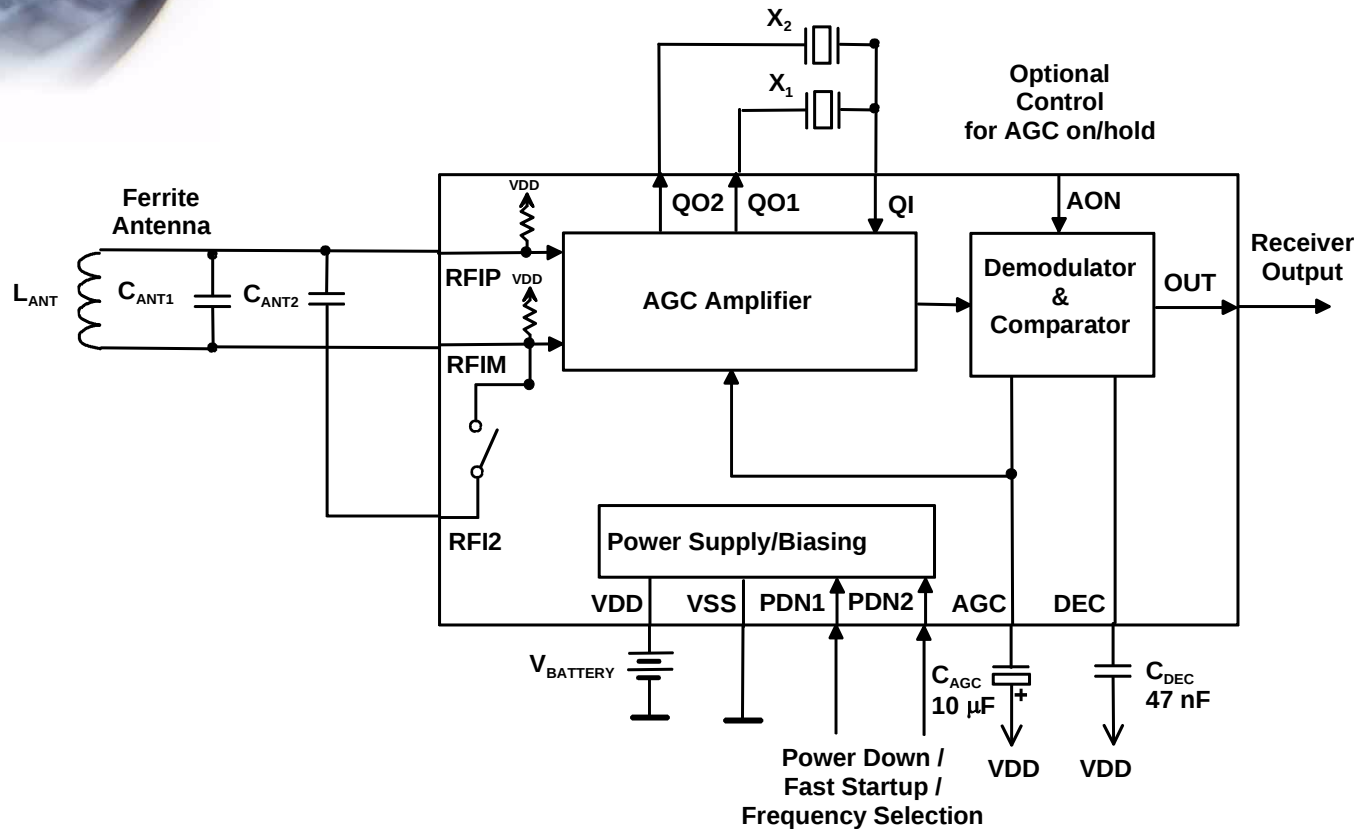
- WWVB (USA)
- JJY (Japan)
- DCF77 (Germany)
- MSF (UK)
- BPC (China)



Dual Band Receiver IC



MAS6181B Application Circuit



Triple Band Circuit

MAS6181B in 3-Band Application Circuit

