

41x6 SERIES RF TUNER MODULES

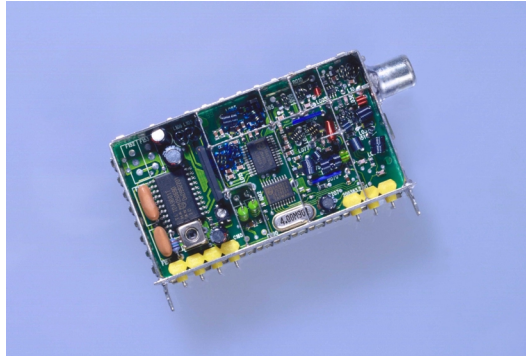
PC/TV MULTIMEDIA APPLICATIONS

APPLICATIONS

- Multimedia PCs
- TV Receivers

FEATURES

- 45 MHz to 868 MHz frequency ranges available
- Standards options include:
 - PAL B, G
 - PAL D, K
 - NTSC/PAL M, N
- Meets requirements of CENELEC and FCC
- Baseband outputs for video and audio
- Second IF output for external stereo or NICAM processing
- Internal AGC loop
- All functions controlled by I²C bus
- AFC Byte readable through I²C bus
- Built-in video buffer
- Single 5V supply voltage
- Antenna input: IEC, phono, F-connector



Modules can be implemented with different sockets, filters, interfaces, connectors, and other customizable options within the same pinouts.

The 41x6 Series RF Tuner Modules are complete RF front-end systems specifically designed for multimedia PC/TV applications. The modules contain two primary functional components: a hyperband tuner and an intermediate frequency (IF) section.

The tuner offers frequency options in the 45 MHz to 868 MHz range. The reception frequency range is divided into VHF low, VHF high, and UHF. Band selection and tuning are accomplished via I²C serial bus.

The IF section includes a SAW filter, an IF amplifier, and video and sound demodulators. The CVBS signal is available via a built-in video buffer at the video output terminal, suitable for a 75Ω load. The audio signal is available at the audio output terminal.

A second IF output is provided for external sound demodulation for stereo and NICAM reception.

A DC/DC converter for 33V generation is built in, so that only a single supply voltage of 5V is required.

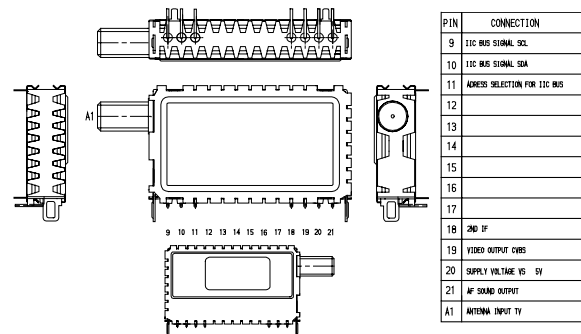


TUNER MODULE VERSIONS

MODEL NUMBER	STANDARD
4106 FH5	PAL B, G
4116 FY5	PAL D, K
4136 FY5	NTSC/PAL M, N

FUNCTIONAL CHARACTERISTICS

PARAMETER	NTSC/PAL M, N	PAL B, G, D, K	UNIT
Frequency range			
VHF Low	55.25 to 157.25	45.75 to 140.25	MHz
VHF High	163.25 to 451.25	144.25 to 463.25	MHz
UHF	457.25 to 801.25	471.25 to 863.25	MHz
Margin			
VHF Low	+1 / -3	+1 / -0.5	MHz
VHF High	+1 / -5	+1 / -2	MHz
UHF	+3 / -6	+0.5 / -6	MHz
Recommended take-over frequency			
VHF Low/VHF High	158	141	MHz
VHF High/UHF	453	464	MHz
Input impedance (VHF/UHF common)	75	75	Ω
IF			
Picture carrier	45.75	38.9	MHz
Sound carrier 1	41.25	33.4 (B, G) 32.4 (D, K)	MHz
Sound carrier 2		33.16 (B, G)	MHz
NICAM		33.05 (B, G)	MHz
Operating temperature	0 to +60	0 to +60	°C
Storage temperature	-25 to +60	-25 to +60	°C
Supply voltage	5 ±5%	5 ±5%	V



41x6 Series Tuner Typical Layout

TUNER MODULE DATA (NTSC/PAL M, N)

PARAMETER	MIN	TYP	MAX	UNIT
Video output				
Load impedance		75		Ω
CVBS Output		1		Vp-p
Video S/N	45	49		dB
Sound output				
Load impedance	2.2			kΩ
AF Output level	370	460	550	mVrms
S/N (CCIR Weighted)	44	49		dB
VSWR		<4		
AGC Range				
VHF Low / VHF High	40			dB
UHF	35			dB
IF Rejection				
VHF Low	50			dB
VHF High	60			dB
UHF	60			dB
Image rejection				
VHF Low	60			dB
VHF High (Ch H to Ch 13)	60			dB
VHF High (Ch J to Ch W+26)	50			dB
UHF	50			dB

TUNER MODULE DATA (PAL B, G, D, K)

PARAMETER	MIN	TYP	MAX	UNIT
Video output				
Load impedance		75		Ω
CVBS Output		1		Vp-p
Video S/N	44	48		dB
Sound output				
Load impedance	2.2			kΩ
AF Output level	400	500	600	mVrms
S/N (CCIR Weighted)		44		dB
VSWR		<4		
AGC Range				
VHF Low / VHF High	40			dB
UHF	35			dB
IF Rejection				
VHF Low	50			dB
VHF High	60			dB
UHF	60			dB
Image rejection				
VHF Low	60			dB
VHF High (ch S7 to ch S20)	60			dB
VHF High (ch S21 to ch S41)	55			dB
UHF	50			dB

World Headquarters • Microtune, Inc., 2201 Tenth Street, Plano, TX 75074 • Tel: 972-673-1600, Fax: 972-673-1602, E-mail: sales@microtune.com, Web site: www.microtune.com

European Headquarters • Microtune GmbH and Co. KG, Marie Curie Strasse 1, 85055 Ingolstadt / Germany • Tel: +49-841-9378-011, Fax: +49-841-9378-010, Sales Tel: +49-841-9378-020, Sales Fax: +49-841-9378-024

Pan-Asian Headquarters • Microtune, Inc. - Hong Kong, Silvercord Tower 1, Room 503, 30 Canton Road, Kowloon, Hong Kong • Tel: +852-2378-8128, Fax: +852-2302-0756

For a detailed list of current sales representatives, visit our Web site at www.microtune.com.

The information in this document is believed to be accurate and reliable. Microtune assumes no responsibility for any consequences arising from the use of this information, nor from any infringement of patents or the rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or other rights of Microtune. The information in this publication replaces and supersedes all information previously supplied, and is subject to change without notice. The customer is responsible for assuring that proper design and operating safeguards are observed to minimize inherent and procedural hazards. Microtune assumes no responsibility for applications assistance or customer product design.

The devices described in this document are not authorized for use in medical, life-support equipment, or any other application involving a potential risk of severe property or environmental damage, personal injury, or death without prior express written approval of Microtune. Any such use is understood to be entirely at the user's risk.

Microtune, MicroTuner, MicroModule, and the Microtune logo are trademarks of Microtune, Inc. All other trademarks belong to their respective companies.

This product is manufactured and protected by the following U.S. patents: 5,805,988; 5,739,730; 5,625,325; 5,737,035; 5,648,744; 5,717,730; 5,847,612; 6,104,242; 6,100,761; 6,144,402; and additional patents pending or filed.

Entire contents Copyright © 2000 Microtune, Inc.

