DN2.47x - 32 channel 16 bit digitizerNETBOX up to 1.33 MS/s

- **32 channels with 250 kS/s up to 1.33 MS/s**
- **Single-ended inputs**
- **Simultaneously sampling on all channels**
- **Separate ADC and amplifier per channel**
- **complete on-board calibration**
- **8 input ranges: ±50 mV up to ±10 V**
- **512 MSample/1 GSample standard acquisition memory**
- **Window, pulse width, re-arm, spike, OR/AND trigger**
- **Features: Streaming, ABA mode, Multiple Recording, Gated Sampling**

New digitizerNETBOX V2
- Bumpers
- Stackable
- Handle
- GND Screw

- Ethernet Remote Instrument
- LXI Core 2011 compatible
- GBit Ethernet Interface
- Sustained streaming mode up to 70 MB/s
- Direct Connection to PC/Laptop
- Connect anywhere in company LAN
- Embedded Webserver for Maintenance/Updates
- Embedded Server option for open Linux platform

Operating Systems	SBench 6 Professional Included	Drivers
• Windows 7 (SP1), 8, 10, Server 2008 R2 and newer • Linux Kernel 2.6, 3.x, 4.x, 5.x • Windows/Linux 32 and 64 bit	• Acquisition, Generation and Display of analog and digital data • Calculation, FFT • Documentation and Import, Export	• LabVIEW, MATLAB, LabWindows/CVI • Visual C++, C++ Builder, GNU C++, VB.NET, C#, J#, Delphi, Java, Python • IVI

Model	1 ch	2 ch	4 ch	8 ch	16 ch	32 ch
DN2.472-32	250 kS/s	250 kS/s	250 kS/s	250 kS/s	250 kS/s	250 kS/s
DN2.474-32	1.33 MS/s	1.33 MS/s	1.33 MS/s	1.33 MS/s	1.33 MS/s	1.33 MS/s

General Information

The digitizerNETBOX DN2.47x series allows recording of up to 32 channels with 16 bit resolution and sampling rates between 200 kS/s and 1.33 MS/s. These Ethernet Remote instruments offer outstanding A/D features both in resolution and signal quality. The DN2.47x series opens the Ethernet based instrumentation for application with the need of multiple synchronous channels with a good price/performance value.
The 16 bit vertical resolution have four times the accuracy compared to 14 bit products and sixteen times the accuracy if compared with a 12 bit product.
The digitizerNETBOX can be installed anywhere in the company LAN and can be remotely controlled from a host PC.

Software Support

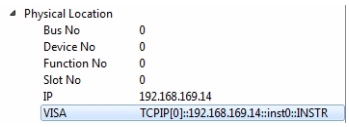
Windows Support

The digitizerNETBOX/generatorNETBOX can be accessed from Windows 7, Windows 8,Windows 10 (each 32 bit and 64 bit). Programming examples for Visual C++, C++ Builder, LabWindows/CVI, Delphi, Visual Basic, VB.NET, C#, J#, Python, Java and IVI are included.

Linux Support

The digitizerNETBOX/generatorNETBOX can be accessed from any Linux system. The Linux support includes SMP systems, 32 bit and 64 bit systems, versatile programming examples for Gnu C++, Python as well as drivers for MATLAB for Linux. SBench 6, the powerful data acquisition and analysis software from Spectrum is also included as a Linux version.

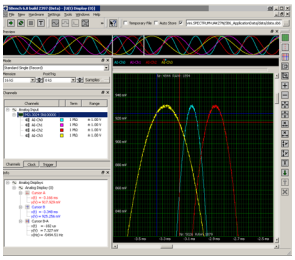
Discovery Protocol



The Discovery function helps you to find and identify any Spectrum LXI instruments, like the digitizerNETBOX and generatorNETBOX, available to your computer on the network. The Discovery function will also locate any Spectrum card products that are managed by an installed Spectrum Remote Server somewhere on the network.

After running the discovery function the card information is cached and can be directly accessed by SBench 6. Furthermore the qualified VISA address is returned and can be used by any software to access the remote instrument.

SBench 6 Professional



The digitizerNETBOX and generatorNETBOX can be used with Spectrum's powerful software SBench 6 – a Professional license for the software is already installed in the box. SBench 6 supports all of the standard features of the instrument. It has a variety of display windows as well as analysis, export and documentation functions.

- Available for Windows XP, Vista, Windows 7, Windows 8, Windows 10 and Linux
- Easy to use interface with drag and drop, docking windows and context menus
- Display of analog and digital data, X-Y display, frequency domain and spread signals
- Designed to handle several GBytes of data
- Fast data preview functions

IVI Driver

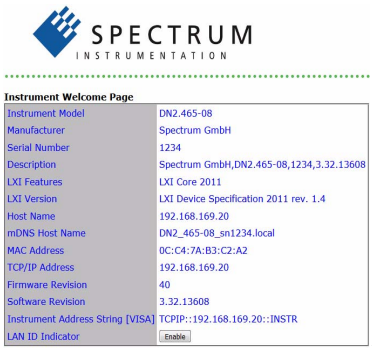
The IVI standards define an open driver architecture, a set of instrument classes, and shared software components. Together these provide critical elements needed for instrument interchangeability. IVI's defined Application Programming Interfaces (APIs) standardize common measurement functions reducing the time needed to learn a new IVI instrument.

The Spectrum products to be accessed with the IVI driver can be locally installed data acquisition cards, remotely installed data acquisition cards or remote LXI instruments like digitizerNETBOX/generatorNETBOX. To maximize the compatibility with existing IVI based software installations, the Spectrum IVI driver supports IVI Scope, IVI Digitizer and IVI FGen class with IVI-C and IVI-COM interfaces.

Third-party Software Products

Most popular third-party software products, such as LabVIEW, MATLAB or LabWindows/CVI are supported. All drivers come with examples and detailed documentation.

Embedded Webserver



The integrated webserver follows the LXI standard and gathers information on the product, set up of the Ethernet configuration and current status. It also allows the setting of a configuration password, access to documentation and updating of the complete instrument firmware, including the embedded remote server and the webserver.

Hardware features and options

LXI Instrument

The digitizerNETBOX and generatorNETBOX are fully LXI instrument compatible to LXI Core 2011 following the LXI Device Specification 2011 rev. 1.4. The digitizerNETBOX/generatorNETBOX has been tested and approved by the LXI Consortium.

Located on the front panel is the main on/off switch, LEDs showing the LXI and Acquisition status and the LAN reset switch.

digitizerNETBOX/generatorNETBOX chassis version V2

The chassis version V2 got a complete re-design to allow some new features that improve the handling especially for mobile and shared usage:

- 8 bumper edges protect the chassis, the desk and other components on it. The bumper edges allow to store the chassis either vertically or horizontally and the lock-in structure allows to stack multiple chassis with a secure fit onto each other. For 19" rack mount montage the bumpers can be unmounted and replaced by the 19" rack mount option
- The handle allows to easily carry the chassis around in juts one hand.
- A standard GND screw on the back of the chassis allows to connect the metal chassis to measurement ground to reduce noise based on ground loops and ground level differences.

Front Panel

Standard SMB connectors are used for all analog input signals and BNC connectors for all trigger and clock signals. No special adapter cables are needed and the connection is secure even when used in a moving environment.

Ethernet Connectivity

The GBit Ethernet connection can be used with standard COTS Ethernet cabling. The integration into a standard LAN allows to connect the digitizerNETBOX/generatorNETBOX either directly to a desktop PC or Laptop or it is possible to place the instrument somewhere in the company LAN and access it from any desktop over the LAN.

DC Power Supply Option

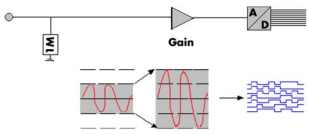
The digitizerNETBOX/generatorNETBOX can be equipped with an internal DC power supply which replaces the standard AC power supply. Two different power supply options are available that range from 9V to 36V. Contact the sales team if other DC levels are required.

Using the DC power supply the digitizerNETBOX/generatorNETBOX can be used for mobile applications together with a Laptop in automotive or airborne applications.

Boot on Power on Option

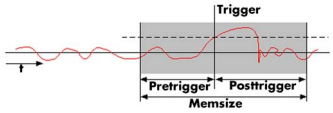
The digitizerNETBOX/generatorNETBOX can be factory configured to automatically start and boot upon availability of the input power rail. That way the instrument will automatically become available again upon loss of input power.

Input Amplifier



The analog inputs can easily be adapted to real world signals using settings that are individual for each channel. By using software commands one can select a matching input range.

Ring buffer mode



The ring buffer mode is the standard mode of all oscilloscope instruments. Digitized data is continuously written into a ring memory until a trigger event is detected. After the trigger, post-trigger samples are recorded and pre-trigger samples can also be stored. The number of pre-trigger samples available simply equals the total ring memory size minus the number of post trigger samples.

FIFO mode

The FIFO mode is designed for continuous data transfer between remote instrument and PC memory or hard disk. The control of the data stream is done automatically by the driver on interrupt request. The complete installed on-board memory is used for buffer data, making the continuous streaming extremely reliable.

Channel trigger

The data acquisition instruments offer a wide variety of trigger modes. Besides the standard signal checking for level and edge as known from oscilloscopes it's also possible to define a window trigger. All trigger modes can be combined with the pulsewidth trigger. This makes it possible to trigger on signal errors like too long or too short pulses. In addition to this a re-arming mode (for accurate trigger recognition on noisy signals) the AND/OR conjunction of different trigger events is possible. As a unique feature it is possible to use deactivated channels as trigger sources.

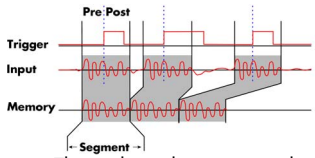
External trigger I/O

All instruments can be triggered using an external TTL signal. It's possible to use positive or negative edge also in combination with a programmable pulse width. An internally recognised trigger event can - when activated by software - be routed to the trigger connector to start external instruments.

Pulse width

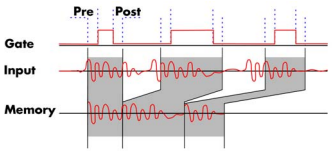
Defines the minimum or maximum width that a trigger pulse must have to generate a trigger event. Pulse width can be combined with channel trigger, pattern trigger and external trigger.

Multiple Recording



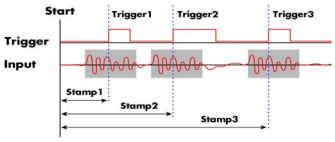
The Multiple Recording mode allows the recording of several trigger events with an extremely short re-arming time. The hardware doesn't need to be restarted in between. The on-board memory is divided in several segments of the same size. Each of them is filled with data if a trigger event occurs. Pre- and posttrigger of the segments can be programmed. The number of acquired segments is only limited by the used memory and is unlimited when using FIFO mode.

Gated Sampling



The Gated Sampling mode allows data recording controlled by an external gate signal. Data is only recorded if the gate signal has a programmed level. In addition a pre-area before start of the gate signal as well as a post area after end of the gate signal can be acquired. The number of gate segments is only limited by the used memory and is unlimited when using FIFO mode.

Timestamp

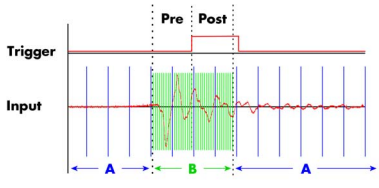


The timestamp function writes the time positions of the trigger events in an extra memory. The timestamps are relative to the start of recording, a defined zero time, externally synchronized to a radio clock, an IRIG-B a GPS receiver. Using the external synchronization gives a precise time relation for acquisitions of systems on different locations.

External clock I/O

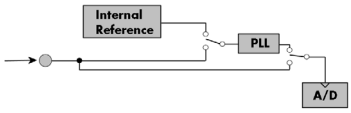
Using a dedicated connector a sampling clock can be fed in from an external system. It's also possible to output the internally used sampling clock to synchronise external equipment to this clock.

ABA mode



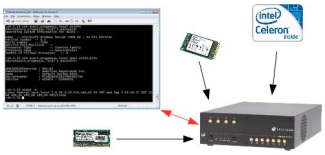
The ABA mode combines slow continuous data recording with fast acquisition on trigger events. The ABA mode works like a slow data logger combined with a fast digitizer. The exact position of the trigger events is stored as timestamps in an extra memory.

Reference clock



The option to use a precise external reference clock (typically 10 MHz) is necessary to synchronize the instrument for high-quality measurements with external equipment (like a signal source). It's also possible to enhance the stability of the sampling clock in this way. The driver automatically generates the requested sampling clock from the fed in reference clock.

Option Embedded Server



The option turns the digitizerNETBOX/generatorNETBOX in a powerful PC that allows to run own programs on a small and remote data acquisition system. The digitizerNETBOX/generatorNETBOX is enhanced by more memory, a powerful CPU, a freely accessable internal SSD and a remote software development access method.

The digitizerNETBOX/generatorNETBOX can either run connected to LAN or it can run totally independent, storing data to the internal SSD. The original digitizerNETBOX/generatorNETBOX remote instrument functionality is still 100 % available. Running the embedded server option it is possible to pre-calculate results based on the acquired data, store acquisitions locally and to transfer just the required data or results parts in a client-server based software structure. A different example for the digitizerNETBOX/generatorNETBOX embedded server is surveillance/logger application which can run totally independent for days and send notification emails only over LAN or offloads stored data as soon as it's connected again.

Access to the embedded server is done through a standard text based Linux shell based on the ssh secure shell.

Technical Data

Analog Inputs

Resolution		16 bit (±32000 values)
Input Range	software programmable	±50 mV, ±100 mV, ±250 mV, ±500 mV, ±1 V, ±2 V, ±5 V, ±10 V
Input Mode	fixed	bipolar, single-ended
ADC Differential non linearity (DNL)	ADC only	±1 LSB
ADC Integral non linearity (INL)	ADC only	±3 LSB
Offset error (full speed)	after warm-up and calibration	≤ 0.1% of range
Gain error (full speed)	after warm-up and calibration	≤ 0.1%
Crosstalk: 100 kHz Signal, 50 ohm termination	all input ranges	≤ -100 dB on adjacent channels
Analog Input impedance	fixed	1 MOhm || 25 pF
Analog input coupling	fixed	DC
Over voltage protection (active card)	all ranges	±30 V
Aliasing Filter type		2nd order, -3dB point at card bandwidth
Channel selection	software programmable	1, 2, 4, 8 or 16 channels (maximum is model dependent)

Trigger

Available trigger modes	software programmable	Channel Trigger, External, Software, Window, Pulse, Re-Arm, Spike, Or/And, Delay
Trigger level resolution	software programmable	14 bit
Trigger edge	software programmable	Rising edge, falling edge or both edges
Trigger pulse width	software programmable	0 to [64k - 1] samples in steps of 1 sample
Trigger delay	software programmable	0 to [64k - 1] samples in steps of 1 sample
Multi, Gate: re-arming time		< 4 samples (+ programmed pretrigger)
Pretrigger at Multi, ABA, Gate, FIFO	software programmable	4 up to [8176 Samples / number of active channels] in steps of 4
Posttrigger	software programmable	4 up to [8G - 4] samples in steps of 4 (defining pretrigger in standard scope mode)
Memory depth	software programmable	8 up to [installed memory / number of active channels] samples in steps of 4
Multiple Recording/ABA segment size	software programmable	8 up to [installed memory / 2 / active channels] samples in steps of 4
Trigger output delay		One positive edge after internal trigger event
Internal/External trigger accuracy		1 sample
External trigger type (input and output)		3.3V LVTTL compatible (5V tolerant with base card hardware version > V20)
External trigger input		Low ≤ 0.8 V, High ≥ 2.0 V, ≥ 8 ns in pulse stretch mode, ≥ 2 clock periods all other modes
External trigger maximum voltage		-0.5 V up to +5.7 V (internally clamped to 5.0V, 100 mA max. clamping current)
Trigger impedance	software programmable	50 Ohm / high impedance (> 4kOhm)
External trigger output type		3.3 V LVTTL
External trigger output levels		Low ≤ 0.4 V, High ≥ 2.4 V, TTL compatible
External trigger output drive strength		Capable of driving 50 ohm load, maximum drive strength ±128 mA

Clock

Clock Modes	software programmable	internal PLL, internal quartz, external clock, external divided, external reference clock, sync
Internal clock range (PLL mode)	software programmable	1 kS/s to max using internal reference, 50kS/s to max using external reference clock
Internal clock accuracy		≤ 20 ppm
Internal clock setup granularity		≤1% of range (100M, 10M, 1M, 100k,...): Examples: range 1M to 10M: stepsize ≤ 100k
External reference clock range	software programmable	≥ 1.0 MHz and ≤ 125.0 MHz
External clock impedance	software programmable	50 Ohm / high impedance (> 4kOhm)
External clock range		see „Dynamic Parameters“ table below
External clock delay to internal clock		5.4 ns
External clock type/edge		3.3V LVTTL compatible, rising edge used
External clock input		Low level ≤ 0.8 V, High level ≥ 2.0 V, duty cycle: 45% - 55%
External clock maximum voltage		-0.5 V up to +3.8 V (internally clamped to 3.3V, 100 mA max. clamping current) (not 5V tolerant)
External clock output type		3.3 V LVTTL
External clock output levels		Low ≤ 0.4 V, High ≥ 2.4 V, TTL compatible
External clock output drive strength		Capable of driving 50 ohm load, maximum drive strength ±128 mA
Synchronization clock divider	software programmable	2 up to [8k - 2] in steps of 2
ABA mode clock divider for slow clock	software programmable	8 up to 524280 in steps of 8

Connectors

Analog Inputs		9 mm BNC female (one for each single-ended input)	Cable-Type: Cab-9m-xx-xx
Analog Inputs		9 mm BNC female (two for each differential input)	Cable-Type: Cab-9m-xx-xx
Trigger A Input/Output	programmable direction	9 mm BNC female	Cable-Type: Cab-9m-xx-xx
Trigger B Input		9 mm BNC female	Cable-Type: Cab-9m-xx-xx
Clock Input/Output	programmable direction	9 mm BNC female	Cable-Type: Cab-9m-xx-xx
Timestamp Reference Clock Input		9 mm BNC female	Cable-Type: Cab-9m-xx-xx

Option digitizerNETBOX/generatorNETBOX embedded server (DN2.xxx-Emb, DN6.xxx-Emb)

CPU	Intel Quad Core 2 GHz
System memory	4 GByte RAM
System data storage	Internal 128 GByte SSD
Development access	Remote Linux command shell (ssh), no graphical interface (GUI) available
Accessible Hardware	Full access to Spectrum instruments, LAN, front panel LEDs, RAM, SSD
Integrated operating system	OpenSuse 12.2 with kernel 4.4.7.
Internal PCIe connection	DN2.20, DN2.46, DN2.47, DN2.49, DN2.59, DN2.60 PCIe x1, Gen1 DN6.46, DN6.49, DN6.59 DN2.22, DN2.44, DN2.66 PCIe x1, Gen2 DN6.22, DN6.44, DN6.66

Ethernet specific details

LAN Connection		Standard RJ45
LAN Speed		Auto Sensing: GBit Ethernet, 100BASE-T, 10BASE-T
LAN IP address	programmable	DHCP (IPv4) with AutoIP fall-back (169.254.x.y), fixed IP (IPv4)
Sustained Streaming speed		DN2.20, DN2.46, DN2.47, DN2.49, DN2.60 up to 70 MByte/s DN6.46, DN6.49 DN2.59, DN2.22, DN2.44, DN2.66 up to 100 MByte/s DN6.59, DN6.22, DN6.44, DN6.66
Used TCP/UDP Ports		Webserver: 80 mDNS Daemon: 5353 VISA Discovery Protocol: 111, 9757 UPNP Daemon: 1900 Spectrum Remote Server: 1026, 5025

Power connection details

Mains AC power supply	Input voltage: 100 to 240 VAC, 50 to 60 Hz
AC power supply connector	IEC 60320-1-C14 (PC standard coupler)
Power supply cord	power cord included for Schuko contact (CEE 7/7)

Serial connection details (DN2.xxx with hardware ≥ V11)

Serial connection (RS232)	For diagnostic purposes only. Do not use, unless being instructed by a Spectrum support agent.

Certification, Compliance, Warranty

EMC Immunity	Compliant with CE Mark
EMC Emission	Compliant with CE Mark
Product warranty	5 years starting with the day of delivery
Software and firmware updates	Life-time, free of charge

Environmental and Physical Details DN2.xxx

Dimension of Chassis without connectors or bumpers	L x W x H	366 mm x 267 mm x 87 mm
Dimension of Chassis with 19" rack mount option	L x W x H	366 mm x 482.6 mm x 87 mm (2U height)
Weight (1 internal acquisition/generation module)		6.3 kg, with rack mount kit: 6.8 kg
Weight (2 internal acquisition/generation modules)		6.7 kg, with rack mount kit 7.2 kg
Warm up time		20 minutes
Operating temperature		0°C to 40°C
Storage temperature		-10°C to 70°C
Humidity		10% to 90%
Dimension of packing (single DN2)	L x W x H	470 mm x 390 mm x 180 mm
Volume weight of Packing (single DN2)		7.0 kgs

Power Consumption

	230 VAC		12 VDC		24 VDC	
4 channel versions, standard memory	0.24 A	55 W	TBD	TBD	TBD	TBD
8 channel versions, standard memory	0.26 A	60 W	TBD	TBD	TBD	TBD
16 channel versions, standard memory	0.37 A	85 W	TBD	TBD	TBD	TBD
4 channel versions, 1 x 1 GSample memory	0.28 A	65 W	TBD	TBD	TBD	TBD
8 channel versions, 1 x 1 GSample memory	0.30 A	70 W	TBD	TBD	TBD	TBD
16 channel versions, 2 x 1 GSample memory	0.48 A	105 W	TBD	TBD	TBD	TBD

MTBF

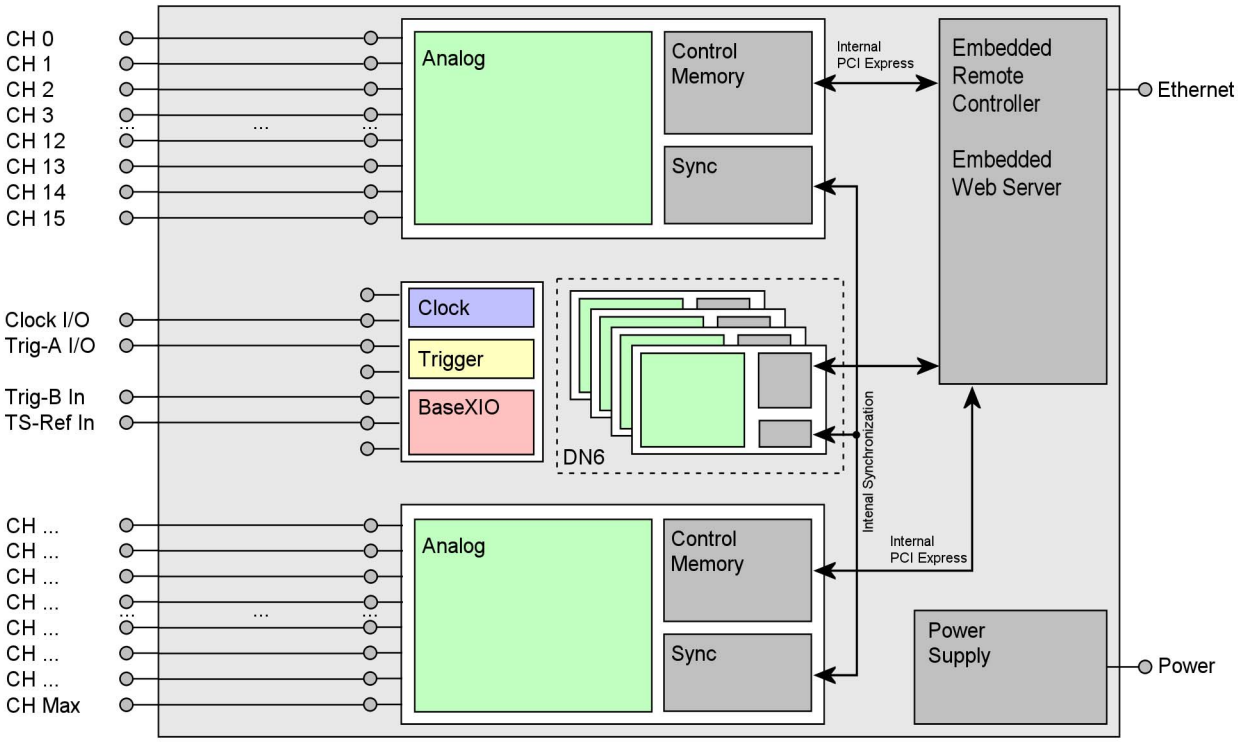
MTBF	100000 hours

Dynamic Parameters

Model (M2i.xxxx/M2i.xxxx-Exp)	Unit	4710	4711	472x DN2.472-xx		4730	4731	474x DN2.474-xx	
max internal or external clock		100 kS/s		250 kS/s		500 kS/s		1.33 MS/s	
-3 dB bandwidth		>50 kHz		>125 kHz		>250 kHz		>500 kHz	
RMS zero noise level (≥ ±500 mV)	LSB	< 0.7	< 0.8	< 0.8	< 0.9	< 0.9	< 1.0	< 1.1	< 1.1
RMS zero noise level (< ±500 mV)	uV	< 6	< 7	< 7	< 8	< 10	< 13	<10	<13
Test - sampling rate		100 kS/s		250 kS/s		500 kS/s		1.33 MS/s	
Test signal frequency		10 kHz		10 kHz		10 kHz		10 kHz	
SNR (typ)	dB	91.5	91.2	90.6	90.5	88.7	88.5	89.4	89.2
THD (typ)	dB	-101.3	-101.2	-100.5	-100.5	-92.5	-92.5	-101.6	-101.4
SFDR (typ), excl. harm.	dB	108.8	108.9	106.7	106.8	104.5	104.3	106.0	105.8
ENOB (based on SNR)	bit	14.9	14.8	14.7t	14.7	14.4	14.4	14.5	14.5
ENOB (based on SINAD)]	bit	14.7	14.6	14.6	14.6	14.3	14.2	14.4	14.4

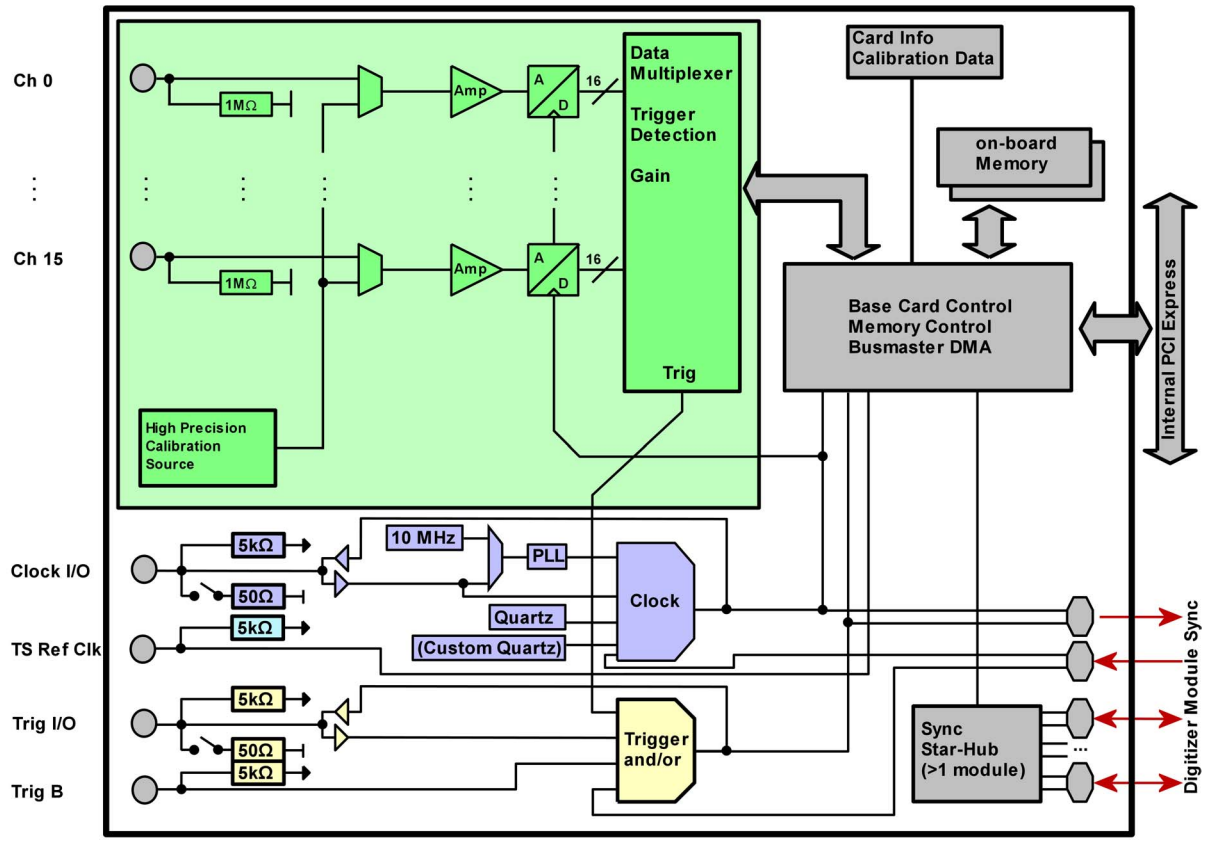
Dynamic parameters are measured at ±5 V input range (if no other range is stated) and 1 MOhm termination with the sampling rate specified in the table. Measured parameters are averaged 20 times to get typical values. Test signal is a pure sine wave of the specified frequency with > 99% amplitude. SNR and RMS noise parameters may differ depending on the quality of the used PC. SNR = Signal to Noise Ratio, THD = Total Harmonic Distortion, SFDR = Spurious Free Dynamic Range, SINAD = Signal Noise and Distortion, ENOB = Effective Number of Bits. For a detailed description please see application note 002.

Block diagram of digitizerNETBOX DN2



- The number of maximum channels and internal digitizer modules and existance of a synchronization Star-Hub is model dependent.

Block diagram of digitizerNETBOX module DN2.47x



Order Information

The digitizerNETBOX is equipped with a large internal memory for data storage and supports standard acquisition (Scope), FIFO acquisition (streaming), Multiple Recording, Gated Sampling, ABA mode and Timestamps. Operating system drivers for Windows/Linux 32 bit and 64 bit, drivers and examples for C/C++, IVI (Scope and Digitizer class), LabVIEW (Windows), MATLAB (Windows and Linux), .NET, Delphi, Java, Python and a Professional license of the oscilloscope software SBench 6 are included.

The system is delivered with a connection cable meeting your countries power connection. Additional power connections with other standards are available as option.

digitizerNETBOX DN2 - Ethernet/LXI Interface

Order no.	A/D Resolution	Single-Ended Channels	Sampling Speed	Installed Memory	Available Memory Options
DN2.472-32	16 Bit	16 channels	250 kS/s	2 x 512MS	2 x 1GS
DN2.474-32	16 Bit	16 channels	1.33 MS/s	2 x 512MS	2 x 1GS

Options

Order no.	Option
DN2.xxx-Rack	19" rack mounting set for self mounting
DN2.xxx-Emb	Extension to Embedded Server: CPU, more memory, SSD. Access via remote Linux secure shell (ssh)
DN2.xxx-1x1GS	Memory extension to 1 x 1 GSample for 46x-04, 46x-08, 49x-04, 49x-08 versions
DN2.xxx-2x1GS	Memory extension to 2 x 1 GSample for 46x-16 and 49x-16 versions
DN2.xxx-DC12	12 VDC internal power supply. Replaces AC power supply. Accepts 9 V to 18 V DC input. Screw terminals.
DN2.xxx-DC24	24 VDC internal power supply. Replaces AC power supply. Accepts 18 V to 36 V DC input. Screw terminals
DN2.xxx-BTPWR	Boot on Power On: the digitizerNETBOX/generatorNETBOX automatically boots if power is switched on.

Calibration

Order no.	Option
DN2.xxx-Recal	Recalibration of complete digitizerNETBOX/generatorNETBOX DN2 including calibration protocol

BNC Cables

The standard adapter cables are based on RG174 cables and have a nominal attenuation of 0.3 dB/m at 100 MHz.

for Connections	Connection	Length	to SMA male	to SMA female	to BNC male	to SMB female
All	BNC male	80 cm	Cab-9m-3mA-80	Cab-9m-3fA-80	Cab-9m-9m-80	Cab-9m-3f-80
All	BNC male	200 cm	Cab-9m-3mA-200	Cab-9m-3fA-200	Cab-9m-9m-200	Cab-9m-3f-200

Additional AC Power Cables

Order no.	IEC Plug	Option
Cab-Pwr-001	Type E & F	AC power cable for Continental Europe, Korea and others with Schuko (CEE 7/VII) connector, 180 cm long
Cab-Pwr-002	Type V	AC power cable for US, Canada, Japan, Taiwan and others with NEMA5-15P connector, 180 cm long
Cab-Pwr-003	Type G	AC power cable for United Kingdom, Ireland, Hong Kong and others with BS 1363A connector, 180 cm long
Cab-Pwr-004	Type J	AC power cable for Switzerland and others with SEV type 12 connector, 180 cm long
Cab-Pwr-005	Type I	AC power cable for Mainland China, Australia, New Zealand and others with AS 3112 connector, 180 cm long
Cab-Pwr-006	Type M	AC power cable for India, Singapore, South Africa and others with 83-B1 connector, 180 cm long
Cab-Pwr-007	Type K	AC power cable for Denmark and others with SR 107-2-D connector, 180 cm long
Cab-Pwr-008	Type H	AC power cable for Israel with SI 32 connector, 180 cm long
Cab-Pwr-010	Type L	AC power cable for Italy, Chile and others with CEI 23-16 connector, 180 cm long

Technical changes and printing errors possible