



Technocomm Instruments Pvt. Ltd.[®]

Total Solutions in Instrumentation & Information

Tektronix[®]

MEASUREMENT COMPUTING[™]

pico[®] Technology



ZES ZIMMER Precision Power Measurement



A.H. Systems, inc. (818) 998-0223



H&H Höcherl & Hackl The electronic load

PACIFIC POWER SOURCE

Technocomm Instruments Pvt Ltd is a Company Pioneer in Marketing and Supporting of highly sophisticated overseas products in India. The Company is promoted by group of technocrats having more than 35 years of experience in instrumentation sales and support. Our prospective and satisfied customers are Defence Organizations, Research & Development Organizations, Space Organizations, Engineering Institutions, Universities, Private & Public Sectors and Educational Institutions.

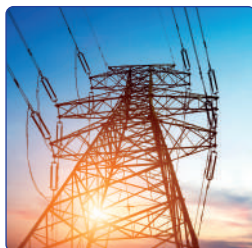
We Choose instruments from the best companies around the world, the pioneers in the respective fields. We have served many reputed organizations in India and have been lauded by them for our quality products, in-time service and competitive price.



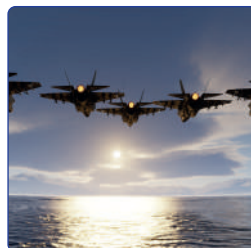
Aerospace



EV Charging



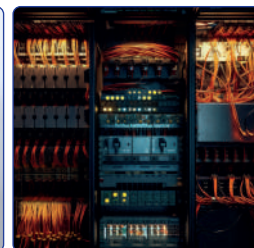
Renewable Energy



Military & Defense



Hydrogen and Fuel cells



Power Design & Validation

New Regenerative AC/DC Sources Grid Simulators & Loads

The industry's most flexible, high performing and intelligent regenerative series.



AC Sources

AC/DC Sources

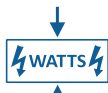
Grid Simulators

Regenerative Loads

EMC Systems



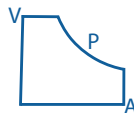
Regenerative



Power Density



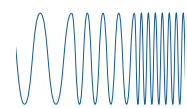
PHIL Interface Option



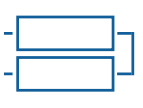
Constant Power



High Current



Wide Frequency Range



Scalable Power

Choose the Right Programmable AC and/or DC Power Source for your Application

AZX Series



Regenerative AC, DC and AC+DC Power Sources

Power: 30kVA to 550kVA
Form: 1, 2, & 3 phase output
Voltage: 0 to 440Vac L-N/
760Vac L-L
Frequency: DC, 1-15Hz,
15-1000Hz

AGX Series



Regenerative 4-Quadrant AC, DC or AC+DC Mode

Power: 6kVA to 252kVA
Form: 1 phase or 2 and 3 phase output modes
Voltage: AC: 0-350 VAC L-N 1 ϕ /
0-606VAC L-L 3 ϕ DC: \pm 500 Vdc
Frequency: DC, 15 - 1200Hz

AFX Series



Solid-State AC, DC and AC+DC Power Sources

Power: 6kVA to 180kVA+
Form: 1, 2, & 3 phase output
Voltage: 0 up to 333Vac L-N/
576Vac L-L or 425Vdc
Frequency: DC, 1-3000Hz

ADF Series



High Power, digital control, solid-state AC Power Sources

Power: 15kVA to 180kVA+
Form: 1 phase or 2 and 3 phase output modes
Voltage: 0 up to 300V L-N/
520V L-L
Frequency: 45 to 500Hz

LSX Series



Fully featured, switch-mode AC Power Sources

Power: 1500VA to 6000VA
Form: 1, 2, and 3 phase dedicated or selectable
Voltage: 0 up to 600VAC
Frequency: 15 to 1200Hz

LMX Series



High performance linear AC Power Sources

Power: 500VA to 30kVA
Form: 1, 2, and 3 phase dedicated or selectable
Voltage: 0 up to 600VAC
Frequency: 15 to 5000Hz

RGS Series



Regenerative Grid Simulator up to 252kW

Power: 12kVA to 252kVA
Form: 1, 2, and 3 phase
Voltage: AC: 0-350VAC L-N 1 ϕ / 0-606 VAC L-L 3 ϕ
DC: -500Vdc to +500Vdc
Frequency: DC, 15-200Hz

GSZ Series



Regenerative Grid Simulator up to 550kW

Power: 30kVA to 550kVA
Form: 1, 2, and 3 phase
Voltage: 0 ~ 480Vac L-N / 0-830 Vac L-L
Frequency: DC, 15-200Hz

RLS Series



Regenerative Load Simulator up to 252kW

Power: 6kVA to 252kVA
Form: 0-350 VAC L-N 1 ϕ / 0-606 VAC L-L 3 ϕ
DC: -500Vdc to +500Vdc
Frequency: DC, 15-1200Hz

ELZ Series



Regenerative Electronic Load up to 550kW

Power: 30kVA, 45kVA, or 55kVA up to 550kVA
Form: 1, 2, and 3 phase
Voltage: 0 ~ 480Vac L-N / 0-830 Vac L-L
Frequency: 1-15Hz, 15-1000Hz



Battery



Fuel Cell



Renewable Energy



Automotive



Railways



Avionics



Marine



ATE Systems



Manufacturing

Precision Power Analyzers



Models Overview

- **LMG 671** - 1 to 7 Channel Power Analyzer
- **LMG 641** - 1 to 4 Channel Power Analyzer
- **LMG 611** - 1 Channel Power Analyzer as Compact Desktop Device

Features

- 1 to 7 channels precision power analyzers
- Outstanding accuracy of 0.015% of measured value + 0.01% of range
- Full dynamic range of 500 μ A to 32 A / 3 mV to 1000 V per channel available in single instrument
- Range extension with sensors up to 2000A
- Simultaneous measurement of narrow- and broadband values through innovative DualPath architecture
- Simultaneous capturing of fundamental frequency & broadband RMS values for instantaneous detection of losses, resp. high-frequency components
- Harmonics & interharmonics up to 2000 order, as required by EN61000-4-7
- With optional I/O card speed/torque inputs freely configurable for all signal types (analogue, frequency as RS422, TTL or HTL) via menu
- Flexible scripting tool for custom applications
- Simultaneous measurement of V, I, P values and harmonics, presentation in tabular or graphical form
- Signal filters freely configurable by frequency, type and characteristics
- Synchronization to up to 7 different frequencies simultaneously
- Flicker measurement, interactions between grid and appliance according to EN61000-4-15
- Process signal interface (PSI), Star-to-delta conversion
- Bi-directional CAN interface – remote control via CAN bus

Measurement Channels

L60-CH-S

High-Precision Wideband Channel, DC-optim. up to **1500V** with DualPath functionality, bandwidth **DC-10 MHz**, best power accuracy **0.015% + 0.01%** 18 bit channel resolution.

Measuring inputs:

1. Voltage directly: 300 mV - 1000 Vtrms/1500VDC in 10 ranges: 3200 Vpk
2. Voltage sensor input: 3 mV - 4 Vtrms in 8 ranges: 12.5 Vpk
3. Current directly 500 μ A-32 Atrms in 10 ranges: 120 Apk
4. Current sensor input: 3 mV - 4 Vtrms in 8 ranges: 12.5 Vp

L60-CH-A

Channel for high-precision wideband measurements with DualPath functionality, bandwidth **DC-10 MHz**, best power accuracy **0.015% + 0.01%** 18 bit channel resolution.

Measuring inputs:

1. Voltage directly: 300 mV - 1000 Vtrms in 10 ranges, 3200 Upk
2. Voltage sensor input: 3 mV - 4 Vtrms in 8 ranges, 12.5 Upk
3. Current directly 500 μ A-32 Atrms in 10 ranges, 120 lpk
4. Current sensor input: 3 mV - 4 Vtrms in 8 ranges, 12.5 Upk

L60-CH-B

Channel for general purpose measurements with DualPath functionality, bandwidth **DC - 500 kHz**, best power accuracy **0.05% + 0.02%**.

Measuring inputs:

1. Voltage directly: 300 mV - 1000 Vtrms in 10 ranges, 3200 Upk
2. Current directly 500 μ A-32 Atrms in 10 ranges, 120 lpk
3. Current sensor input: 3 mV - 4 Vtrms in 8 ranges, 12.5 Upk

L60-CH-C

Channel for high-precision measurements up to **10kHz** bandwidth DC-10 kHz best power accuracy **0.03% + 0.01%**.

Measuring inputs:

1. Voltage directly: 300 mV - 1000 Vtrms in 10 ranges, 3200 Upk
2. Current directly 500 μ A-32 Atrms in 10 ranges, 120 lpk
3. Current sensor input: 3 mV - 4 Vtrms in 8 ranges, 12.5 Upk

CURRENT SENSORS

Type	Ring-type transducers					Current clamps		Shunt
Name	PCT	Hallxxx-L6	DS	WCT	LMG-Z5XX	L60-Z406, L60-Z60/66	L60-Z68	LMG-SH (-P)
Signal type	AC+DC			AC		AC	AC+DC	AC+DC
Current ranges	200... 2000A _{rms}	100... 2000A _{rms}	50... 7 000A _{rms}	100 ... 1000 A _{rms}	750 A _{rms} ... 10 kA _{rms}	40... 3 kA _{rms}	1 kA _{rms}	22mA _{rms} ... 1 A _{rms}
Best accuracy	0.01 %	0.5 %	0.01 %	0.25 %	0.02 %	0.2 %	2.0 %	0.15 %
Max. bandwidth	DC.. 1MHz	DC.. 100kHz	DC.. 1 MHz	30Hz... 1MHz	15Hz... 5kHz	5Hz... 50kHz	DC.. 2kHz	DC.. 100kHz
Power supply by LMG600	PCT200/600	Yes	No	Not required		Yes		Not required
Plug 'n' Measure	PCT200/600	Yes	No	No		Yes		No

DC Loads



PLI Series
Powerfull

- Input voltage up to 1,200 V
- Load current up to 2,700 A
- Power from 600 W to 28,800 W
- Large functional scope
- High dynamic

PLI Series
Powerfull

- operating modes CC - CV - CR - CP
- Models with integrated zero-volt supply (ZV models)
- Models with several current setting & measuring ranges (MR models)



PLA Series
Small

- Input voltage up to 800 V
- Load current up to 120 A
- Power from 200 W to 1,500 W
- Digital Master-Slave operation
- Load inputs at front and rear



SCL Series
High Current

- Input voltage upto 12 V or upto 40 V
- Load current up to 1,200 A
- Power from 600 W to 1,800 W
- High current carrying capacity
- Modern touch operation

Regenerative Load and Multi-Channel Load



TRL Series
Mobile Regenerative

- Input voltage up to 1,200 V
- Load current up to 60 A
- Power 1,000 W
- Energy recycling to local power grid
- Mobile mains connection via plug



PMLA Series
Multi-Channel Loads

- Input voltage up to 240V per channel
- Load current up to 120A per channel
- Power up to 1,800 W per device
- Up to 12 channels in 19", 2 U
- Modular conception

AC Loads



ACL Series
1 or 3-Phase AC Loads

- Voltage up to 3 x 500 V
- Load current up to 3 x 60 A
- Power from 3 x 1,400W to 3x8,400W
- Frequency range up to 1,000 Hz
- For three-phase applications



QL Series
Source-Sink

- Input voltage up to 240 V per channel
- Load current up to 120 A per channel
- Power up to 1,800 W per device
- Up to 12 channels in 19", 2 U
- Modular conception

DC Power Supplies and AC Power Supplies



PRB Series
DC Bidirectional Power Supply

- Output voltage max. 40 V - 2000 V
- Output current max. 30 A - 1000 A
- Power levels of 15 kW, 30 kW within a 3U volume & up to 3 MW
- Operating modes CV, CC, CP, CR
- Accuracy Voltage $\pm 0.02\%$ F.S, Current $\pm 0.02\%$ F.S, 5000V/ms Slew Rate
- 8.8" touchscreen with high aspect ratio
- Solar cell simulator, Battery simulator



PRE Series
Regenerative 4-quadrant AC source

- Power from 6 - 22 kVA in 3 U
- Output voltage max. 450
- Output current max. 105 A peak in 3-phase (per phase) 315 A peak single-phase
- Regenerative grid simulator
- Frequency range 0.001 - 5000 Hz
- Output modes: AC, DC, AC+DC, DC+AC



Industry-Leading Test and Measurement Products

Oscilloscopes



2 Series MSO	3 Series MDO	4 Series MSO	5 Series B MSO	6 Series B MSO
Bandwidth: 70 MHz - 500 MHz	Bandwidth: 100 MHz - 1 GHz	Bandwidth: 200 MHz - 1.5 GHz	Bandwidth: 350 MHz - 2 GHz	Bandwidth: 1 GHz - 10 GHz
Channels: 2/4 Analog, 16 Digitl	Channels: 2/4 Analog, 16 Digitl	Channels: 4/6 Analog, 48 Digitl	Channels: 8 Analog, 64 Digital	Channels: 8 Analog, 64 Digital
Sampling Rate: 1.25 GS/s - 2.5 GS/s	Sampling Rate: 2.5GS/s or 5GS/s	Sampling Rate: 6.25GS/s all ch.	Sampling Rate: 6.25GS/s all ch.	Sampling Rate: 50GS/s, 2 ch.
Resolution: 8 bits	Resolution: 8 bits	Resolution: 12 bits	Resolution: 12 bits	Resolution: 12 bits
Record length: 10 Mpoints	Record length: 10 Mpoints	Record length: Up to 62.5 Mpoints	Record length: Up to 500 Mpoints	Record length: Up to 1 Gpoints
	Inputs: TekVPI inputs	Inputs: Flex Channel inputs	Inputs: FlexChan- nel, Auxillary trigger	Inputs: Flex Channel inputs

Bi-Directional DC Power Supplies



EA-10000 Series	EA-BT 20000 Series	EA-PSB 20000 Triple	EA-ELR 10000 Series
Voltage: 10 V up to 2000 V	Voltage: 10 V up to 2000 V	Voltage per ch.: Up to 920 V	Voltage: 80 V up to 2000 V
Current: 6 A up to 1000 A	Current: 20 A up to 1000 A	Current per ch.: Up to 340A	Current: 6 A up to 1000 A
Power: 600 W up to 30 kW Uni/Bi-Directional DC Power Supplies	Power: 10/ch, 15, 30 kW Bi-Directional & Single/Triple ch.	Power per ch.: 5kW, 10kW (3 ch.) Bi-Directional & Triple channels	Power: Up to 30 kW Regenerative Electronics Loads

Signal and Function Generators



Function Generators (AFG Series)	Signal Generators (AWG Series)
Bandwidth: 25 MHz - 250 MHz	Bandwidth: Up to 20 GHz
Analog Channels: 1 - 2 channels	Analog Channels: 1 - 8 channels
Sampling Rate: 250MS/s to 2GS/s	Sampling Rate: Up to 50 GS/s
Resolution: 14 bits	Resolution: 10 Bits, 16 bits
Record Length: 16 MSa/ch, 128Mpts/ch (optional)	Memory: 2 GS/channel, 32 GS (Optional)
Amplitude: 1 mVp-p to 10 Vp-p into 50Ω loads	-80 dBc spurious free dynamic range
Bandwidth and Memory size Upgradability	AWG Software Library

Keithley Products



Digital Multimeter (DMM)	DC Power Supply	Source Measure Unit (SMU)
Digits: 5 ½, 6 ½, 7 ½ and 8 ½ digits	Voltage: Up to 800 V	Channels: 1, 2 or 4
Channels: 1, 2 or 10 channels	Current: Up to 108 A	V & I Range: Up to 10A
Voltage: From 1nV up to 1100 V	Power: Up to 1080 W	Accuracy: 0.012% (6.5 digits res.)
Current: From 1pA up to 10.1A	Channels: Single & Two or three independent outputs	Max Speed: 1 MS/s sampling, 100 kS/s to buffer
Bandwidth: Up to 2 MHz	Display plots for voltage & current	Max output power 20 - 1000 W
Accuracy: Upto 0.0006% DCV (1year)	Programmable power supplies	Min DC current range 100 nA
Interface: USB, GPIB, LAN or RS232	Up to 6 ½-digit, 10nA current measurement resolution	Source and sink (4-quadrant) oper.
Sampling: 1 Msample/s		Five-Inch high resolution capacitive touchscreen GUI
Range: From 0.1µΩ to 1.2GΩ		Standard SCPI GPIB, RS-232 and Keithley Trigger Link interfaces
Sensitivity of 1 µΩ and 1 pA		

USB Data Acquisition & Data Loggers

Unlock the power of data acquisition without breaking the bank with Measurement Computing Corporation (MCC) and Data Translation's (DT) extensive range of Low-Cost Data Acquisition Solutions. USB Data Acquisition (DAQ) boards, devices, and modules offer an unbeatable combination of performance, versatility, and affordability. USB data acquisition devices offer analog input and output, digital I/O, and counter/timers. MCC offers high-quality hardware with accompanying software and drivers for a quick and customizable data acquisition solution for your unique application.



Benchtop



Temperature



Sound & Vibration



Digital I/O



Ethernet & Remote

Data Acquisition

USB, Ethernet and PCI(PCIe) acquisition systems for wide range of applications. Measure Current, Voltage, Temperature, Strain and Digital signals
Board-only / OEM solutions with easy to integrate connectors

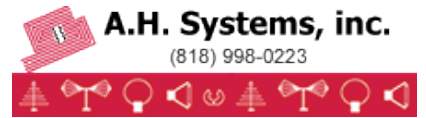
Temperature Measurement

MCC offers a wide selection of temperature measurement DAQ products for use with thermocouples, thermistors and RTDs. USB Ethernet, Wireless and Data logger solutions.

Internet Enabled Loggers

Stand alone data loggers provides solutions for recording temperature, voltage, current, humidity and more. Available with various configurations and comes with easy to use software to log, view and process data. Internet Enabled Data Loggers WebDAQ's.

EMI AND EMC TEST ANTENNA'S



Reliable & Cost Effective EMI / EMC Antennas

A H Systems has been established since 1974 and manufactures a complete line of affordable, reliable, EMI test equipment. Our individually calibrated EMI Test Antennas, Preamplifiers, Current Probes and Low-Loss Cables satisfy many test standards including CISPR, MIL-STD, FCC, EN, VDE, IEC and SAE.

Manufacturing high quality products at competitive prices with immediate shipment plus prompt technical support are our goals to improve the quality of your testing requirements.

ANTENNA KITS

Frequency: 20 Hz - 40 GHz

HORN ANTENNAS

Frequency: 170 MHz - 40 GHz

LOOP ANTENNAS

Frequency: 20 Hz - 30 MHz

MONOPOLE ANTENNAS

Frequency: 100 Hz - 60 MHz

BICONICAL ANTENNAS

Frequency: 20 MHz - 18 GHz

BILOGICAL ANTENNAS

Frequency: 20 MHz - 1 GHz

LOG PERIODIC ANTENNAS

Frequency: 80 MHz - 7 GHz

H-FIELD ROD ANTENNAS

Frequency: 100 Hz - 30 MHz

DIPOLE ANTENNAS

Frequency: 25 MHz - 3 GHz

PREAMPLIFIERS

Frequency: 5 KHz - 40 GHz

CURRENT PROBES

Frequency: 20 Hz - 500 MHz

RF CABLES & ADAPTERS

Frequency: Upto 40 GHz

TRIPODS AND MOUNTING ADAPTERS

Wood Tripod, Plastic Tripod, Vertical Rod, Tripod Extension, Carrying Case, Azimuth and Elevation head, Log periodic mount

PicoScope 2000 Series

Ultra-compact range of 8-bit oscilloscopes & mixed-signal oscilloscopes (MSO) 2000B models offer more memory & bandwidth. All models are USB-powered & have a built-in function generator and AWG.

Channels	2 or 4 (+16 digital with MSO)
Bandwidth	10 to 100MHz
Max Sampling	1 GS/s
Memory	8kS to 128 MS



PicoScope 3000E Series

The highest performance USB powered oscilloscopes available. Up to 500 MHz bandwidth, 5 GS/s sampling and 2 GS memory, 10-bit Resolution. All models have a built-in function generator and AWG.

Channels	4 (+16 digital with MSO)
Bandwidth	350 & 500MHz
Max Sampling	5 GS/s
Memory	2 GS



PicoScope 4000 Series

High-resolution oscilloscopes with 12 to 16-bit resolution. Low noise and distortion provide unmatched signal fidelity. All are USB-powered and most include an AWG. Series includes differential-input models.

Channels	2, 4 or 8
Bandwidth	5 to 20MHz
Max Sampling	80 MS/s
Memory	10MS to 256 MS



PicoScope 5000 Series

Flexible Resolution Oscilloscopes. Breakthrough ADC technology allows a range of hardware resolutions from 8 to 16 bits. Combines the high sampling rate of the PicoScope 3000 Series with high resolution of the PicoScope 4000 Series.

Channels	2 or 4 (+16 digital with MSO)
Bandwidth	60 to 200MHz
Max Sampling	1 GS/s
Memory	128MS to 512MS



PicoScope 6000 Series

High-performance oscilloscopes with up to 1 GHz bandwidth, 8 or 8-12 bit flexible resolution and ultra-deep capture memory that delivers 200 ms capture duration at maximum sample rate of 5 GS/s. Optional MSO pods add up to 16 digital channels.

Channels	4 or 8 (+16 digital, optional with MSO)
Bandwidth	300MHz to 3GHz
Max Sampling	10 GS/s
Memory	1 GS to 4 GS



PicoScope 9000 Series

The unique PicoScope SXRTOs and Sampling Oscilloscopes for data eye diagram, speed and jitter analysis out to 16 Gb/s. 9.5 GHz optical, clock recovery and differential TDR/TDT options.

Channels	2 or 4
Bandwidth	5GHz to 30GHz
Max Sampling	500 MS/s
Memory	250 kS



PicoVNA® Vector Network Analyzers

PicoVNA 106 - 6 GHz

PicoVNA 108 - 8.5 GHz

- 300 kHz to 6 or 8.5 GHz operation
- High speed, up to 5500 dual-port S-parameters per second
- > 10 000 S11 + S21 per second
- Quad RX four-receiver architecture for best accuracy
- Up to 124 dB dynamic range at 10 Hz bandwidth
- 0.005 dB RMS trace noise at maximum bandwidth of 140 kHz
- Half-rack, small-footprint, lightweight package
- Reference plane offsetting and de-embedding
- Time domain and port impedance transformations
- Multiple live and memory traces on dual y-axis display channels
- Save on trigger for high-speed device profiling (PicoVNA 108)
- Dual-frequency mixer measurements with VSWR correction (PicoVNA 108)
- Phase meter, P1dB, AM to PM, and stand-alone signal generator utilities
- Male and female SOLT and automated E-Cal calibration standards
- Guided 8/12-term, SOLT, TRL and TRM calibrations including unknown-through
- Confident measurement based on traceable data for all calibration and check standards
- **PicoVNA 5 software** for Pico VNAs: PicoVNA 5 is designed from the ground up to work with the PicoVNA hardware, available on Windows, Mac, Linux and Raspberry Pi.



PicoScope 4425A - The Oscilloscope of Choice for Vehicle Diagnostics

PicoScope is a powerful automotive diagnostic tool that gives you detailed insights into your vehicle's systems. It's user-friendly, with advanced features like waveform comparison, non-invasive testing, Sampling Rate of 400 million samples/second and 20 MHz bandwidth, 12-bit (16-bit enhanced) resolution, USB 3.0 Fast Data transfer ensuring you can diagnose issues accurately and efficiently. Whether you're a seasoned technician or just starting out, PicoScope helps you get to the root of problems faster and more reliably than ever before.



2 year
Warranty

Used by
30+
Brands

Over
160
Guided Tests

Easy to Use
BNC +
Connections

Over
10,000
Waveforms



Noise
Test



Vibration
Test



Harshness
Test



NVH STD Kit



4-Channel STD Kit



4-Channel EV Kit

As well as being suitable for electric vehicle system testing, the nature and range of the accessories within the **EV kit** make it versatile enough to test many of the systems and components within internal combustion engine and hybrid vehicles.

The kit is available to purchase within a carry case, for portability, or foam inlays for easy access within workshop tool trays



PicoScope
driving the future together

TC Technocomm Instruments Pvt. Ltd.
Total Solutions in
Instrumentation & Information

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- A.H Systems Inc - USA
- Clarke-Hess Communication Research Corp. - USA

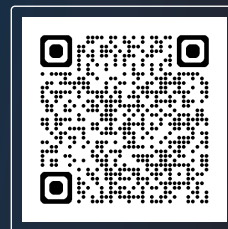
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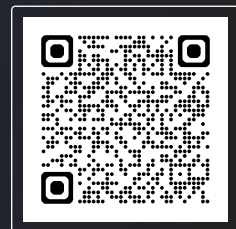
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CONTACT



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