

CTV 2000**Fully Automatic Van mounted cable fault locating system****System Introduction**

The core technology is Advanced Arc Reflection Method, or Secondary Impulse Method(SIM), the system can detect all kind of cable fault including High resistance, low resistance, flash-over fault, due to the 200MHz sampling rate with super accuracy and huge impulse energy. The system is PC controlled and run automatically, the pre-location accuracy is less than 0.4 meter or 0.1% .

Core Technology

Impulse current method
 Secondary Impulse method
 Multiple Impulse method
 Time Domin Reflection Method

System configuration**CTV 2000****HV Part**

- HV Surge generator
- AUTO-S/W function auto-switching unit
- Inductive coupling unit
- Discharge rod
- System accessories(for mounting)
- Cable drums (High volt cable, Mains cable, earthing cable, Aux earthing cable)

System configuration

CTV 2000

LV Part

- TDR2000 advanced Echometer
- High frequency detection and trigger controller

Control and operation part

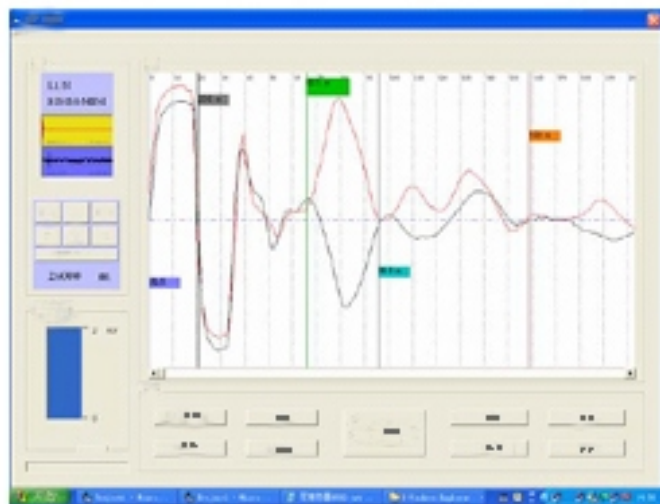
- IPC Industry PC
- 17" LCD screen
- Keyboard and mouse
- Operation software
 - Operation procedure guild menu
 - System self checking and fault alarm.

Portable instruments Cable Route Tracer CRT 50, Surge Wave Receiver SLE 90, Cable Identification System CI 60

Features

CTV 2000

- Fully Automatic operation
- HV part controlled and run automatically by PC
- The operation system is independent from HV and LV part, safety guaranteed.
- HV part can be used separately, friendly interface operation
- Windows2000 or XP operation software
- Operation procedure menu driven, operation error not possible.
- Impulse current method, Secondary Impulse method, TDR method, Multiple Impulse method, Decay method are available
- Advanced digital circuit and fast DSP, super impulse wave
- Output voltage 32KV or 40KV
- 8KV/ 16KV/ 32KV or 40KV, and 4KV ranges option
- Huge surge energy 600J, 1600J, 2000J, 3000J
- Van or car mounted, portable, or economic type available.
- Much smaller size , can be easily mounted in the any SUV.



Measurement method :

- Time Domain Reflectometry TDR
- SIM Secondary impulse method , (MIM) multiple impulse method
- Impulse current method
- Decay method as option

The features of HV and Operational part

CTV 2000

- Measuring range can up to 50km
- Measuring accuracy up to 0.4m
- Automatic setting of the pulse parameter
- Automatic cursor positioning
- 400V measurement input voltage protection
- Operation procedure menu driven
- LPT printer interface
- 2 USB interface
- DVD-RW driver
- Ethernet
- 200MHz sampling rate
- 512M RAM
- 40G harddisk
- TFT 17"LCD screen, VGA color

Technical Specification

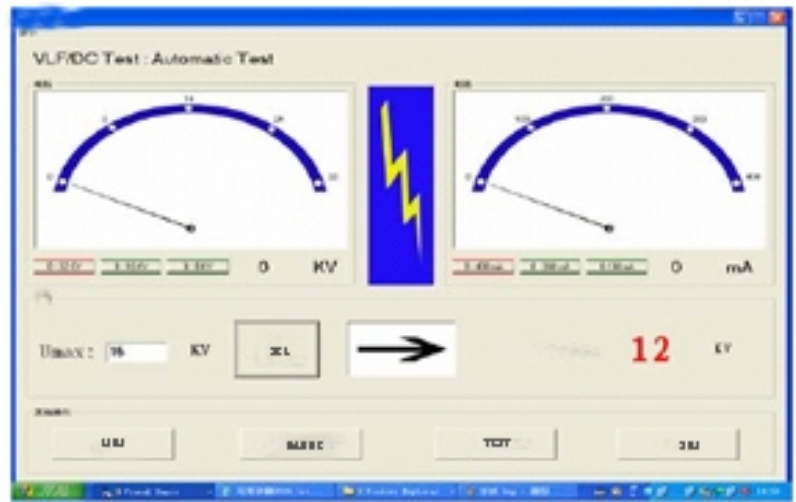
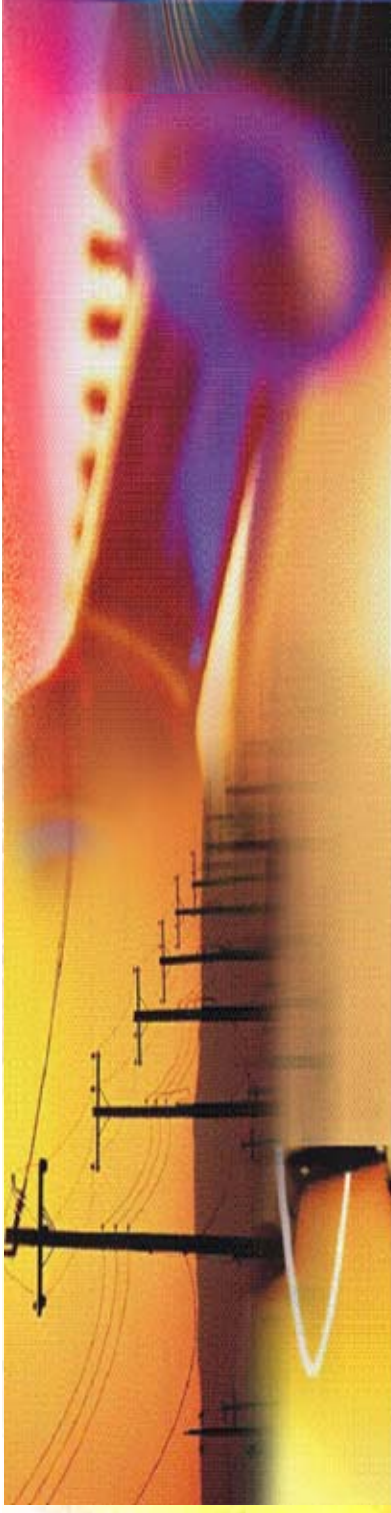
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Output voltage of the measuring pulse	160V adjustable
Width of the measuring pulse	40 ns - 40 us
Withstand voltage of input	400V AC(50/60Hz)
Output impedance	10 to 250 Ohm adjustable
(V/2 = 80m/us) Measuring range	0-50km
Measuring accuracy	± 0.1 %
Sampling rate	200MHz
Resolution	0.4m
V/2 Velocity of wave	20-150 m/us
Operation temperature	-20 - +50 deg C
Storage temperature	-40 - +60 deg C

HV Part

CTV 2000

- Surge Energy 2000J, 3000J or more are available
- Output voltage can be adjustable in three ranges : 0-8/ 0-16/ 0-32kV or 0-10/0-20/0-40kV
- Fully automatic voltage increasing control
- Automatic work mode switching(DC, single, multiple)
- Automatic impulse energy applying
- Automatic grounding discharge
- Leakage current display
- Automatic fault type identification
- Computer operation, HV controlled from LV side
- DC current up to 850mA
- HV pulse single shot or multiple



Basic measurement principle

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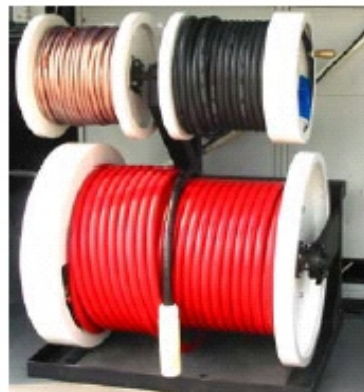
First step: Impulses can be adjusted (depending on the cable length) and sent out from a Time Domain Reflectometry into the cable, then it will show no reflection at high impedance cable faults. Therefore the positive reflection of the far cable end will be detected, and the total length of cable are known.

Second step: The fault will be ignited by a high voltage pulse or DC voltage of surge generator, an arc will occur at the fault spot. Exactly at the time of arcing a second measuring pulse will be sent from the Time Domain Reflectometer into the cable which will be reflected from the arc with negative polarity because the arc is low resistance. The simultaneous display of both characteristics leads to best precision of fault distance, the fault point distance will be showed in the screen. Multiple Impulse Method (MIM), The Time Domain Reflectometer using a 200MHz transient recorder to record more than 3 measurements showing the fault position during only 1 high voltage impulse.

OPERATOR COMPARTMENT

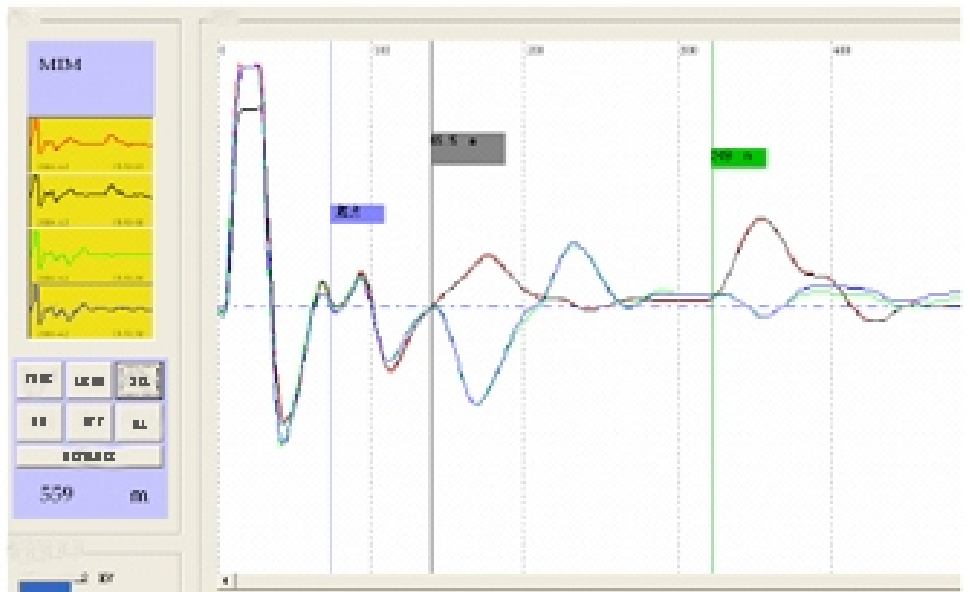
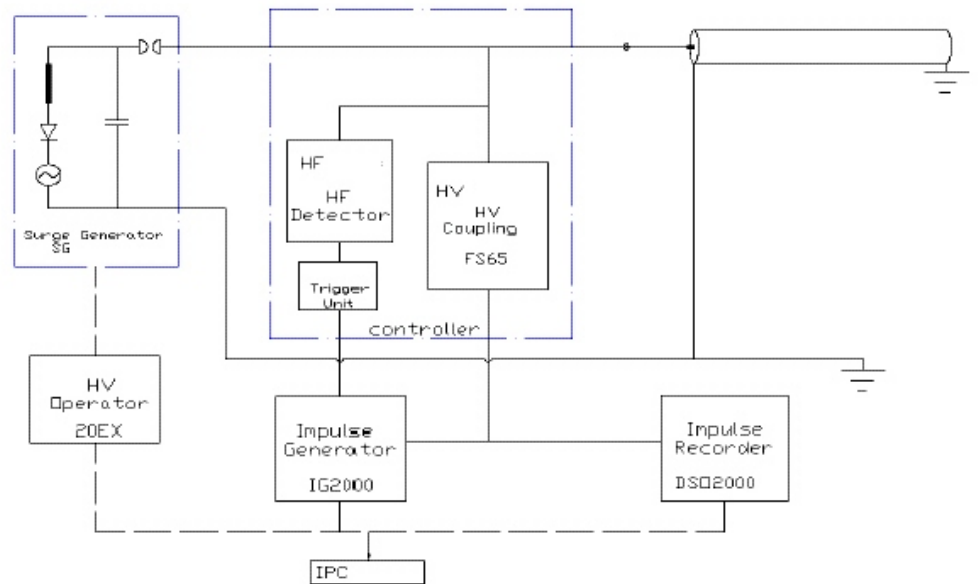


CABLE DRUMS



Block Diagram

CTV 2000



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