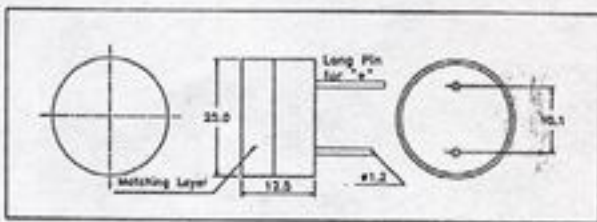


Dimensions: dimensions are in mm



Specification

125AC250	Transceiver
Center Frequency	125.0±10Khz
Transmitting Sensitivity 0dB re 1μbar/1Vrms @ 30cm	20 dB
Receiving Sensitivity 0dB = 1Vrms/μbar	-70 dB
Figure of Merit (TS + RS)	-50 dB
Bandwidth (FOM)	10KHz
Nominal Impedance (Ohm)	300
Capacitance at 1Khz ±20%	1400 pF
Max. Driving Voltage (Pulse)	50Vpp 10% duty cycle
Total Beam Angle -6dB	10°
Matching Window	Resin with filler
Operation Temperature	-20 to 70°C
Storage Temperature	-40 to 80°C

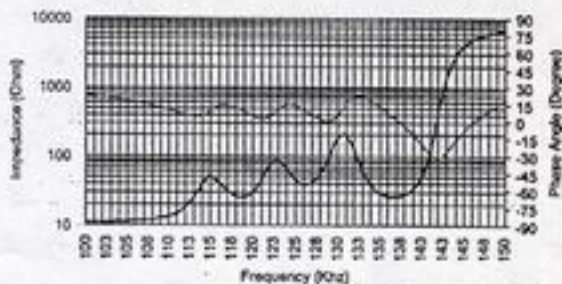
All specification taken typical at 25°C
Closer frequency tolerance, shorter ringing and wider bandwidth models can be supplied upon request.

Model available:

1	125AC250	Aluminum Housing
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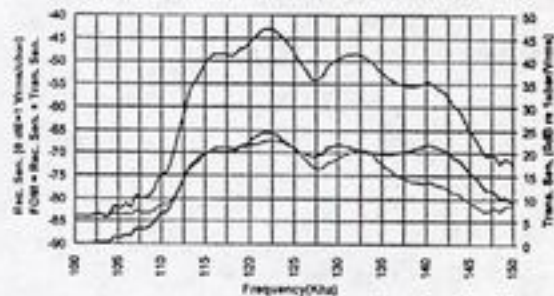
Impedance/Phase Angle vs. Frequency

Tested under 1Vrms Oscillation Level

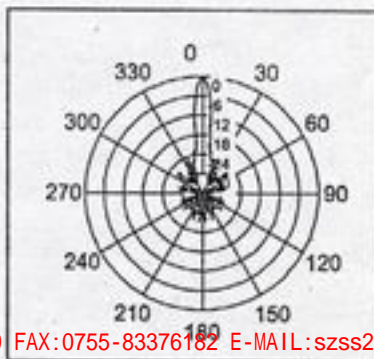


Receiving/Transmitting Sensitivity & Figure of Merit (RS + TS)

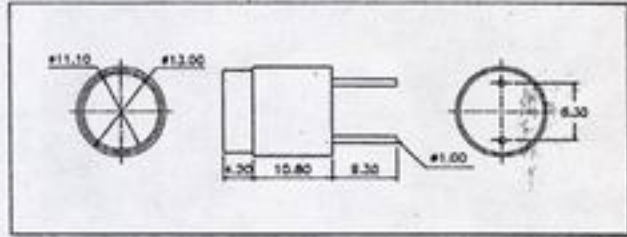
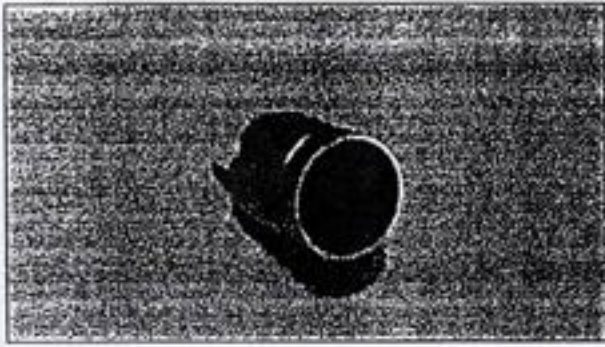
Tested at distance of 30c



Beam Angle: Tested at 125.0Khz frequency



Dimensions: dimensions are in mm

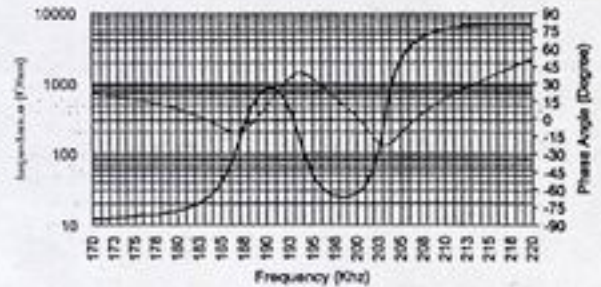


Specification

200AC130	Transceiver
Center Frequency	200.0±10Khz
Transmitting Sensitivity 0dB re 1μbar/1Vrms @ 30cm	20 dB
Receiving Sensitivity 0dB = 1Vrms/μbar	-75 dB
Figure of Merit (TS + RS)	
Bandwidth (FOM)	10KHz
Nominal Impedance (Ohm)	200
Capacitance at 1Khz ±20%	650 pF
Max. Driving Voltage (Pulse)	50Vpp 10% duty cycle
Total Beam Angle	-6dB 15°
Matching Window	Silicone Rubber
Operation Temperature	-20 to 70°C
Storage Temperature	-40 to 80°C

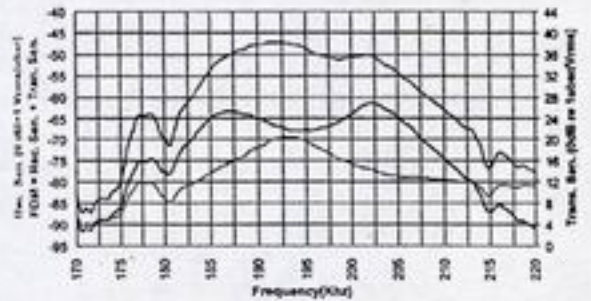
Impedance/Phase Angle vs. Frequency

Tested under 1Vrms Oscillation Level

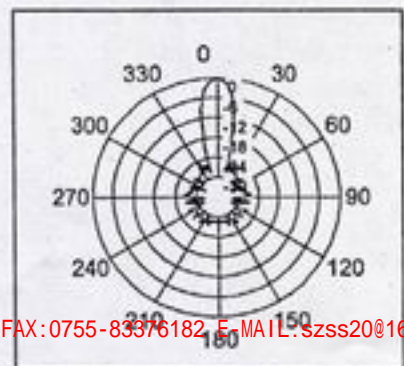


Receiving/Transmitting Sensitivity & Figure of Merit (RS + TS)

Tested under 10Vrms @30cm



Beam Angle: Tested at 200.0Khz frequency



All specification taken typical at 25°C
Closer frequency tolerance, shorter ringing and wider bandwidth models can be supplied upon request.

Model available:

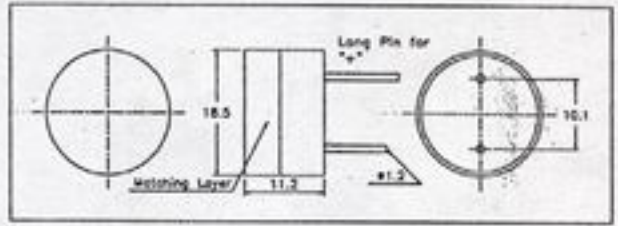
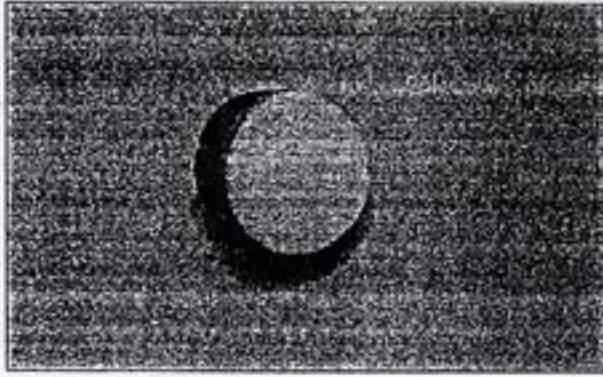
1	200AC130	Aluminum Housing
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Air Ultrasonic Ceramic Transducers

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210AC180

Dimensions: dimensions are in mm



Specification

210AC180	Transceiver
Center Frequency	210.0±10Khz
Transmitting Sensitivity 0dB re 1μbar/1Vrms @ 30cm	20 dB
Receiving Sensitivity 0dB = 1Vrms/μbar	-75 dB
Figure of Merit (TS + RS)	-50 dB
Bandwidth (FOM)	10KHz
Nominal Impedance (Ohm)	500
Capacitance at 1Khz ±20%	580 pF
Max. Driving Voltage (Pulse)	50Vpp 10% duty cycle
Total Beam Angle -6dB	10°
Matching Window	Resin with filler
Operation Temperature	-20 to 70°C
Storage Temperature	-40 to 80°C

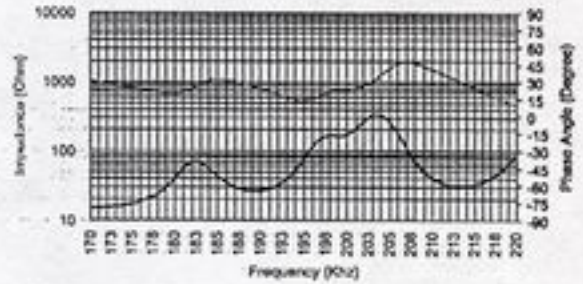
All specification taken typical at 25°C
Closer frequency tolerance, shorter ringing and wider bandwidth models can be supplied upon request.

Model available:

1	210AC180	Aluminum Housing
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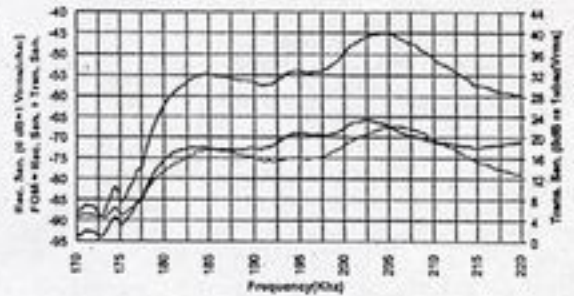
Impedance/Phase Angle vs. Frequency

Tested under 1Vrms Oscillation Level

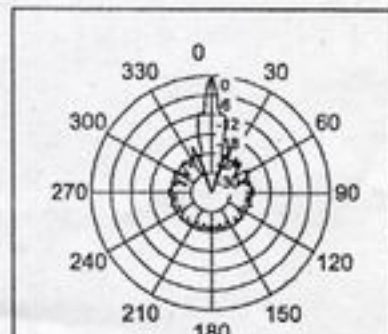


Receiving/Transmitting Sensitivity & Figure of Merit (RS + TS)

Tested at distance of 30cm



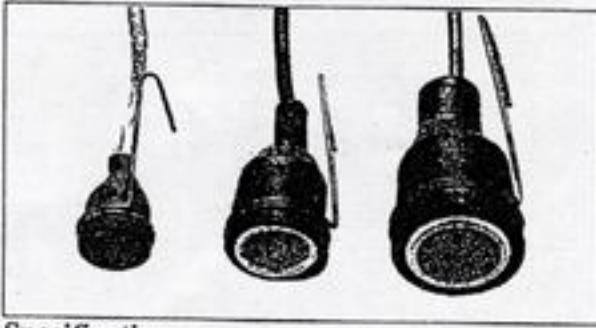
Beam Angle: Tested at 210.0Khz frequency



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Accessories



Ultrasonic Transducer Assembled Units

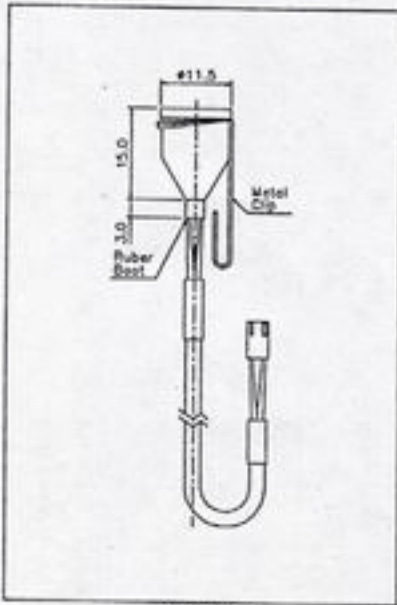
Transducers equip with a 2.5 meters shield cable and covered by a rubber boot with a metal clip for easy installation are very suitable for most of vehicle alarms.

RCA, Amp or Molex type connector at the other cable end is available upon request.

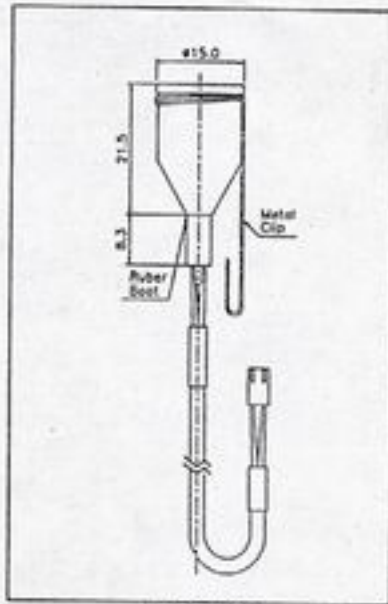
Specification

Model Number	SQS-04	SQS-05	SQS-06
Transducer used	400ST/R100 or 10P	400ST/R120	400ST/R160 or 16P
Cable length	2.5 meters		
Connector used	RCA/Amp/Molex type or others upon request		

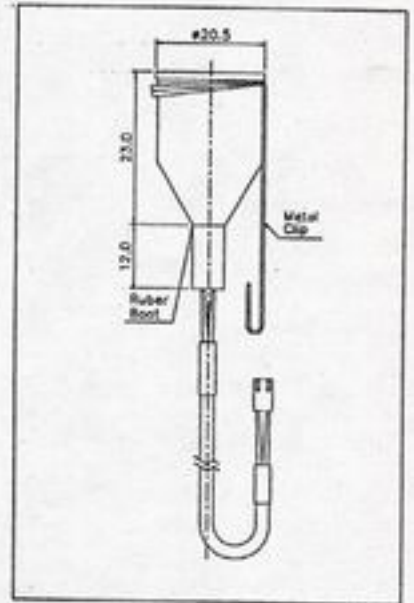
Dimensions



SQS-04

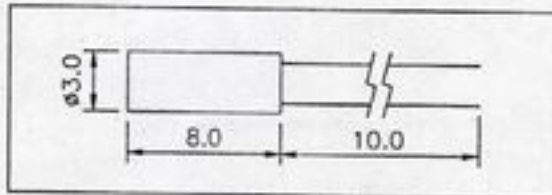


SQS-05



SQS-06

Miniature Tuning Fork Quartz Crystals



Specification

Model Number	Nominal Frequency Hz	Tolerance at 25°C PPM	Temperature Stability -10°C to +70°C PPM	Load Capacitance pF	Series Resistance Ohm	Shunt Capacitance pF	Drive Level mW
S40000	40,000	±60	±45	12.5	35,000	2.3	0.001
S32768	32,768	±20	±30	12.5	35,000	2.3	0.001

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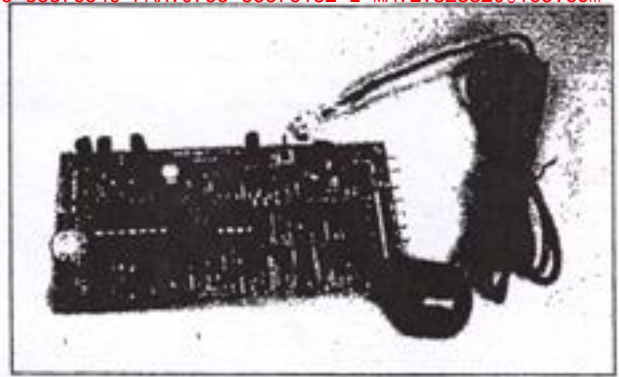
Sonar Ranging Module

The USR400 is a sonar ranging module, was designed specially for car reversing systems that can work with all our PT or EP type transducers. USR400 provides as a shortcut to develop car reversing systems or some other distance measurement systems for design engineers who are not very familiar with analog circuit and/or the operation of ultrasonic transducers. By using this module engineers can focus firstly on the other fields of digital circuit and software designs as well as some other mechanical issues. After first stage then you can either design your own analog circuit based on the module construction or consult with factory for making your own module for your special needs.

Features:

- Economical in overall construction,
- Built-in 40Khz crystal oscillator with jumper selection for optional external oscillator terminal,
- Jumper selection for monostatic or bistatic operation
- Jumper selection for external switching circuit for multiple channel control capability,
- Multiple output terminals for different stage amplifier analogs, and TTL signals,
- Operates from single supply,
- Adjustable IFT for optimizing the best matching result with various type transducers

*Monostatic means that transmitter and the receiver are collocated. Bistatic means that transmitter and the receiver are separated



Specification:

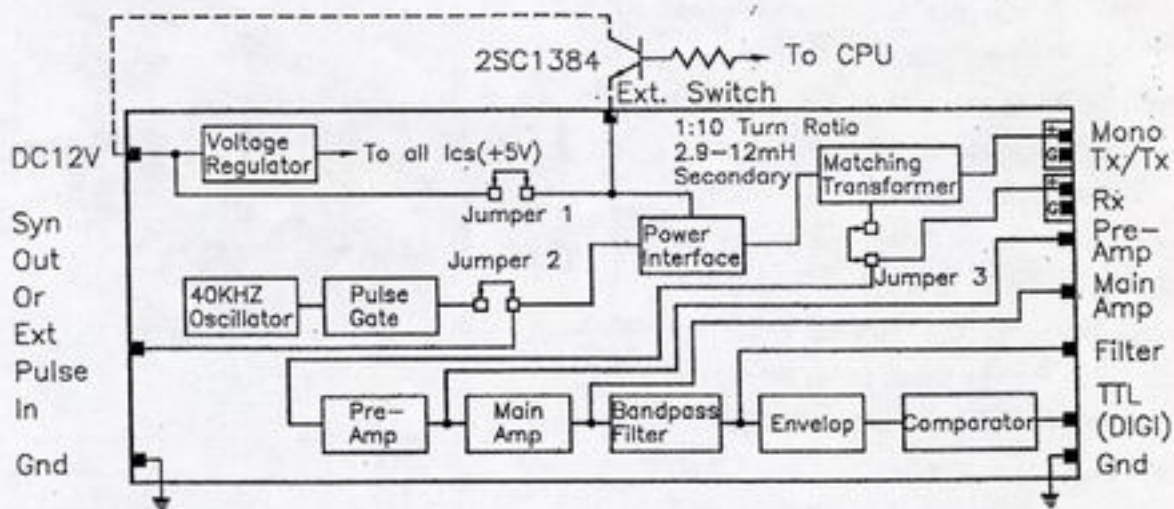
Operation voltage	DC7 – 25V
Operation current	70mA at DC12V
Oscillation frequency	40Khz
Total amplifier gain	50 dB
Bandwidth	30 – 50Khz
Driving voltage (no load)	120Vpp; pulse width 0.5ms, interval 100ms
Output terminals	1. Monostatic transmitter/receiver or bistatic transmitter 2. Bistatic receiver 3. Pre-Amp analog 4. Amp 1 analog 5. Amp 2 analog 6. TTL – digit 7. Synchronous * 8. Ground
Input terminals	1. +DC12 volt 2. External pulse * 3. External switch 4. Ground
Jumpers setting	1. External pulse 2. External switch 3. Single transducer operation or separate transmitter/receiver operation

The synchronous output terminal becomes as an input terminal of external pulse once jumper 1 disconnected

Sonar Ranging Module

USR400

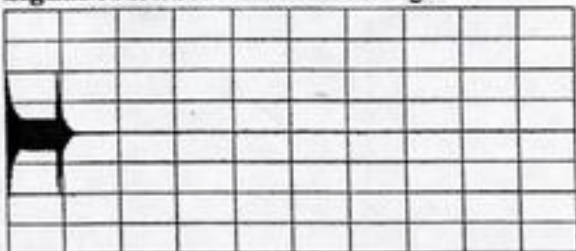
Function Block Diagram www.sensor-ic.com/ TEL:0755-83376549 FAX:0755-83376182 E-MAIL:szss20@163.com



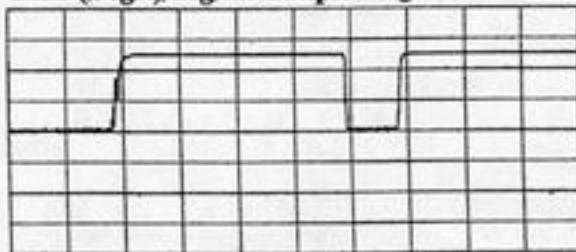
When connects with external pulse source the terminal of synchronous output becomes disable

Signals illustration: (works with transducer model 400EP18A against a hard target of size of 20cmL*20cmW*1cmT at distance of 100cm)

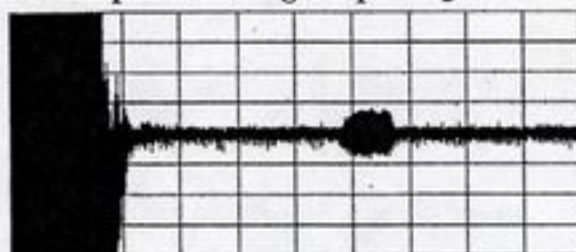
Signal of loaded transducer: Figure 1



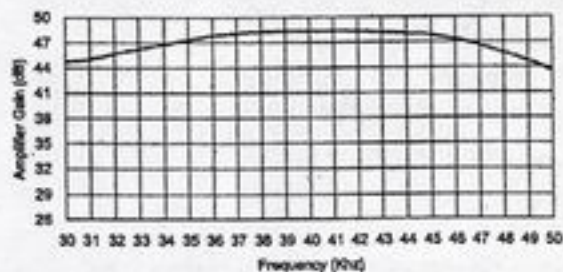
TTL (Digit) Signal Output: Figure 4



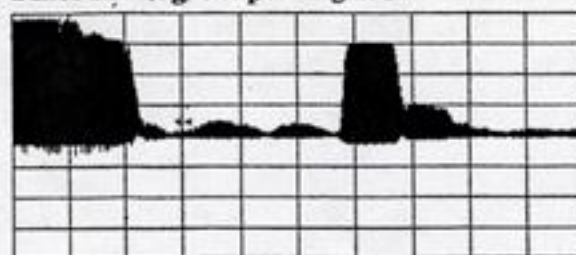
Pre-Amplifier Analog Output: Figure 2



Overall Bandwidth: Figure 5

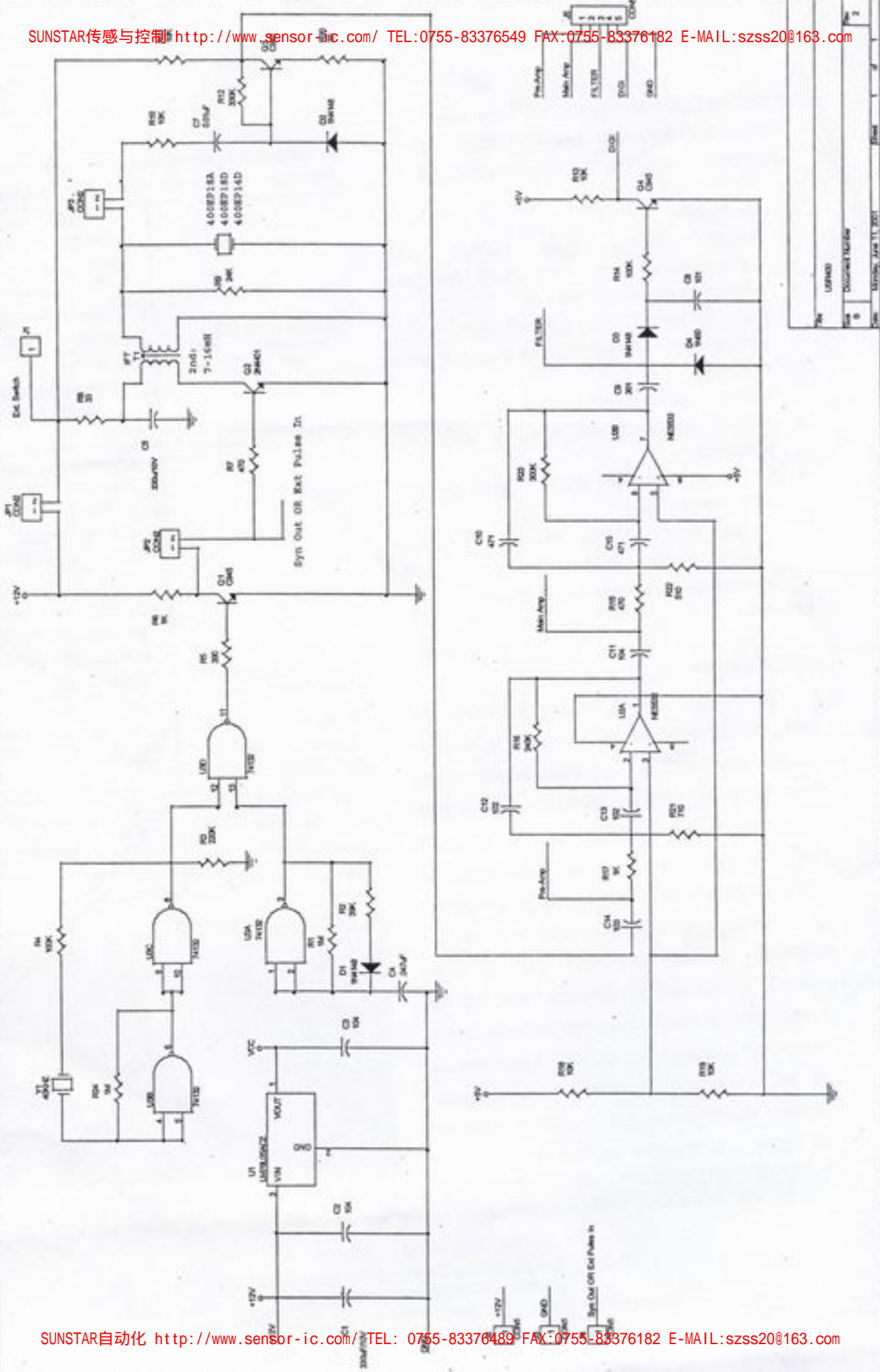


Filter Analog Output: Figure 3



Scale:

	Horizontal	Vertical
Fig. 1:	1.0 ms/Div.	2.0 V/Div. 1/10
Fig. 2:	1.0 ms/Div.	0.02 V/Div.
Fig. 3:	1.0 ms/Div.	0.5 V/Div.
Fig. 4:	1.0 ms/Div.	2.0 V/Div.



File: U3P003
Rev: 0
Date: Monday, June 11, 2001

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