



SALES AND SERVICE

EUROPE Headquarters:
 AFJ International Srl
 Via Giacomo Watt, 12 • 20143 Milano • Italy
 Tel. +39-02-89159140 • Fax +39-02-89159226
 E-mail: afjint@iol.it
 www.afj.it

NORTH AMERICA
 HV Technologies, Inc.
 P.O. Box: 1630
 Manassas, VA 20110, USA
 Tel. +1-703-365-2330 • Fax +1-703-365-2331
 E-mail: bolliger@hvtechnologies.com
 www.hvtechnologies.com

ASIA PACIFIC
 PIC 儀器企業
 7Fl., No.3, Lane 83, Section 1
 Kuang Fu Road,
 Sauchung City 241
 Taipei - ROC
 Tel. +886-2-85124888 • Fax +886-2-85124900
 E-mail: pic@www.pic.com.tw
 www.pic.com.tw

Technical Specifications

No. of Receivers	1 ÷ 4
Internal Receiver Tuned Frequencies	150kHz, 500kHz, 1.4MHz, 30MHz
Frequency Error	<10x10 ⁻⁶
Pulse Reponse	Peak and Quasi-Peak conforming to CISPR 16-1
Impulse Generator	Built-in, CISPR 16-1 compliant
RF Input	BNC Female 50Ω
VSWR Input:	OdB Att.: <1,5:1 With Att.: <1,2:1
Max Input	127dBμV
Built-in Attenuator	manual 0÷50dB (10dB/Step)
Sensitivity	10dBμV
Intermediate Frequency	455 kHz
RF Shielding	3V/m
Noise Floor	<10dBμV
Measuring Error	± 1.5dBmax
Test Time Limit	999 minutes
Display Measure Level	0 to 120dBμV
Image Freq. Rejection	>50dB Typ.
Information Displayed	Each channel Displayed Level Display Units Events
PC requirements	IBM PC (Pentium 133 MHz or above, 16 MB RAM)
Interface	High-speed bidirectional parallel port
Power Supply	110/230V, 50/60Hz
Power Consumption	50VA
Operating Temperature	0÷45° C
Storage Temperature	-20÷70° C
Dimension (HxWxD, mm)	136x450x436
Weight	15 Kg

Trademark Acknowledgements:
 IBM and PC are registered trademarks of International Business Machines Corporation
 Pentium is a registered trademark of Intel Corporation
 Windows is a registered trademark of Microsoft Corporation



CL55C CLICK ANALYSER



Meeting the requirements of commonly-used european standards: EN 55014 (Product Standard)
 EN 50081-1 (Generic Standard)
 EN 50081-2 (Generic Standard)

Designed and manufactured in compliance with CISPR 16-1

Multi-channel: from one up to eight internal CISPR receivers

Modular approach: upgradeable channel multiplicity

Advanced Windows™ software for totally automatic operation

Multi-window PC-screen display of real-time measurements

Time-domain display feature



Generic Description

AFJ CL55C, is a cost-competitive, PC-driven, automatic, multi-channel discontinuous interference analyser, conforming to CISPR 16-1 Recommendation 14. The Quasi-Peak detector, fully complies with Clause 2 of CISPR 16-1.

Definitions

A discontinuous disturbance, commonly called "click", is defined as a disturbance exceeding the limit of continuous emission for not longer than 200ms, and that is separated from a subsequent disturbance by at least 200ms.

All automatic, programme-controlled machines, electrically-operated and thermal appliances, and generic domestic and light-industry equipment, generate discontinuous disturbances along the power supply cabling. The effects of such disturbances, vary with repetition rate and amplitude: the higher is the disturbance, the lower should be its frequency of occurrence.

Applicable Standards

Many European Standards dealing with discontinuous emission, like:

- **EN 55014** (Product Standard): Limits and methods of measurement of radio disturbance characteristics of electrical motor-operated and thermal appliance for household and similar purposes, electric tools and similar electrical apparatus; [Limits and methods, same as EN 55014], demand click measurement. Such requirement, is a time-consuming test, that may reach several hours per each phase of the EUT (Equipment Under Test) power supply. Thanks to the independence and simultaneous operation of its channels, the AFJ CL55C greatly reduces the test time required.
- **EN 50081-1** (Generic Standard): Generic emission standard. Residential, commercial and light industry. [Limits and methods, same as EN 55014];
- **EN 50081-2** (Generic Standard): Generic emission standard. Industrial environment, Click.

Modular Approach and CISPR Features

AFJ CL55C basic configuration provides four coexisting, independent RF channels set at the fixed CISPR

frequencies of 150kHz, 500kHz, 1.4MHz, 30MHz. The configuration is extendable up to eight independent channels, and custom frequencies are also available on request, as factory options. The modular design philosophy, enables extreme flexibility in the selection of the desired channel combination, both in terms of channel multiplicity as well as frequency values. The channels can be used either in connection with the internal CISPR fixed-frequency receivers, or with external, tuneable receivers as well. AFJ CL55C counts short clicks, long clicks, and continuous interference, for each channel, plus test duration and the number of switching operations. The occurrence of more than two clicks in any 2s period of time, and of more than five short clicks in 60s, are recorded.

Software Environment

A host PC is connected to AFJ CL55C discontinuous disturbance analyser, via high-speed parallel port, enabling the analyser to be used for automatic test setup and running, and for consistent report generation. The PC totally controls the analyser through a friendly application S/W, running under the WINDOWS O.S. The S/W enables the operator to set all

parameters, setting up the analyser according to CISPR 14 (EN55014) requirements, or any other specific needs. All information collected by the AFJ CL55C during the test, are displayed in real time on the PC screen, divided into a number of windows corresponding to the number of internal RF channels. The PC-based operation of the analyser, means practically unlimited memory capabilities, and the ability to generate assisted, or fully-automatic test reports.

Time-Domain Feature

In addition to the monitoring of discontinuous event number, the visualisation of the signal in time domain, is also possible. This allows real-time analysis of the disturbance occurrence in terms of click duration and amplitude, thus yielding immediate appreciation of device criticality. This implements a setup equivalent to that suggested by CISPR 16-1.

Calibration Feature

The system includes a built-in impulse generator, fully compliant with Clause 14, Tables 14, 15 & 16, of CISPR 16-1, for self calibration purpose.

