



Patent Search & Analysis Report (PSAR)

Team Id : 2153
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Part - I : PATENT SEARCH TECHNIQUE USED

Patent Search Database Used : Google Patents
Keywords Used for Search : musical instrument,ultrasonic,stringed instrument
Search String Used : -
Number of Results/Hits getting : 6

Part - II : BASIC DATA OF PATENTED INVENTION/BIBLIOGRAPHIC DATA

Category/Field of Invention :
Invention is Related to/Class of Invention : Music
Title of Invention : Note sensing in M.I.D.I. guitars and the like
Patent No. : US 5033353 A
Application No. : US 07/474,650
Date of Filing/Application : 02/02/1990
Priority Date : 14/04/1988
Publication/Journal Number - (Issue No. of Journal in which Patent is published) :
Publication Date : -
First Filled Country :
Also Published as

Country	Patent No

Applicant for Patent is : Individual



GTU - Prior Art Search

- INVENTOR DETAIL

Name of Inventor	Address/City/Country of Inventor
Fala Joseph M	Pasadena, CA
Keshap Ajay K	Van Nuys, CA
Doerning Mark S	Arcadia, CA

- APPLICANT/ASSIGNEE DETAIL

Name of Applicant/Assignee	Address/City/Country of Applicant
Fala Joseph M	Pasadena CA
Keshap Ajay K	Van Nuys CA
Doerning Mark S	Arcadia CA



Part - III : TECHNICAL PART OF PATENTED INVENTION

Limitation of Prior Technology/Art :

Sound or music synthesizers have come into widespread use and are available from a growing number of manufacturers. While the various models currently offered differ in terms of capability, flexibility and complexity, many are equipped with a M.I.D.I. (Musical Instrument Digital Interface) interface, a unified data communication standard for electronic musical instruments which enables systems of different manufacture to be used together.

Specific Problem Solved/Objective of Invention :

The present invention pertains generally to the field of electronic musical instruments and is more particularly directed to a novel sound pick-up for string instruments and associated electronic circuits for encoding the pick-up output in M.I.D.I. compatible serial digital format for driving a sound synthesizer or other sound processing system equipped with a standard M.I.D.I. interface.

Brief about Invention :

In a guitar or the like where fretting is detected by ultrasonic signals emitted by a transducer bridge and reflected at a point of each string held against a fret, and the same transducer bridge is responsive to audible frequency string vibration induced by a player, a damper bridge selectively dampens propagation of lower frequency vibrations from a note triggering string section adjacent to the bridge to a note selecting string section extending over the fretted neck, thereby minimizing interference between fret detection and note triggering functions using a single set of string and a single acoustic transducer for each string.

Key Learning Points :

Generating sound using sensor.

Summary of Invention :

This invention advances the state of the art by providing a sound pick-up system based on a novel method of sensing a musical note played on a string of a musical instrument. A test signal is applied by a transmitter to one fixed end of the string and propagates along the string towards the opposite end of the string. Upon reaching the opposite end or an arbitrary intermediate point of the string which has been clamped against vibration, a return signal or echo results from reflection of the test signal which return signal is detected by a receiver. A selected characteristic of the propagated and return signals are compared by a string length detection circuit which derives a first output representative of the physical length of the string between the propagation end and the reflection point of the signal, which first output is therefore also indicative of the fundamental frequency of vibration of the string and thus of the musical note obtainable by playing the string.

Number of Claims : 40

Patent Status : Published Application

How much this invention is related with your IDP/UDP? : Other

Do you have any idea to do anything around the said invention to improve it? :

Just using the concept of this invention so nothing to do with this particular invention.