

Rate Contract
Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed By:
KAVINDRA SINGH BRIJWAL
Email id:
KSBRIJWAL-DGSND@NIC.IN

Rate Contract no. Oscope/IT-3/RC-D2040000/0317/83/OC017/2212
Dated 20-SEP-16

To,

ROHDE & SCHWARZ INDIA PVT LTD
A- 7, FIRST FLOOR MOHAN CO-OPERATIVE INDUSTRIAL
ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI

Sub: Rate Contract for supply of Oscilloscopes
Validity: From 20-SEP-16 To 22-JAN-17 .

Ref:(1) This Office Tender Enquiry No. Oscope/IT-3/RC-D2040000/0317/83
Opened on 17-MAR-16.
(2) Your Quotation No. 9339 And Dated
17-MAR-16.

Dear Sir,

You are hereby informed that your above refered tender read with subsequent letters mentioned above for the Stores specified in the Schedules annexed has been accepted. This rate contract will be governed by the terms and conditions brought in the Form no. DGS&D 1001 including DGS&D Arbitration Clause available from DGS&D sales counter on payment of Rs. 50/- The dispute cannot be referred by the contractor or entertained by facilitation Council or any other adjudicating forum. The Rate Contract and the schedules annexed here to shall be the sole repository of this Rate Contract/Transaction.

SCHEDULES ANNEXED

1. Schedule "A" Description of stores, prices, duties/taxes.
2. Schedule "B" special conditions of contract / Other information.
3. Schedule "C" Information to DDOs about parallel rate contracts.
4. Annexure - Technical Specification

Yours Faithfully,

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Assistant Director(S)/Section Officer/Dy. Director/Director/DDG(S)
For and on behalf of the purchaser named in the Form DGS&D 1001.

COPY TO:

- 1.The Chief Controller of Accounts,Department of commerce,New Delhi/
COA Mumbai/COA Kolkata,COA Chennai.
(Through authentication cell) This issues with the approval of competent authority.
- 2.Deputy Director General of Supplies & Disposals,Chennai -10 copies each
- 3.Deputy Director General of Supplies & Disposals,Kolkata -10 copies each
- 4.Deputy Director General of Supplies & Disposals,Mumbai -10 copies each
- 5.Deputy Director General (QA),Kolkata -10 copies each
- 6.Deputy Director General (QA),Chennai -10 copies each
- 7.Deputy Director General (QA),Mumbai -10 copies each
- 8.Deputy Director General (QA),DGS&D -10 copies each
- 9.Inspection Authority ADG(QA) DGS&D New Delhi - 110001.
- 10.Quality assurance Officer Director (QA) Delhi Directorate/ Mumbai,Chennai/Kolkata.
- 11.Concurrent Audit
- 12.MIS Cell
- 13.Ledger clerk
- 14.O.L.Section
- 15.All Direct Demanding Officers as per mailing list maintained by DGS&D.
- 16.Concerned CQA(for defence item only)-As per Clause 19 of RC
- 17.Concerned SQAQO(for defence item only)-As per Clause 20 of RC

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Assistant Director (S) / Section Officer / Deputy Director/Director/DDG(S)
FOR DIRECTOR GENERAL OF SUPPLIES & DISPOSALS

SCHEDULE - A

1. Rate Contract No.: - Oscope/IT-3/RC-D2040000/0317/83/OC017/2212
Dated 20-SEP-16 For the Supply of Oscilloscopes

2. Advance Rate Contract No.: - Nil
Dated

3.(a) Name and Full Address of the Firm :-

ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE
INDUSTRIAL ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI
DELHI - 110044
Tel. No. - 011-42535400
Fax -
Email - suvrat.verma@rohde-schwarz.com

(b) Name and Full Address of Manufacturer :-
Rohde and Schwarz GmbH and Co KG
Muehldorfstrasse 15 81671 Munchen
Germany

(c) Brand: R&S

4. Validity of Rate Contract: 20-SEP-16 To 22-JAN-17

5. Description of Item, Specification, Unit, Rate

Item Model No. No.	Store Description				Unit	Rate (in Rs)
	ED	ED%	CST/VAT	CST/VAT%		
105	R&S/RTM205 Mixed Signal 4 - 500 MHz, 4 Oscilloscopes. Ch Scope With RTM- B1-16 Ch MSO & Front Cover.			Bandwidth: 500 MHz, No. of Channels: 4 Analog and 16 Digital, Memory: 8 M, Sample Rate: 2 GS/s, Display: Colour	NOS.	768341 Rs. SEVEN LAKHS SIXTY- EIGHT THOUSAN D THREE HUNDRED FORTY- ONE ONLY
		N.A		Excl.	5	
	Min. Order Qty (in unit):- 1		Lead Time (in days):- 30		Rate of Supply (monthly):- 40	

6-Terms of Delivery:

Free delivery at site (i.e. consignee place) including installation /

7-Excise Duty: commissioning.
ED NA at present and will not be charged even if it is applicable later on.

8-Sales Tax: CST / VAT Extra @ 5%.

9-Delivery Period: Delivery Period for first 40 nos. 60 days and thereafter 30 nos. per month basis.

10(a)-Annual Turnover: - 0 -

(b)-Monetary Limit(In Rs.):

Without Any Limit

11-Payment Terms:

90% against provisional receipt of stores by consignee, after delivery of stores by Green Channel firms on self certification with OEM warranty/Guarantee certificate and balance 10% on acceptance of stores by consignee within 60 days of receipt of stores.

Note: Provisional Receipt of stores by consignee are to be given on copy no. 1 of the I-Note for initial payment of 90% or 80% as the case may be, followed by acceptance of stores certificate to be given by consignees on copy no. 2 & 5 of I-Notes for balance 10% or 20% payments as the case may be.

12-Slab Discount Clause:
([Click here to see the details](#))

Applicable

Value From	To	% Discount
1000000	2000000	.1
2000001	3000000	.2
3000001	4000000	.3
4000001	5000000	.4

13-Prices:

FIXED

14-Quantity Offered:

As mentioned under item above.

15-Minimum Quantity in Single Supply Order:

16-Minimum order Value in Single Supply Order:

0

17-Status of the RC Holding Firm:

LSI

18-Paying Authority:

PAO,User Deptt

(a)The payment to the suppliers in all the adhoc Contract (A/Ts) and / or Supply Order placed against DGS&D Rate Contracts shall be made directly by indentors i.e. order placing authority through their concerned Pay & Accounts Offices only, instead of CCA(Supply) or its Regional Pay & Accounts Offices of Department of Commerce.

(b)The payment to the supplier shall be paid by the indentors as per prescribed forms of payments including timelines for payments within 60 days of due date which must be ensured by the indentors.Delays,if any, in this regard would render the indentors responsible and not the DGS&D in any manner whatsoever.

(c)Consequently,the requisite Departmental charges + prevailing Service Tax thereon shall be deposited by the

respective Pay & Account offices (PAO) of the indentors directly to the Receipt Head Account of DGS&D as prescribed by CGA.

(d) Indentors shall be directly responsible for any non-compliance/default for the afore-said provisions.

19-Inspection Authority:

Not applicable since the firm is holding Green channel status for subject stores

20-Quality Assurance Officer/Inspecting officer:

-do-

For stores procured against DGS&D Rate Contract the Inspection Officer would be:

(i) User Departments/DDO/Consignee itself or any authority/agency appointed by them or

(ii) Additional Director General (QA) in DGS&D (if desired by user Departments/DDO/Consignee).

21-Place where the Stores are to be Tendered for Inspection:

Not Applicable being Green Channel Firm

Yes

22-R/C is DDOs Operated:

With effect from First October two thousand eight (01-10-2008), all supply order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S&D web site (www.dgsnd.gov.in) (indentor's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the supply order and send an ink signed copy to the concerned paying authority specified in the rate contract through Registered / speed post immediately after on-line placement of Supply Order(s).

23-Packing & Specification :

see annexure

24. Operation of Rate Contract and Fee.

a) All the Government Indentors/ users including Central Government, Union Territories, State Governments, Autonomous Organisations, PSUs, Municipalities and Corporations are authorized to operate Rate Contract of DGS&D as Direct Demanding Officers (DDOs).

b) They will place online supply orders of DGS&D e-portal against DGS&D R/Cs for which user Login ID and Password shall be given to them. All supply orders against DGS&D Rate Contract shall be placed on-line only to treat such transactions under the preview of DGS&D Rate Contract. Consequently, provision of placement of Direct / Referral orders is deleted.

c) Furthermore, the payment has been decentralized and is to be made by User Department. The inspection of Stores by DGS&D has already been made optional and left to the Indentor to get the stores inspected by any competent agency, if it desires so.

d) Fee for Purchase Service:

The departmental charges for Purchase Service of DGS&D shall be Nil for online supply orders through DGS&D portal for all category of user departments i.e. Central or State Government Ministries/ Departments, PSUs, Autonomous Bodies, Corporations or Municipalities etc.

e) Fee for Inspection:

(i) Online supply orders through DGS&D portal by Central Government Ministries/ Departments:

Inspection activities have been decentralised. Indentors can select Inspection Agency of their choice, including third party or Quality Assurance Office of DGS&D, while placing the supply order against rate contracts. Inspection fee for Inspection service through DGS&D, if opted by user department, shall be levied @ 1% of the value of the supply order in case of stores procured under DGS&D Rate Contract by Central Govt. Ministries/Departments.

(ii) Online supply orders through DGS&D portal by State Government Departments/Organizations, PSUs, Autonomous Bodies or Corporations: Inspection fee for Inspection service through DGS&D, if opted by user department, shall be levied @ 2% of the value of the supply order procured under DGS&D Rate Contract by State Govt. Departments/Organizations, PSUs, Autonomous Bodies or Corporations or Municipalities etc.

(iii) The expenses on TA/DA of the DGS&D officers and test charges for confirmatory tests shall be borne by DGS&D for (i) and (ii) above.

(iv) The requisite fee for inspection + prevailing Service Tax thereon shall be deposited by the respective Pay & Accounts Office (PAO) of the indentor directly to the Receipt Head Account of DGS&D as prescribed by CGA.

25.DGS&D reserves the right for pre-dispatch inspection at manufacturer"s premises or consignee end inspection after receipt of stores or at both places,at the option of indentors.

26.Jurisdiction/Arbitration Clause

a)Jurisdiction will be the place of issue of the rate contract.Sole Arbitrator will be appointed by DG(S&D).For details refer Clause-23 of DGS&D-1001.Further,where the Contract/Rate Contract is governed by DGS&D arbitration clause,the dispute cannot be referred by the supplier or entertained by Facilitation Council or any other Adjudicating Forum.

b)The arbitrary as appointed under provisions of para 18.1.1 of DGS&D Manual shall adjudicate only on the disputes arising out of interpretation of terms & conditions stipulated in Rate Contracts.For settlement of disputes relating to execution of supply orders placed by various Direct Demanding officers (DD0s)/Indentors against DGS&D Rate Contracts, each DDO/INDENTOR shall himself nominate an arbitrator at the time of placement of supply orders,as per guidelines/instructions for appointment of arbitrator in indenting organisation.

c)DGS&D or its regional offices shall not be made a party in any dispute relating to execution of Supply Order placed by DDO/Indentor against DGS&D Rate Contracts including the case filed in MSME Facilitation Councils.

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Asstt. Director (S) / Section Officer / Dy. Director
For and behalf of the purchaser named in the Form DGS&D 1001.

All the R/C particulars including prices in respect of individual R/Cs are available on DGS&D website which can be accessed by all.The DGS&D website is <http://dgsnd.gov.in>

SCHEDULE - B

Guaranty/Warranty Certificate : It is certified that the stores supplied are brand new, unused, non-refurbished and original and they full confirm to the technical specifications and description given in the subject Rate contract. It is further certified that the supplied stores are covered by the OEM Guaranty/Warranty as per the Subject Rate Contract.
TEST REPORTS FOR REGISTRATION AND ACCEPTANCE OF GOODS:

In case of products having satisfactory test reports from International Laboratory Accreditation Cooperation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs, it would be sufficient to consider the products of requisite quality for acceptance without insistence for any further testing pursuant to DGS&D Manual Correction Slip No. 38 dated 18-12-2012.

RC Specification:

1. Name and Address of Foreign Manufacturer:

M/s Rohde and Schwarz GmbH and Co KG
Muehldorfstrasse 15 81671 Munchen
Germany

2. Country of Origin: Germany

3. Inspection Address details:

Rohde and Schwarz India Pvt. Ltd.,
Tower D, 1st Floor, RMZ Infinity 3 Old Madras Road,
Bangalore- 560016
Tel: 41780400
Fax: 41780444

4. Insurance: As per DGS&D standard transit insurance clause, it will be responsibility of supplier for safe arrival of stores in full and good conditions at user's point and purchaser will not pay separately for transit insurance clause.

5. GUARANTEE/WARRANTY CLAUSE : The period of Guarantee / Warranty shall be 36 months from the date of receipts of stores by consignee and same shall be governed by the condition as contained in para 18 of Form DGS&D- 1001. Once the user Department/Consignee states/writes that the goods supplied are defective/not functioning properly, it must be obligatory on the part of the supplier to immediately, not later than 7 days, attend to it by way of rectification/repair or replacement of the goods, without any questioning or pretexts on any ground. There shall be no scope of questioning the user department/consignee or resorting to any kind of verification or joint inspection in this regards, pursuant to DGS&D Manual Correction Slip No.37 dated 18.12.2012.

6. Demonstration will be carried out free of cost.

7. No assistance for import of finished product or raw material will be provided.

TEST REPORTS FOR REGISTRATION AND ACCEPTANCE OF GOODS:

In case of products having satisfactory test reports from International Laboratory Accreditation Cooperation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs, it would be sufficient to consider the products of requisite quality for acceptance without insistence for any further testing pursuant to DGS&D Manual Correction Slip No. 38 dated 18-12-2012.

8. Octroi Duty and Local Taxes:-

Normally materials to be supplied to Govt. Department against Govt. contracts are exempted from levy of town duty, Octroi duty, terminal tax and other levies of local bodies. The local Town/Municipal Body regulations at times, however, provide for such exemption only on production of such exemption certificate from any authorized officer. Contractors should ensure that stores ordered against contracts placed by this office are exempted from levy of town duty/Octroi duty, Terminal tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the purchase officer or indenter concerned, to avoid payment of such local taxes or duties. Octroi, entry tax etc. on buyers account in absence of relevant exemption certificate.

9. Supply of Road Permits/ Way bill by the indentor/consignees:-

In all such cases where the requirement of Road Permit/Way Bills for entry of goods into a particular State is mandatory, the following provisions shall be strictly followed: -

- (a) The supplier shall request the indentor/consignee for providing Road permit/ Way bill within 10 days of the receipt of the Supply order. The supplier shall furnish all the necessary information and documents in this regard to Indentor/consignee.
- (b) On receipt of the above request from the supplier, the indentor/consignee concerned shall arrange to provide the Road permit/Way Bill in the prescribed form to the supplier within a maximum period of two weeks so that the same reaches the supplier before the dispatch of the stores. However, in cases where the Road permit/Way Bill is issued on proof of actual invoice of the material, the consignee shall arrange to provide the Road permit/Way Bill from appropriate authorities within a maximum period of 5 days from the receipt of invoice.
- (c) The supplier shall not be held responsible for any delay in supply due to non- supply/delayed supply of Road permit/Way bill by the indentor/consignee.
- (d) All cases of abnormal delay in providing requisite details/ documents by the supplier or issue of Road permit/Way bill by indentor/consignee, the same shall be reported to DGS&D.

10. Signing of Inspection Notes issued by QA Wing of DGS&D : Instructions to Indentors/Consignees. Advance Payment Copy of Inspection Note for claiming 90% / 80% payment (copy No.1): This is a provisional receipt. It only be tokens the receipt of stores by the consignee and is without prejudice to his rights of inspection and rejection under the general condition to contact. It is issued on said to contain basis the Contractor remaining responsible for proving the total quantities actually delivered.

Consignee mentioned in the Inspection Notes should sign (in INK) & put his official rubber stamp on the Advance Payment Copy of Inspection Notes IMMEDIATELY on the receipt of the material and handover the same to the company's authorized representative. Where this is not possible or inconvenient, it should be signed (in INK) by an official authorized by the consignee in that behalf. In such cases, the official signing the receipt certificate should indicate his designation and the official on whose behalf he is signing; and put his official rubber stamp. Balance payment & Accounts Copy of Inspection Note (Copy no 2& 5) for claiming 10% / 20% balance payment. Within 60 days from the date of material received, Consignee mentioned in the Inspection Notes should sign (in INK)& put his official rubber stamp on the Balance & Accounts office copy of Inspection Notes and should fill up the columns of Receipt Voucher No. In cases where the supply is incomplete or defective or the supplier do not carry out commissioning/demonstration of the stores within the period as per (i) above, the consignee shall report such cases immediately to the supplier and DGS&D. In cases where the consignees do not release copy 2 and 5 of I/Notes within the period as (i) above for the reasons which are considered not valid by the supplier, they may approach DGS&D with complete details for authorization of balance payment without copy 2 and 5 of I/Notes and the same shall be considered by DGS&D on merits of each case.

11. End User Certificate: Please note that End User Certificate is required for all products. Delivery shall be subject to approval of end user certificate by M/s. Rohde and Schwarz..

12. The rate contract holders should assist the consignee(s) in the installation and operation of the machine, including recommendations for accessories and voltage stabilizer.

All other terms and conditions shall be as per standard conditions contained in Form DGS&D-1001.

ANNEXURE

1. TYPE TESTS :

Type Test Reports shall consist of functional tests for the claimed parameters

and environmental tests for EACH Model and shall be from central Govt lab or International Laboratory Accreditation Corporation (ILAC) or their worldwide affiliated/recognized labs or NABL approved labs as per the DoC Correction

Slip No. 38 dated 18.12.2012 of DGS&D Manual. Type test reports shall be furnished

by all the bidders as and when requested to do so by Purchaser, Indentor, Consignee etc.

Type Test Report shall be required at the time of registration and inspection.

Environmental tests:

1. Dry Heat Test : 45 deg C for 16 hours as per IS:9000/Pt.3/sec.5/1977 (reaffirmed in 2007)
2. Cold test : 0 deg C for 4 hours as per IS:9000/Pt.2/sec.4/1977 (reaffirmed in 2007)
3. Damp Heat Test: 95% RH at 40 deg C, two cycles of 24 hours each separated by a gap of 4 hours as per IS:9000/Pt.5/sec.1/1991 (reaffirmed in 2007)

The oscilloscopes shall be checked functionally before and after recovery period of 1-2 hours of the the environmental test sequence as above. Functional tests shall include switching ON and calibration. Calibration shall also be checked at supplier's premises in presence of DGS&D QA officer to verify compliance of stores offered for inspection.

2. Acceptance tests :

Acceptance tests shall consist of verification calibration on 10 % samples and

verification of availability of features as per contract specification on one sample. Supplier shall have acceptance test facilities at the place of inspection.

For operating condition OEM certification shall be acceptable.

Digital Storage Oscilloscopes

(I) Digital Storage Oscilloscope 60 MHz Four Channel Colour Display

1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, FFT, on line help feature and Waveform and set up memories
2. Real Time Bandwidth : DC- 60 MHz simultaneously on all channels
3. No. of Channels : Four with external channel
4. Sample Rate (Max.) : 250 MS/s on all channels simultaneously
5. Record Length : 1 M on all channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 5 mv to 5 Volts per division
8. Time Base Range : 5 ns to 50 sec per division
9. Time Base Accuracy : 100 ppm
10. Trigger Mode : Auto, Normal and Single Sequence
11. Max. Input Voltage : 150 VRMS CAT I

- 12. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 13. Triggering : Edge, Video, Pulse width, Glitch, External
- 14. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
- 15. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract), FFT
- 16. Display : LCD(Colour) 6.5 inches or higher
- 17. Interpolation : Sin x/x
- 18. Format : Y-T and X-Y
- 19. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 20. I/O Interface : 2 USB and Software for waveform Analysis
- 21. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
- 22. Standard Accessories to be supplied : Four 10X probes, Power Cord, Manual, Calibration Certificates
- 23. Applications : Digital Design and Debug Manufacturing testing and quality control Education and training Service and repair

(II) Digital Storage Oscilloscope 100 MHz Two Channel Colour Display

- 1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, FFT, on line help feature and Waveform and set up memories
- 2. Real Time Bandwidth : DC- 100 MHz simultaneously on all channels
- 3. No. of Channels : Two with external channel
- 4. Sample Rate (Max.) : 500 MS/s on all channels simultaneously
- 5. Record Length : 1 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 5 mv to 5 Volts per division
- 8. Time Base Range : 5 ns to 50 sec per division
- 9. Time Base Accuracy : 100 ppm
- 10. Trigger Mode : Auto, Normal and Single Sequence
- 11. Max .Input Voltage : 150 VRMS CAT I
- 12. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 13. Triggering : Edge, Video, Pulse width, External
- 14. Analysis Modes : Peak Detect, Average, Normal
- 15. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract), FFT
- 16. Display : LCD(Colour) 6.5 inches or higher.
- 17. Interpolation : Sin x/x
- 18. Format : Y-T and X-Y
- 19. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 20. I/O Interface : 2 USB and Software for waveform Analysis
- 21. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
- 22. Standard Accessories to be supplied : Two 10X probes, Power Cord, Manual, Calibration Certificates
- 23. Applications : Digital Design and Debug Manufacturing testing and quality control Education and training Service and repair

(III) Digital Storage Oscilloscope 100 MHz Four Channel Colour Display

- 1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, FFT, on line help feature and Waveform and set up memories
- 2. Real Time Bandwidth : DC- 100 MHz simultaneously on all channels
- 3. No. of Channels : Four with external channel
- 4. Sample Rate (Max.) : 1 GS/s on all channels simultaneously
- 5. Record Length : 1 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 5 mv to 5 Volts per division
- 8. Time Base Range : 5 ns to 50 sec per division

- 9. Time Base Accuracy : 100 ppm
- 10. Trigger Mode : Auto, Normal and Single Sequence
- 11. Max. Input Voltage : 150 VRMS CAT I
- 12. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 13. Triggering : Edge, Video, Pulse width, Glitch, External
- 14. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
- 15. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract), FFT
- 16. Display : LCD(Colour) 6.5 inches or higher
- 17. Interpolation : Sin x/x
- 18. Format : Y-T and X-Y
- 19. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 20. I/O Interface : 2 USB and Software for waveform Analysis
- 21. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
- 22. Standard Accessories : Four 10X probes, Power Cord, Manual, Calibration Certificates to be supplied
- 23. Applications : Digital Design and Debug Manufacturing testing and quality control Education and training Service and repair

(1V) Digital Storage Oscilloscope 200 MHz Two Channel Colour Display

- 1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, FFT, on line help and Waveform and set up memories
- 2. Real Time Bandwidth : DC- 200 MHz simultaneously on all channels
- 3. No. of Channels : Two with external channel
- 4. Sample Rate (Max.) : 1 GS/s on all channels simultaneously
- 5. Record Length : 1 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 5 mv to 5 Volts per division
- 8. Time Base Range : 2.5 ns to 50 sec per division
- 9. Time Base Accuracy : 50 ppm
- 10. Trigger Mode : Auto, Normal and Single Sequence
- 11. Max. Input Voltage : 150 VRMS CAT I
- 12. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 13. Triggering : Edge, Video, Pulse width, Glitch, External
- 14. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
- 15. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract), FFT
- 16. Display : LCD(Colour) 6.5 inches or higher
- 17. Interpolation : Sin x/x
- 18. Format : Y-T and X-Y
- 19. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 20. I/O Interface : 2 USB and Software for waveform Analysis
- 21. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
- 22. Standard Accessories : Two 10X probes, Power Cord, Manual, Calibration Certificates
- 23. Applications : Digital Design and Debug Manufacturing testing and quality control Education and training Service and repair

(V) Digital Storage Oscilloscope 200 MHz Four Channel Colour Display

- 1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, FFT, on line help feature and Waveform and set up memories
- 2. Real Time Bandwidth : DC- 200 MHz simultaneously on all channels
- 3. No. of Channels : Four with external channel
- 4. Sample Rate (Max.) : 1 GS/s on all channels simultaneously
- 5. Record Length : 1 M on all channels simultaneously

- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 5 mv to 5 Volts per division
- 8. Time Base Range : 2.5 ns to 50 sec per division
- 9. Time Base Accuracy : 50 ppm
- 10. Trigger Mode : Auto, Normal and Single Sequence
- 11. Max. Input Voltage : 150 VRMS CAT I
- 12. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 13. Triggering : Edge, Video, Pulse width, Glitch, External
- 14. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
- 15. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract), FFT
- 16. Display : LCD(Colour) 6.5 inches or higher
- 17. Interpolation : Sin x/x
- 18. Format : Y-T and X-Y
- 19. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 20. I/O Interface : 2 USB and Software for waveform Analysis
- 21. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
- 22. Standard Accessories to be supplied : Four 10X probes, Power Cord, Manual, Calibration Certificates
- 23. Applications : Digital Design and Debug Manufacturing testing and quality control Education and training Service and repair

Digital Storage Oscilloscopes, High Performance

(I) Digital Storage Oscilloscope 300 MHz Two Channel Colour Display

- 1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, FFT, on line help and Waveform and set up memories
- 2. Real Time Bandwidth : DC- 300 MHz simultaneously on all channels
- 3. No. Of Channels : Two Channel with External channel
- 4. Sample Rate (Max.) : 1 GS/s on all channels simultaneously
- 5. Record Length : 2 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 2 mv to 5 Volts per division
- 8. Time Base Range : 2 ns to 10 sec per division
- 9. Time Base Accuracy : 25 ppm
- 10. Waveform Capture Rate : 3500 waveforms/sec Real Time
- 11. Trigger Mode : Auto, Normal and Single Sequence
- 12. Max. Input Voltage : 150 VRMS CAT I
- 13. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 14. Triggering : Edge, Video, Pulse width, Glitch, External
- 15. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
- 16. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), FFT
- 17. Display : Colour LCD 6.5 inches or higher
- 18. Interpolation : Sin x/x
- 19. Format : Y-T and X-Y
- 20. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 21. I/O Interface : USB, LAN port
- 22. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
- 23. Standard Accessories to be supplied : Two 10X Passive probes, Power Cord, Manual, Calibration Certificates
- 24. Applications : Digital Design and Debug Telecommunication testing Video design, installation and service Education and training Service and repair

(II) Digital Storage Oscilloscope 300 MHz Four Channel Colour Display

- 1. General : Portable, rugged for automatic measurements, auto

set features, cursor measurements, FFT, on line help and Waveform and set up memories

2. Real Time Bandwidth : DC- 300 MHz simultaneously on all channels
3. No. Of Channels : Four Channel
4. Sample Rate (Max.) : 2 GS/s on all channels simultaneously
5. Record Length : 2 M on all channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 2 mv to 5 Volts per division
8. Time Base Range : 2 ns to 10 sec per division
9. Time Base Accuracy : 25 ppm
10. Waveform Capture Rate : 3500 waveforms/sec Real time
11. Trigger Mode : Auto, Normal and Single Sequence
12. Max. Input Voltage : 150 VRMS CAT I
13. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
14. Triggering : Edge, Video, Pulse width, Glitch, External
15. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
16. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), FFT
17. Display : Colour LCD 6.5 inches or higher
18. Interpolation : Sin x/x
19. Format : Y-T, X-Y
20. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
21. I/O Interface : USB, LAN Port
22. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
23. Standard Accessories to be supplied : Four 10X Passive probes, Power Cord, Manual, Calibration Certificates
24. Applications : Digital Design and Debug Telecommunication testing
Video design, installation and service Education
and training Service and repair

(III) Digital Storage Oscilloscope 500 MHz Two Channel Colour Display

1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, Automatic anomaly detection.
2. Real Time Bandwidth : DC- 500 MHz simultaneously on all channels
3. No. Of Channels : Four Channel
4. Sample Rate (Max.) : 2 GS/s on all channels simultaneously
5. Record Length : 2 M on all channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 2 mv to 5 Volts per division
8. Time Base Range : 1 ns to 10 sec per division
9. Time Base Accuracy : 25 ppm
10. Waveform Capture Rate : 3500 waveforms/sec.
11. Trigger Mode : Auto, Normal and Single Sequence
12. Max. Input Voltage : 150 VRMS CAT I
13. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
14. Triggering : Edge, Video, Pulse width, Glitch, External
15. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
16. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), FFT
17. Display : Colour LCD 6.5 inches or higher
18. Interpolation : Sin x/x
19. Format : Y-T, X-Y
20. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply and Battery operation for 2 hour (Optional)
21. I/O Interface : USB, LAN Port
22. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
23. Standard Accessories : Four 10X Passive probes, Power Cord, Manual,

to be supplied Calibration Certificates
24. Applications : Digital Design and Debug Telecommunication testing
Video design, installation and service Education
and training Service and repair

(IV) Digital Storage Oscilloscope 500 MHz Four Channel Colour Display

1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, Automatic anomaly detection.
2. Real Time Bandwidth : DC- 500 MHz simultaneously on all channels
3. No. Of Channels : Four Channel
4. Sample Rate (Max.) : 2 GS/s on all channels simultaneously
5. Record Length : 2 M on all channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 2 mv to 5 Volts per division
8. Time Base Range : 1 ns to 10 sec per division
9. Time Base Accuracy : 25 ppm
10. Waveform Capture Rate : 3500 waveforms/sec.
11. Trigger Mode : Auto, Normal and Single Sequence
12. Max. Input Voltage : 150 VRMS CAT I
13. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
14. Triggering : Edge, Video, Pulse width, Glitch, External
15. Analysis Modes : Peak Detect, Average, Normal, Roll Mode
16. Measurements : Automatic Measurements, Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), FFT
17. Display : Colour LCD 6.5 inches or higher
18. Interpolation : Sin x/x
19. Format : Y-T, X-Y
20. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply and Battery operation for 2 hour (Optional)
21. I/O Interface : USB, LAN Port
22. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
23. Standard Accessories : Four 10X Passive probes, Power Cord, Manual, Calibration Certificates
24. Applications : Digital Design and Debug Telecommunication testing
Video design, installation and service Education
and training Service and repair

(V) Digital Storage Oscilloscopes 500 MHz Four Channel Colour Display

1. General : The Digital Oscilloscopes shall be rugged and portable with user-friendly front Panels for various Types of measurements quickly and precisely. It shall provide Facilities for commonly used automatic Measurements, auto set features, Cursor Measurements IVI Drive.
2. Real Time Bandwidth : DC-500MHz simultaneously on all channels
3. No. Of Channels : Four Channels
4. Sample Rate : 2 GS/s on all Channels simultaneously
5. Record Length : 10 M on all channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 2 mV/div to 5 V/div.
1 Mohm
8. Time Base Range : 1ns to 50 sec. Per division
9. Time Base Accuracy : +/- 15ppm
10. Waveform Capture Rate : 100000 waveform/sec.
11. Sweep Mode : Auto, Normal and Single Sequence
12. Max. Input Voltage 1Mohm: 150 Vrms
13. Input Coupling : AC, DC, GND

- 14. Triggering : Edge, Pulse Width, Logic, Rise/Fall Time, Video, 12C, SPI, Auto, Normal and Single, Trigger markers
- 15. Acquisition Modes : Sample, Peak Detect, Averaging, Hi-Resolution, Roll
- 16. Measurements : 25 Automatic Measurement, (4 can be displayed on screen at any one time), Measurement Statics, Reference Levels, Gating, Math (Add, Subtract, Multiply and Divide Waveforms), FFT, Math Functions Integrate, Differentiate, Advanced Math- Define extensive algebraic expressions including waveforms, math functions, scalars, up to two user adjustable variables and results of parametric measurements.
- 17. Display : Colour Display, 8.0 inches LCD TFT,
- 18. Interpolation : Sin x/x
- 19. Format : YT, XY
- 20. Power Supply : 230 +/- 10% Volts, 50 Hz. AC Supply
- 21. I/O Interface : USB, LAN Port
- 22. Operating Conditions : 10 to 40 degree C and humidity of 80% at 30 degree C
- 23. Standard Accessories : 500M Hz Probe one per channel, Front Cover, User to be supplied Manual, Calibration Certificate, Power Cord & Accessories Bag etc.

(VI) Digital Storage Oscilloscope 1 GHz Four Channel Colour Display with Windows Interface

- 1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, Should be capable to detect the anomaly in the waveform automatically, Windows User Interface.
- 2. Real Time Bandwidth : DC- 1GHz simultaneously on all channels
- 3. No. Of Channels : Four Channels with external channel
- 4. Sample Rate : 5 GS/s on all channels simultaneously
- 5. Record Length : 10 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 2 mv per division to 5 Volts per division
- 8. Time Base Range : 500 ps to 20 sec per division
- 9. Time Base Accuracy : 15 ppm
- 10. Waveform Capture Rate : 1,00,000 waveforms/sec.
- 11. Sweep Mode : Auto, Normal and Single Sequence
- 12. Max. Input Voltage : 150 Vrms CAT I
- 13. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
- 14. Triggering : Edge, Video, Width, Glitch, Window, Timeout, Transition, Setup/Hold, Pattern, State
- 15. Analysis Modes : Sample, Peak Detect, Average, Hi resolution, Waveform database.
- 16. Measurements : Automatic Measurements (Amplitude, Time, Combination, Histogram, Communication related), Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), Frequency Domain function, Mathematical including Algebraic Expressions, User Defined Maths/Functions, Custom Development Environment/Customizable GOI.
- 17. Display : Colour Display 8.0 inches (LCD/TFT)
- 18. Interpolation : Sin x/x
- 19. Format : Y-T, X-Y
- 20. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
- 21. Operating System : Windows
- 22. I/O Interface : USB, LAN Port
- 23. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C

- 24. Standard Accessories : Four 10X Passive probes, Power Cord, Manual, to be supplied Calibration Certificates
- 25. Applications : Digital Design and Debug Telecommunication testing Video design, installation and service Education and training

(VII) Digital Storage Oscilloscopes 1 GHz Four Channel Colour Display

- 1. General : The Digital Oscilloscopes shall be rugged and portable with user-friendly front panels for various Types of measurements quickly and precisely. It shall provide facilities for commonly user automatic Measurements, auto set features, Cursor Measurements.
- 2. Real Time Bandwidth : DC-1GHz simultaneously on all channels
- 3. No. Of Channels : Four Channels
- 4. Sample Rate : 4 GS/s on all Channels simultaneously
- 5. Record Length : 4 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 2 mV/div to 5 V/div.
1 Mohm
- 8. Time Base Range : 500 ps to 50 sec. Per division
- 9. Time Base Accuracy : +/- 15 ppm
- 10. Waveform Capture Rate : 50000 waveform/sec.
- 11. Sweep Mode : Auto, Normal and Single Sequence
- 12. Max.Input Voltage 1Mohm: 250 Vrms with peaks<+/-400V
- 13. Input Coupling : AC, DC, Ground
- 14. Triggering : Edge, Pulse Width, Logic, Rise/Fall Time, Video, I2C, SPI, CAN,Auto, Normal and Single, Trigger markers
- 15. Acquisition Modes : Sample, Peak Detect, Averaging, Hi- Resolution, Roll
- 16. Measurements : 25 Automatic Measurement, (4 can be displayed on screen at any one time), Measurement Statics, Reference Levels, Gating, Math (Add, Subtract, Multiply and Divide Waveforms), FFT, Math Functions Integrate, Differentiate, Advanced Math- Define extensive algebraic expressions including waveforms, math functions, scalars, up to two user adjustable variables and results of parametric measurements.
- 17. Display : Colour Display, 8.0 inches (LCD / TFT)
- 18. Interpolation : Sin x/x
- 19. Format : YT, XY
- 20. Power Supply : 230 +/- 10% Volts, 50 Hz. AC Supply
- 21. I/O Interface : USB, LAN Port
- 22. Operating Conditions : 10 to 40 degree C and humidity of 80% at 30 degree C
- 23. Standard Accessories : 500 MHz Probe one per channel, Front Cover, User to be supplied Manual, Calibration Certificate, Power Cord & Accessories Bag etc.

(VIII) Digital Storage Oscilloscopes 1 GHz Four Channel Colour Display

- 1. General : The Digital Oscilloscopes shall be rugged and portable with user-friendly front panels for various Types of measurements quickly and precisely. It shall provide facilities for commonly user automatic Measurements, auto set features, Cursor Measurements.
- 2. Real Time Bandwidth : DC-1GHz simultaneously on all channels
- 3. No. Of Channels : Four Channels
- 4. Sample Rate : 4 GS/s on all Channels simultaneously
- 5. Record Length : 8 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits

7. Vertical Sensitivity : 2 mV/div to 5 V/div.
1 Mohm
8. Time Base Range : 500 ps to 50 sec. Per division
9. Time Base Accuracy : +/- 15 ppm
10. Waveform Capture Rate : 50000 waveform/sec.
11. Sweep Mode : Auto, Normal and Single Sequence
12. Max.Input Voltage 1Mohm: 250 Vrms with peaks<+/-400V
13. Input Coupling : AC, DC, Ground
14. Triggering : Edge, Pulse Width, Logic, Rise/Fall
Time, Video, 12C, SPI, CAN,Auto, Normal and Single,
Trigger markers
15. Acquisition Modes : Sample, Peak Detect, Averaging, Hi- Resolution, Roll
16. Measurements : 25 Automatic Measurement, (4 can be displayed on
screen at any one time), Measurement Statics,
Reference Levels, Gating, Math (Add, Subtract,
Multiply and Divide Waveforms), FFT, Math Functions
Integrate, Differentiate, Advanced Math- Define
extensive algebraic expressions including
waveforms, math functions, scalars, up to two user
adjustable variables and results of parametric
measurements.
17. Display : Colour Display, 8.0 inches (LCD / TFT)
18. Interpolation : Sin x/x
19. Format : YT, XY
20. Power Supply : 230 +/- 10% Volts, 50 Hz. AC Supply
21. I/O Interface : USB, LAN Port
22. Operating Conditions : 10 to 40 degree C and humidity of 80% at 30 degree C
23. Standard Accessories : 500 MHz Probe one per channel, Front Cover, User
to be supplied Manual, Calibration Certificate, Power Cord &
Accessories Bag etc.

(IX) Digital Oscilloscopes 2.5 GHz, 4 channel Colour Display with Windows Interface

1. General : The Digital Oscilloscope shall be rugged and
Types portable with user-friendly front panels for various
provide of measurements quickly and precisely. It shall
auto facilities for commonly used automatic Measurements,
latest set features,Cursor measurements, Hard Disk
party OS Delivers Built-In Networking and Analysis (third
software like Math lab.
2. Real Time Bandwidth : DC- 2.5GHz simultaneously on all channels
3. No. Of Channels : Four Channels with external channel
4. Sample Rate : 10 GS/s on all channels simultaneously
5. Record Length : 10 M on All channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 2 mv to 1 Volts per division
8. Time Base Range : 25 ps to 20 sec per division
9. Time Base Accuracy : 2.5 ppm + Aging <1ppm
10. Waveform Capture Rate : 250000 waveforms/sec.
11. Sweep Mode : Auto, Normal and Single Sequence
12. Max. Input Voltage : 5 Vrms CAT I
13. Input Coupling : DC
14. Triggering : Edge, Glitch, Width, Glitch, Runt, Window, Timeout,
Transition, Setup/Hold, Pattern, State

- 15. Analysis Modes : Sample, Peak Detect, Average, Envelope, Hi resolution, Waveform database.
- 16. Measurements : 53 Automatic Measurements which 8 can be displayed at any one time (Amplitude, Time, Combination, Histogram, Communication related), Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), Frequency Domain functions, Mathematical including Algebraic Expressions User Defined Maths/Functions, Custom Development Environment/Customizable GOI.
- 17. Display : Colour LCD (8.4 inches)
- 18. Interpolation : Sin x/x, Linear
- 19. Format : Y-T, X-Y
- 20. Power Supply : 230 +/- 10% Volts, 50 Hz. AC Supply
- 22. I/O Interface : USB, LAN Port
- 23. Operating Conditions : 10 to 40degree C and humidity of 80% at 30 degree C
- 24. Standard Accessories : Power Cord, Manual, Calibration Certificates to be supplied

(X) Digital Oscilloscopes 4 GHz, 4 channel Colour Display with Windows Interface

- 1. General : The Digital Oscilloscope shall be rugged and portable with user-friendly front panels for various Types of measurements quickly and precisely. It shall provide facilities for commonly used automatic Measurements, auto set features, Cursor measurements, Hard Disk Drive, Open environment with Windows XP/WINDOWS7 OR Latest OS Delivers Built-In Networking and Analysis (third party software like Math lab).
- 2. Real Time Bandwidth : DC- 4GHz simultaneously on all channels
- 3. No. Of Channels : Four Channels with external channel
- 4. Sample Rate : 20 GS/s on all channels simultaneously
- 5. Record Length : 15 M on all channels simultaneously
- 6. Vertical Resolution : 8 Bits
- 7. Vertical Sensitivity : 10 mV to 500 mV per division
- 8. Time Base Range : 50 ps to 10 sec per division
- 9. Time Base Accuracy : 2.5 ppm
- 10. Waveform Capture Rate : 250000 waveforms/sec.
- 11. Sweep Mode : Auto, Normal and Single Sequence
- 12. Max. Input Voltage : 5 Vrms
- 13. Input Coupling : DC
- 14. Triggering : Edge, Glitch, Width, Glitch, Window, Timeout, Transition, Setup/Hold, Pattern, State
- 15. Analysis Modes : Sample, Peak Detect, Average, Hi resolution, Waveform database.
- 16. Measurements : 53 Automatic Measurements which 8 can be displayed at any one time (Amplitude, Time, Combination, Histogram, Communication related), Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), Frequency Domain functions, Mathematical including Algebraic

Expression,

User Defined Maths/Functions, Custom Development Environment/Customizable GOI.

- 17. Display : Colour LCD 8.4 inches.
- 18. Interpolation : Sin x/x.
- 19. Format : Y-T, X-Y .
- 20. Power Supply : 230 +/- 10% Volts, 50 Hz. AC Supply.
- 22. I/O Interface : USB, LAN Port

23. Operating Conditions : 10 to 40 degree C and humidity of 80% at 30 degree C
 24. Standard Accessories : Power Cord, Manual, Calibration Certificates to be supplied.

(XI) Digital Storage Oscilloscope 2 GHz Four Channel Colour Display with Windows Interface

1. General : Portable, rugged for automatic measurements, auto set features, cursor measurements, Should be capable to detect the anomaly in the waveform automatically, Windows User Interface.
2. Real Time Bandwidth : DC- 2GHz simultaneously on all channels
3. No. Of Channels : Four Channels with external channel
4. Sample Rate : 10 GS/s on all channels simultaneously
5. Record Length : 10 M on all channels simultaneously
6. Vertical Resolution : 8 Bits
7. Vertical Sensitivity : 2 mv per division to 5 Volts per division
8. Time Base Range : 500 ps to 20 sec per division
9. Time Base Accuracy : 15 ppm
10. Waveform Capture Rate : 1,00,000 waveforms/sec.
11. Sweep Mode : Auto, Normal and Single Sequence
12. Max. Input Voltage : 150 Vrms CAT I
13. Input Coupling : AC, DC, & Ground / Ground Traces on Screen
14. Triggering : Edge, Video, Width, Glitch, Window, Timeout, Transition, Setup/Hold, Pattern, State
15. Analysis Modes : Sample, Peak Detect, Average, Hi resolution, Waveform database.
16. Measurements : Automatic Measurements (Amplitude, Time, Combination, Histogram, Communication related), Time & Voltage Cursors, Math (Add, Subtract, Divide, Multiply, Integration, Differentiation), Frequency Domain function ,Mathematical including Algebraic Expressions, User Defined Maths/Functions, Custom Development Environment/Customizable GOI.
17. Display : Colour LCD
18. Interpolation : Sin x/x
19. Format : Y-T, X-Y
20. Power Supply : 230 V +/- 10%, 50 Hz. AC Supply
21. Operating System : Windows
22. I/O Interface : USB, LAN Port
23. Operating Conditions : 10 to 40 degree C and 80% RH at 30 degree C
24. Standard Accessories : Four 10X Passive probes, Power Cord, Manual, Calibration Certificates to be supplied
25. Applications : Digital Design and Debug Telecommunication testing Video design, installation and service Education and training

Mixed Signal Oscilloscopes.

(I) Mixed Signal Oscilloscope 100 MHz 2 Analog and 16 Digital Channels Colour Display (High End)

1. Input Channels : 2 Analog Channel + External Triggering + 16 (Logic Analyser)
2. Analog Channels
- (a) Bandwidth : 100 MHz on all channels
- (b) Number of Channels : 2
- (c) Record Length : 1 M points on all channels simultaneously
- (d) Sample Rate : 500 MS/s
- (e) Time base range : 5 nsec/div to 50 sec/div

- (f) Acquisition Mode : Normal, Peak Detect, Averaging
- (g) Resolution : 8 bits
- (h) Input sensitivity : 2 mV/div. to 5 div
- 3. Digital Channels
 - (a) Channels : 16 Channels
 - (b) Record Length : 1 M
 - (c) Sampling rate : 1 GS/s
- 4. Trigger
 - (a) Trigger types : Edge, Pulse, Slope, Video, Pattern and Duration.
 - (b) Auto Measure : Vpp, Vmax. Vmin, Vtop, Vbase, Vrms, Vavg, Vover, Vpre, Freq. Period, Rise, Fall, + Width, - Width, +Duty, -Duty, DelayA, DelayB.
 - (c) Math : Add, Subtract, Multiply
- 5. Display
 - (a) Display type : TFT Color Display 5.6 inches 320 x 23
- 6. General Specification
 - (a) Waveform Storage : Internal storage of setups, waveforms, USB, BMP, CSV, Waveforms, Setups.
 - (b) I/O : USB or RS232
 - (c) Probes for Analog Channels : Probe x 2 (10x)
 - (d) Probes for Digital Channels : Should provide 16 channels logic probes
- 7. Power Supply : 230 Volts +/-10%, 50 Hz AC Supply
- 8. Operating Condition : 10 to 40 deg. C and 80% RH at 30 degree C

(II) Mixed Signal Oscilloscope 500 MHz 4 Analog and 16 Digital Channels Colour Display

- 1. Input Channels : 4 Analog & 16 Digital Channels should be integrated into one instrument chassis without requiring any external module connection.
- 2. Analog Characteristics
 - (a) Bandwidth : 500 MHz on all channels
 - (b) Number of Channels : 4
 - (c) Record Length : 2 M points on all channels simultaneously
 - (d) Sample Rate : 2 GS per second
 - (e) Time base range : 1nsec/div to 50 sec/div
 - (f) Acquisition Mode : Sample rate, Peak Detect, Averaging, High resolution
 - (g) Resolution : 8 bits
 - (h) Input sensitivity : 2 mV/div. to 5 div
- 3. Digital Channels
 - (a) Channels : 16 Channels that can be easily accessed from the front panel
 - (b) Record Length : 2 M points
 - (c) Sampling rate : 500 MS/s
 - (d) Min. Detectable Pulse width : 5 ns.
- 4. Trigger
 - 4. Trigger
 - (a) Trigger types : Edge, Sequence, Pulse Width, should be available across all Analog and Digital Channel.
 - (b) Measurement & Maths: Built-in Measurement like time, period frequency, rise time, fall time etc. with Advance math like integrate, differntiate, FFT along with Add, substact, divide and multiply.
- 5. Display
 - (a) Display type : 7.0 inches XGA/WSVGA Colour Display

6. General Specification
 - (a) Waveform Storage : Internal storage of setups, waveforms, USB, Standard.
 - (b) PC Connectivity : Standard, LAN, USB Ports.
 - (c) Probes for Analog : Passive probes 500 MHz, 10 X, 1 per channel. Channels
 - (d) Probes for Digital : Should provide 16 channels logic probes. channels
7. Power Supply : 230 Volts +/-10%, 50 Hz AC Supply⁸.
8. Operating Condition : 10 to 40 deg. C and 80% RH at 30 degree C

(III) Mixed Signal Oscilloscope 500 MHz 4 Analog and 16 Digital Channels Colour Display

1. Input Channels : 4 Analog & 16 Digital Channels should be integrated into one instrument chassis without requiring any external module connection.
2. Analog Characteristics
 - (a) Bandwidth : 500 MHz on all channels
 - (b) Number of Channels : 4
 - (c) Record Length : 8 M points on all channels simultaneously
 - (d) Sample Rate : 2 GS per second
 - (e) Time base range : 1 nsec/div to 50 sec/div
 - (f) Acquisition Mode : Sample rate, Peak Detect, Averaging, High resolution
 - (g) Resolution : 8 bits
 - (h) Input sensitivity : 2 mV/div. to 5 div
3. Digital Channels
 - (a) Channels : 16 Channels that can be easily accessed from the front panel
 - (b) Record Length : 8 M points
 - (c) Sampling rate : 500 MS/s
 - (d) Min. Detectable : 5 ns. Pulse width
4. Trigger
 4. Trigger
 - (a) Trigger types : Edge, Sequence, Pulse Width should be available across all Analog and Digital Channel.
 - (b) Measurement & Maths: Built-in Measurement like time, period frequency, rise time, fall time etc. with Advance math like integrate, differentiate, FFT along with Add, subtract, divide and multiply.
5. Display
 - (a) Display type : 7.0 inches XGA/WSVGA Colour Display
6. General Specification
 - (a) Waveform Storage : Internal storage of setups, waveforms, USB, Standard.
 - (b) PC Connectivity : Standard, LAN, USB Ports.
 - (c) Probes for Analog : Passive probes 500 MHz, 10 X, 1 per channel. Channels
 - (d) Probes for Digital : Should provide 16 channels logic probes. channels
7. Power Supply : 230 Volts +/-10%, 50 Hz AC Supply⁸.
8. Operating Condition : 10 to 40 deg. C and 80% RH at 30 degree C

(IV) Mixed Signal Oscilloscope 1 GHz 4 Analog and 16 Digital Channels

Colour Display

1. Input Channels : 4 Analog & 16 Digital Channels should be integrated into one instrument chassis without requiring any external module connection.
2. Analog Characteristics
 - (a) Bandwidth : 1 GHZ on all channels.
 - (b) Number of Channels : 4
 - (c) Record Length : 2 M points on all channels simultaneously
 - (d) Sample Rate : 2 GS/s
 - (e) Time base range : 500 psec/div
 - (f) Acquisition Mode : Sample rate, Peak Detect, Averaging, High resolution.
 - (g) Resolution : 8 bits
 - (h) Input sensitivity : 2 mV/div. to 5 div
3. Digital Channels
 - (a) Channels : 16 Channels that can be easily accessed from the front panel
 - (b) Record Length : 2 M points
 - (c) Sampling rate : 500 MS/s
 - (d) Min. Detectable : 2 ns.
Pulse width
4. Trigger
 4. Trigger
 - (a) Trigger types : Edge, Sequence, Pulse Width, should be available across all Analog and Digital Channel.
 - (b) Measurement & Maths: Built-in Measurement like time, period frequency, rise time, fall time, etc, with Advance math like integrate, differentiate, FFT along with Add, subtract, divide and multiply.
5. Display
 - (a) Display type : 7.0 inches XGA Colour Display
6. General Specification
 - (a) Waveform Storage : Internal storage of setups, waveforms, USB, Standard.
 - (b) PC Connectivity : Standard, LAN, USB Ports.
 - (c) Probes for Analog : 2 Passive probes 500 MHz, 10 X, 1 per channel. Channels
 - (d) Probes for Digital : Should provide 16 channels logic probes. channels
7. Power Supply : 230 Volts +/-10%, 50 Hz AC Supply 8.
8. Operating Condition : 10 to 40 deg. C and 80% RH at 30 degree C
 - (V) Mixed Signal Oscilloscope 1 GHZ 4 Analog and 16 Digital Channels
Colour Display

1. Input Channels : 4 Analog & 16 Digital Channels should be integrated into one instrument chassis without requiring any external module connection.
2. Analog Characteristics
 - (a) Bandwidth : 1 GHZ on all channels.
 - (b) Number of Channels : 4
 - (c) Record Length : 8 M points on all channels simultaneously
 - (d) Sample Rate : 2 GS/s
 - (e) Time base range : 500 psec/div
 - (f) Acquisition Mode : Sample rate, Peak Detect, Averaging, High

resolution.

- (g) Resolution : 8 bits
- (h) Input sensitivity : 2 mV/div. to 5 div

3. Digital Channels

- (a) Channels : 16 Channels that can be easily accessed from the front panel
- (b) Record Length : 8 M points
- (c) Sampling rate : 500 MS/s
- (d) Min. Detectable : 2 ns.
Pulse width

4. Trigger

4. Trigger

- (a) Trigger types : Edge, Sequence, Pulse Width, should be available across all Analog and Digital Channel.
- (b) Measurement & Maths: Built-in Measurement like time, period frequency, rise time, fall time, etc, with Advance math like integrate, differentiate, FFT along with Add, subtract, divide and multiply.

5. Display

- (a) Display type : 7.0 inches XGA Colour Display

6. General Specification

- (a) Waveform Storage : Internal storage of setups, waveforms, USB, Standard.
- (b) PC Connectivity : Standard, LAN, USB Ports.
- (c) Probes for Analog : 2 Passive probes 500 MHz, 10 X, 1 per channel.
Channels
- (d) Probes for Digital : Should provide 16 channels logic probes.
channels

7. Power Supply

: 230 Volts +/-10%, 50 Hz AC Supply

8. Operating Condition

: 10 to 40 deg. C and 80% RH at 30 degree C

LIST OF ALL AMENDMENTS

For RC No. Oscope/IT-3/RC-D2040000/0317/83/OC017/2212

Sr No.	Amendment No.	Amendment Date	Effective From	Amendment In
1	Oscope/IT-3/RC-D2040000/0317/83/OC017/2212/60432	03-OCT-16	29-SEP-16	Amendment in Rate
2	Oscope/IT-3/RC-D2040000/0317/83/OC017/2212/60419	26-SEP-16	26-SEP-16	Amendment in Rate

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KAVINDRA SINGH BRIJWAL
Email id:
KSBRIJWAL-DGSND@NIC.IN

Amendment No. Oscope/IT-3/RC-D2040000/0317/83/OC017/2212/60419

Dated: 26-SEP-16

Effective Date: 26-SEP-16

To
M/S ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE INDUSTRIAL ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI
DELHI-110044.

Sub : This office R/C No. Oscope/IT-3/RC-D2040000/0317/83/OC017/2212

Dated 20-SEP-16 for the Supply of Oscilloscopes.

Ref : Your Letter No. Nil Dated 26-SEP-16.

Dear Sir,

The following amendment to the schedule of the subject Rate Contract is hereby authorised :-

UNDER SCHEDULE-A

Item:	Digital Storage Oscilloscopes			
	Item Description			Revised Rate
12	Bandwidth: 200 MHz,No. of Channels: Two,Display: Colour		NOS.	Rs. 85500
	Final Price 89775			Rs. EIGHTY-FIVE
Model:				THOUSAND FIVE
				HUNDRED ONLY

Minimum OrderQty	Lead time(In days)	Rate of supply(per month)
1	30	40

Item:	Digital Storage Oscilloscopes			
	Item Description			Revised Rate
13	Bandwidth: 200 MHz,No. of Channels: Four,Display: Colour		NOS.	Rs. 114500
	Final Price 120225			Rs. ONE LAKHS
Model:				FOURTEEN
				THOUSAND FIVE
				HUNDRED ONLY

Minimum OrderQty	Lead time(In days)	Rate of supply(per month)

I. The Model No. against above mentioned Item Nos. are as under:-

Item No.12

Model No.HMO 200 MHZ, 2 Ch Scope With Carrying Case.

Item No.13

Model No.HMO 2024 - 200 MHZ, 4 Ch With Carrying Case.

II. With Govt. of India Notification No.14/2016-Customs in force, discount against Custom Duty Exemption Certificate shall be applicable as under:-

i) CDEC U/s 39/96 Discount NIL, however, if changed by GOI later, same shall apply.

ii) CDEC U/s 51/96 Discount of 10%..

iii) Discount against Custom Duty Exemption / Waiver Certificate:-

(a) Wherever, Indentor / Consignee shall provide Custom Duty Exemption / Waiver Certificate, the R/C holder shall submit the certified copies of Bill of Entries to the Indentor / Consignee at the time of delivery.

(b) The R/C holder shall also submit certified copies of relevant Notifications, as amended from time to time, and / or other supporting documents indicating the Assessable value of the item, if applicable, and the Rate of Custom Duty applicable on the Item, to the Indentor / consignee.

(c) Indentor / Consignee shall calculate the custom duty waiver / exemption amount keeping in view of the CIP value indicate in Bill of Entries / Assessable value of the item, as the case may be and Custom Duty Waiver / Exemption Certificate given by them.

(d) The amount of custom duty waiver / exemption amount, as calculated above, shall be endorsed in the consignee receipt certificate (CRC) for recovery from the RC holder. It shall be explicitly stipulated in the CRC that recovery is on account of Custom Duty Waiver / Exemption Certificate.

Note:- The applicable rate of Custom Duty for the items, as offered by R/c holder are indicated in the RC for Indentor / consignee guidance. However, it shall be the Indentor / Consignee's responsibility to ensure that custom duty waiver / exemption amount is properly calculated at the then prevailing rate of Custom Duty.

All other terms and conditions of the R/C Shall remain unaltered.

Please ack. receipt.

Yours faithfully,

(Section Officer/A.D./D.D./Director/DDG(S))
For & on behalf of Purchaser named in DGS&D-1001

With effect from First October Two thousand eight (01-10-2008), all Supply Order(s) against this Rate Contract must be placed by Direct Demanding Officer(s) on-line through D.G.S.&.D. web site (www.dgsnd.gov.in) (indenter's page) only. Supply order(s) in any other form placed on or after 01-10-2008 shall not be valid and shall not be acted upon by the contractor or any other concerned agencies.

DDO shall download the Supply order and send an ink signed copy to the concerned paying authority specified in the Rate Contract through Registered / Speed post immediately after on-line placement of Supply Order(s).

Government of India
Directorate General of Supplies & Disposals
Jeevan Tara Building, 5 Sansad Marg
New Delhi-110001
Tel Number 23360610/23360537

Digitally signed By:
KAVINDRA SINGH BRIJWAL
Email id:
KSBRIJWAL-DGSND@NIC.IN

Amendment No. Oscope/IT-3/RC-D2040000/0317/83/OC017/2212/60432
Dated: 03-OCT-16
Effective Date: 29-SEP-16

To
M/S ROHDE & SCHWARZ INDIA PVT LTD
A-27, FIRST FLOOR MOHAN CO-OPERATIVE INDUSTRIAL ESTATE, MATHURA ROAD,
NEW DELHI - 110044
Contact Person: Suvrat, 9899020352
Mr. Nasser Jariwala, 9820418813
Email: suvrat.verma@rohde-schwarz.com
NEW DELHI
DELHI-110044.

Sub : This office R/C No. Oscope/IT-3/RC-D2040000/0317/83/OC017/2212
Dated 20-SEP-16 for the Supply of Oscilloscopes.

Ref : Your Letter No. Nil Dated 28-SEP-16.

Dear Sir,

The following amendment to the schedule of the subject Rate Contract is hereby authorised :-

UNDER SCHEDULE-A

Item: Digital Storage Oscilloscopes, High Performance

Item Description

Revised Rate

17 Bandwidth: 500 MHz,Memory: 2M,No. of Channels: Four,Display: NOS.
Colour

Rs. 497888
Rs. FOUR LAKHS
NINETY-SEVEN

Final Price 522782.4

THOUSAND EIGHT
HUNDRED
EIGHTY-EIGHT
ONLY

Model:	Minimum OrderQty	Lead time(In days)	Rate of supply(per month)
	1	30	40

Item: Digital Storage Oscilloscopes, High Performance

Item Description

Revised Rate

18 Bandwidth: 500 MHz,Memory: 10M,No. of Channels: Four,Display: NOS.
Colour

Rs. 556818
Rs. FIVE LAKHS
FIFTY-SIX

Final Price 584658.9

THOUSAND EIGHT
HUNDRED

Model:	Minimum OrderQty	Lead time(In days)	Rate of supply(per month)

1

30

40

EIGHTEEN ONLY

Item: Digital Storage Oscilloscopes, High Performance

Item Description

19 Bandwidth: 1 GHz,Memory: 10M,No. of Channels: Four,Display: NOS.
Colour

Final Price 1085244.3

Revised Rate

Rs. 1033566
Rs. TEN LAKHS
THIRTY-THREE
THOUSAND FIVE
HUNDRED SIXTY-
SIX ONLY

Model:

Minimum OrderQty	Lead time(In days)	Rate of supply(per month)
1	30	40

Item: Digital Storage Oscilloscopes, High Performance

Item Description

22 Bandwidth: 2.5 GHz,Memory: 10M,No. of Channels: Four,Display: NOS.
Colour

Final Price 1604779.05

Revised Rate

Rs. 1528361
Rs. FIFTEEN
LAKHS TWENTY-
EIGHT THOUSAND
THREE HUNDRED
SIXTY-ONE ONLY

Model:

Minimum OrderQty	Lead time(In days)	Rate of supply(per month)
1	30	50

Item: Mixed Signal Oscilloscopes.

Item Description

107 Bandwidth: 1 GHz,No. of Channels: 4 Analog and 16
Digital,Memory: 8 M,Sample Rate: 2 GS/s,Display: Colour NOS.

Final Price 961734.9

Revised Rate

Rs. 915938
Rs. NINE LAKHS
FIFTEEN
THOUSAND NINE
HUNDRED
THIRTY-EIGHT
ONLY

Model:

Minimum OrderQty	Lead time(In days)	Rate of supply(per month)
1	30	40

I. The Model No. against above mentioned items are as under:-

Item No.17

- i) Model No.HMO 3054 500 MHz, 4 Ch Scope With 2 Nos of HO3508 16 Logic Channels Probe & Carrying Case.
- ii) Alt. Model No.HMO 3054 With HOO1x Analysis of I2C, SPI and UART/RS-232 & Carrying Case.

Item No.18

- i) Model No.RTM 2054 - 500 MHz, 4 CH Scope With RTM K15 - History and segmented mem, RTM K1 - I2C/SPI serial triggering & decoding & Front Cover.
- ii) Alt. Model No.RTE 1054 - 500 MHz, 4 Ch Scope With Front Cover.

Item No.19

- i) Model No.R&S RTO 2014 - 1 GHz, 4 Ch Scope With Front Cover & Carrying Case.
- ii) Alt. Model No.R&S RTE 1104 - 1 GHz, 4 Ch Scope With Front Cover & necessary options to comply tender specs.

Item No.22

Model No.RTO2034 - 3 GHz, 4 Channel Scope With RTO-B4 OCXO Front Cover & Carrying Case.

Item No.107

- i) Model No.RTM2104 - 1 GHz, 4 Ch Scope With RTM-B1 - 16 Ch MSO, RTM-K32- Digital Voltmeter, RTM-K18 - Spectrum Analysis, Spectrogram & Front Cover
- ii) Alt. Model No.RTE1104 - 1 GHz, 4 Channel Scope With RTE-B1-16 Ch MSO & Front Cover.

All other terms and conditions of the R/C Shall remain unaltered.

Please ack. receipt.

Yours faithfully,

(Section Officer/A.D./D.D./Director/DDG(S))
For & on behalf of Purchaser named in DGS&D-1001

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DDO shall download the Supply order and send an ink signed copy to the concerned paying authority specified in the Rate Contract through Registered / Speed post immediately after on-line placement of Supply Order(s).