

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Keysight / Agilent 8923B* at our website: ***Click HERE***

`Parity`	Sets the parity for data transfer. The choices are: ■ None. ■ Odd. ■ Even. ■ Always 1. ■ Always 0.
`Rcv Pace`	Used when receiving serial data. The choices are: ■ `Xon/Xoff` Enables the Xon/Xoff function. ■ `None` Disables the Xon/Xoff function.
`Inst Echo`	This field enables/disables screen and character echoing when using a terminal.
`Data Length`	Sets the length of the data for transfer. The choices are 7 or 8 bits.
`Xmt Pace`	Used when transferring data from the serial port. The choices are: ■ `Xon/Xoff` Enables the Xon/Xoff function. ■ `None` Disables the Xon/Xoff function.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

User Defined B-Field Screen (Softkey Accessed)

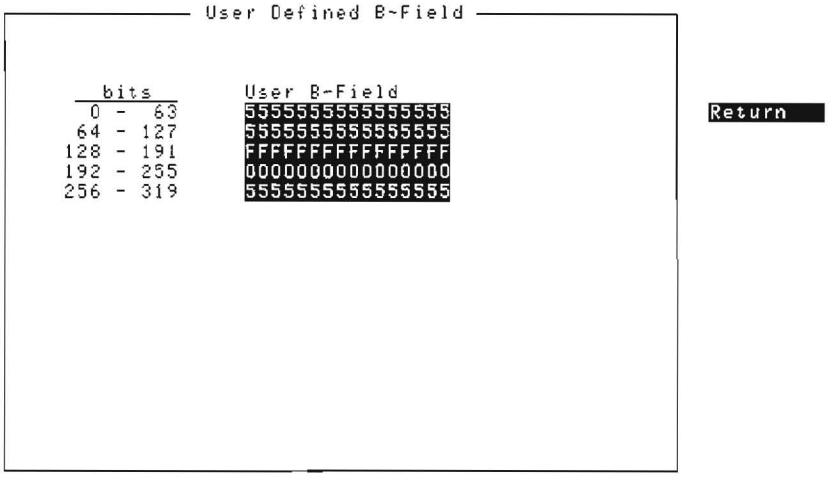


Figure 2-38. User Defined B-Field Screen

This screen allows you to specify your own test pattern for inclusion in the B-Field of the DECT burst transmitted by the HP 8923B.

`User B-Field` The B-Field is made up of 320 bits. These are represented in the `User B-Field` as five rows of sixteen character hexadecimal numbers. The corresponding bits of the B-Field are given to the left of these numbers.

Note Frequency Accuracy measurements are only valid if the B-Field contains an equal number of ones and zeroes. This ensures that the frequency deviation across the B-Field is zero, and that the frequency measured is the centre frequency of the RF burst.
The B-Field given as default, shown in Figure 2-38, conforms to this specification.

Note Frequency Drift measurements are only valid if the last eighteen bits of the B-Field are consecutive ones and zeroes. This is due to the characteristics of the DECT premodulation filter.
Valid inputs for the last five hexadecimal characters are; 15555, 55555, 95555, D5555, 2AAAA, 6AAAA, AAAAA or EAAAA.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Softkey	Description	Front Panel Access
Return	Returns to the previous screen.	FREQ Meas Cntl B-Field User Def PWR Meas Cntl B-Field User Def PWR Pwr-Time Meas Cntl B-Field User Def

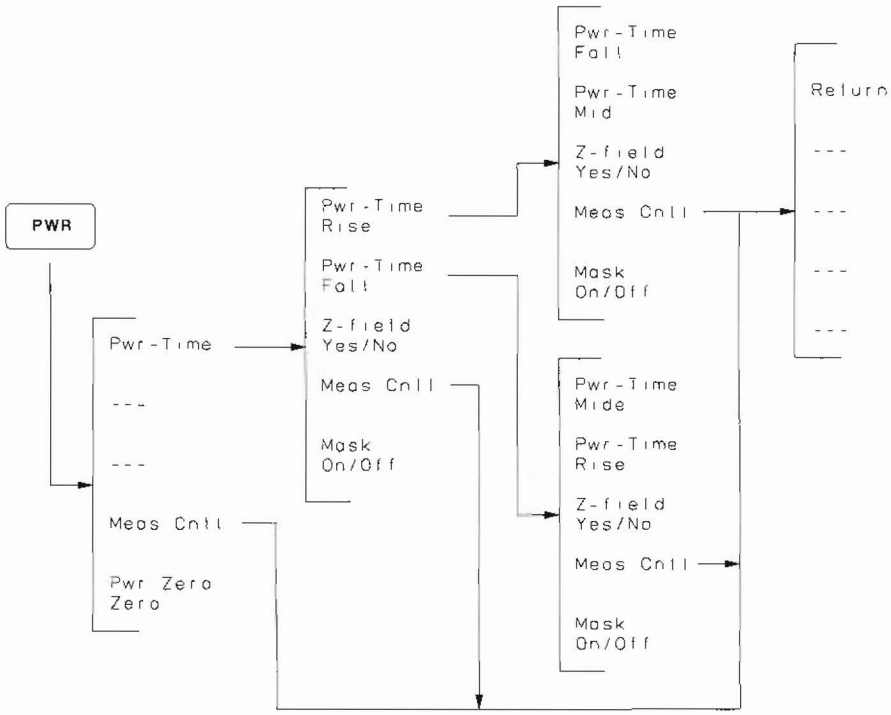


Figure 2-39. Complete Power Measurement Menu Map

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Word Error Ratio Screen (softkey accessed)

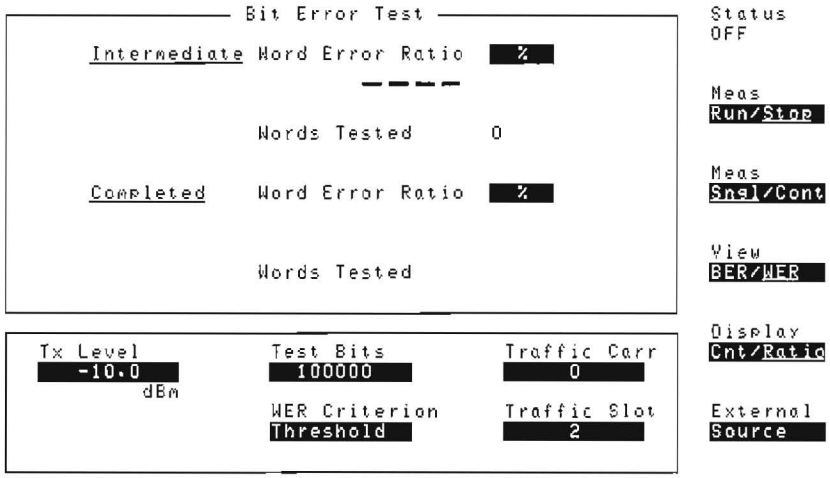


Figure 2-40. Word Error Ratio Screen

The word error ratio (WER) is measured in conjunction with the BER. WER is the preferred method of indicating synchronization loss within the EUT. Frames counted as word errors are not included in the BER calculations.

Bit Error Test

The fields on this screen are the same as those used in the BER screen. The only difference being the addition of one extra field;

`WER Criterion`

Sets the criterion for word error detection. The choices are:

- `Threshold`
  A word error is detected when more than 25% of the bits in the B-field are in error.
- `No B-field`
  A word error is detected when a B-field is not received from the EUT.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

6

User Confidence Checks

Introduction

The procedures in this chapter are to give confidence, that the HP 8923B DECT Test Set is functioning correctly. These procedures do not test the HP 8923B against any warranted specification. The functional checks in this chapter are split into the following sections:

- Call Set-Up Check.
- Audio Source and Audio Analyzer Checks.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Call Set-Up Check

Before the HP 8923B can begin making measurements on the EUT, it must first set up and maintain communication with the EUT. A working PP that supports MAC layer test messages must be used. Successful completion of this procedure indicates that the HP 8923B will:

- Receive, Downconvert & Demodulate the RF signal (for selected channel).
- Correctly interpret recovered digital data.
- Correctly generate data to be transmitted (to maintain call).
- Modulate data onto the carrier frequency for the selected channel.
- Transmit RF at correct timeslot, and at sufficient power level.

Procedure

1. Power On the HP 8923B. Ensure the power up screen and the message `All host processor self tests passed` appears.
2. Make the appropriate RF IN/OUT connections. This may be an antenna, a test-jig, or a direct connection with the EUT.

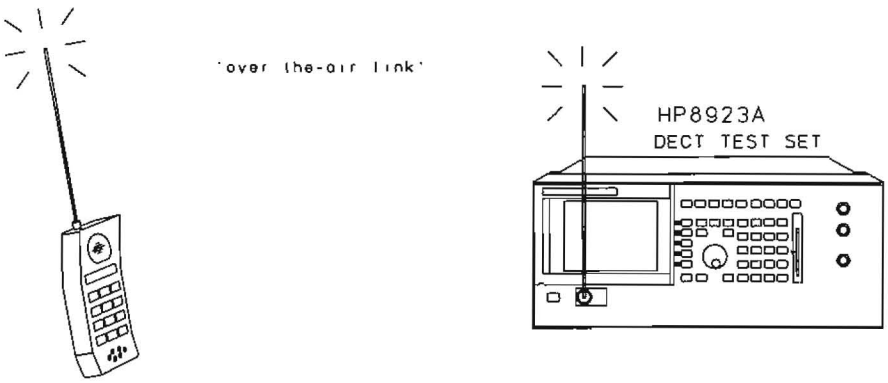


Figure 2-41. "Over-the-air" Link

Follow the procedure in section 3.1 to set up a call. You can now perform the measurements detailed in Chapter 4, "Making Measurements" to test if the HP 8923B is functioning.

If you experience problems, contact your nearest Hewlett-Packard Sales and Service center listed in the front matter of this manual.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Audio Source and Audio Analyzer Checks

The procedure in this section uses the HP 8923B's oscilloscope and frequency counter functions, to measure the Audio Source output. This test shows that the oscilloscope, frequency counter and audio source are functioning correctly, but does not check the accuracy of the source.

This procedure does not require the HP 8923B to be communicating with the PP.

1. On the Front Panel, connect Audio In to Audio Out.
2. Press (SHIFT), (PWR) (Audio).

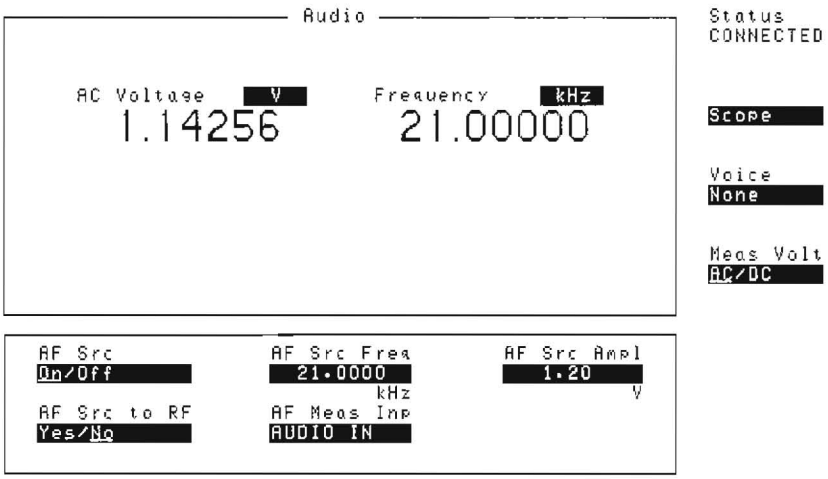


Figure 2-42. Audio Screen

For information on the other fields on this screen see Chapter 5, "Fields, Screens, Keys And Softkeys".

3. Set the `Source On/Off` field to `On`. Set the frequency to a value between 20 Hz and 21 kHz.
4. The Frequency Counter should now display the selected frequency.
5. Press `Scope`. The output signal from the Audio Source should now be displayed on the screen. Adjust the timebase and volt/div settings if necessary.
6. Press `Return to Audio`, to return to the main Audio screen.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

7

Performance Tests

There are several software controlled performance tests which can be carried out on the HP 8923B.

Due to the need for specialized test equipment and software it is recommended that these tests are carried out at qualified Hewlett-Packard Service Centers.

Contact your nearest Hewlett-Packard Sales and Service Office - listed in the front matter of this manual - for details.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

8

Tests Subsystem

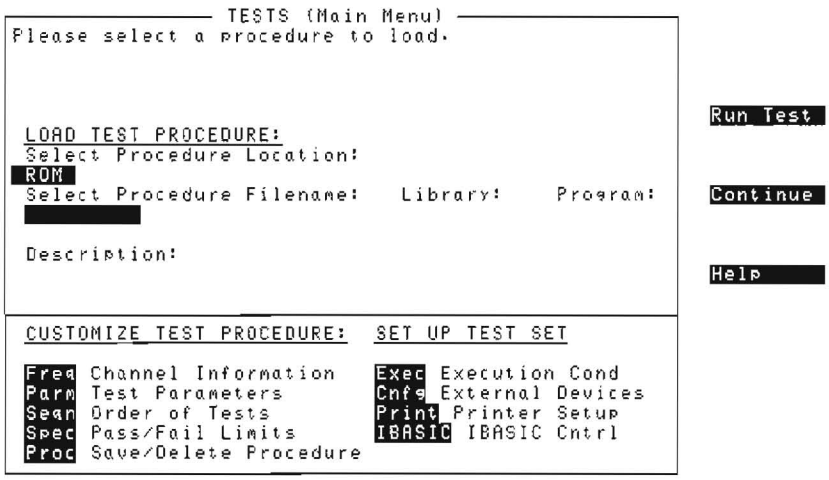


Figure 8-1. The Main TESTS Screen.

The **TESTS** screen is the main screen of the "Tests Subsystem"; a group of screens used to create, edit, and run automated test programs. Using program control, the Test Set can run tests by itself and control other instruments using the optional HP-IB or Serial Port.

Tests can be run from PCMCIA cards, the Test Set's internal ROM or RAM, or from an external disk drive.

Test programs are written in the HP Instrument BASIC (IBASIC) programming language.

There is no automated software available at present for the HP 8923B, but there are six internal procedures stored in ROM that can be run. They are shown in Figure 2-2 (Item **(3)**). If software becomes available for the HP 8923B, the documentation for using the test subsystem will be included with the software.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

1. **DISKINI**
   This program initializes a disk for use in an external disk drive.
2. **RAM_MNG**

   This program initializes RAM :MEMORY, 0, 0 or a RAM card.
3. **COPY_PL**

   This program copies procedures and libraries from one card to another.
4. **SECURE_IT**

   This program secures or unsecures procedure files. If a file is secured, you must know the password to unsecure it.
5. **FILE_XFER**

   This program transfers data collection files on a memory card to either the I-BASIC serial port or the HP-IB port, in order for the files to be outputted.
6. **LIST_OPTS**

   This program lists the hardware options installed in the testset.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Loading a Test Procedure From ROM

1. Press the front-panel (TESTS) key and select the `Location` field. See item **(1)** in Figure 2-2.
2. Choose ROM.
3. Select the `Procedure` field. See item **(2)** in Figure 2-2.
4. Choose the file that you want to load. See item **(3)** in Figure 2-2.

Select `Run Test` to run the procedure.

Note — Programs may take up to 3 minutes to load after `Run Test` is selected.

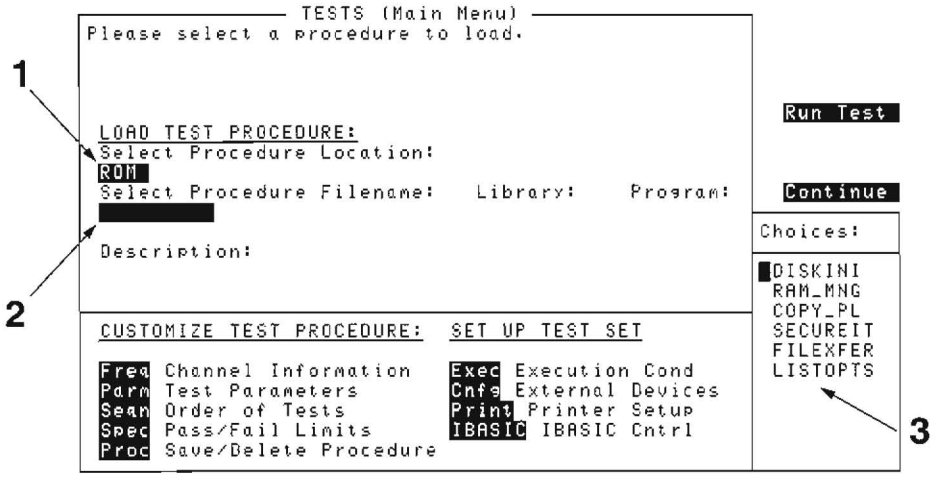


Figure 2-2. Loading A Procedure From ROM

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

9

System Specifications

This chapter contains system specifications relating to the HP 8923B DECT Test Set. The quoted specifications describe the warranted performance of the HP 8923B, if any of the measurements are outwith those quoted contact your local HP Sales and Service Center.

The specifications are valid after the HP 8923B has had a thirty minute warm up period.

The specifications quoted are for warranted performance, the actual HP 8923B performance may be superior to the figures quoted.

Further supplemental characteristics (shown in italics) may be included to provide additional information, useful in applying the instrument by giving typical (expected), but not warranted performance parameters. These characteristics are shown in italics or labeled as "typical", "usable to" or "nominal".

The specifications outlined in this chapter are;

- DECT Source Specifications
- Test Specifications
  - Transmitter
  - Receiver
- Audio Specifications
  - Analyzer
  - Source
- Reference Specifications
- Digital Oscilloscope
- External Interfaces
- Internal Programming
- General Specifications

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

DECT Source Specifications

RF Carrier Frequency

Range:	1880 - 1990 MHz at DECT channels.
Accuracy:	±5 kHz (Compliant to CTR-06 Section 5.8.4).
Frequency drift across the burst:	negligible (I/Q modulation technique used).

RF Carrier Level

Range:	-100 dBm to -10 dBm.
Resolution:	0.1 dB.
Accuracy:	±1.0 dB (Compliant to CTR-06 Section 5.8.4).
Max. Reverse Power:	2 W continuous.
Continuous SWR:	1.5: 1.

Pulse Modulation

Rise time:	*<5 µs.*
Fall time:	*<5 µs.*
On/Off Ratio:	>75 dB (for power levels > -30 dBm).

CW Mode

Frequency Accuracy:	±5 kHz (Compliant to CTR-06 Section 5.8.4).
Amplitude Accuracy:	±1.0 dB (Compliant to CTR-06 Section 5.8.4).

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Test Specification- HP 8923B DECT Test Set Parameters

Normally Transmitted Power (NTP) Measurement[1]

Measurement Range: -10 dBm to +30 dBm.
Accuracy: ±0.6 dB ±noise effects (0.015 mW) (Compliant to CTR-06 Section 5.8.5).[2]

Power versus Time Template Measurement[1]

Measurement Range: -10 dBm to +30 dBm.
Dynamic Range: 40 dB.
Accuracy: Typically 0.5 dB + 0.1 dB per dB.

GFSK Modulation Measurement[1]

RF input signal level range: -10 dBm to +30 dBm.
Center frequency error[3]: ±1 kHz. (Compliant to CTR-06 Section 5.8.5).[2]
Peak Frequency deviation error[4]: See Table 2-2.

Table 2-2. Peak Frequency Deviation Error

Input Amplitude Setting Accuracy	Frequency Deviation Measurement Uncertainty
±1 dB	10 kHz
±3 dB	12 kHz
±6 dB	16 kHz

Frequency Drift[1]

Measurement Error[5]: <1 kHz (frequency drift across burst < 20 kHz).

Timing Jitter[1]

Accuracy: 4 nS

1. The user is required to provide a signal from the equipment under test which matches the following criteria.
   The center frequency presented to the HP 8923B must be within 200 kHz of the DECT channel frequency.
   The amplitude presented to the HP 8923B must be within 6 dB of the HP 8923B setting. (Compliant to CTR-06 Section 5.8.5.1)
2. 2nd Edition.
3. Test pattern FDEV1_FS should be used during this measurement.
4. Test pattern FACC should be used during this measurement.
5. Test pattern FDEV2_FS should be used during this measurement.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Test Specifications- BER Performance

Residual Bit Error Ratio[1]

Ratio:	10^{-6} for PRBS 2^9-1 @ - 10 dBm (CCITT O.153).

Audio Specifications - Source

Frequency

Range:	20 Hz to 21kHz.
Accuracy:	0.03% of setting.
Resolution:	0.1 Hz

Level

Range:	0 V to 2 $V_{pk\text{-}pk}$.
Output impedance:	Typically 70 Ω
Accuracy:	±(4% of setting + resolution).
Resolution:	±1.3 mV_{peak}
Residual Distortion:	<0.7% for levels >200 mV.

1. The user is required to provide a signal from the equipment under test which matches the following criteria.
The center frequency presented to the HP 8923B must be within ±200 kHz of the DECT channel frequency.
The amplitude presented to the HP 8923B must be within ±6 dB of the HP 8923B setting.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Audio Specifications - Analyzer

Audio Frequency counter

Frequency Range:	30 Hz to 400 kHz.
Accuracy:	(0.05% + resolution + reference accuracy)[1].
Resolution (Frequency <10 kHz):	0.01 Hz.
(Frequency <100 kHz):	0.1 Hz.
(Frequency >= 100 kHz):	1 Hz.
Voltage Range:	30 mV to + 5 V.

AC Voltmeter

Frequency Range:	50 Hz to 50 kHz.
Input Impedance:	Typically 100 kΩ
Voltage Range:	10 mV to 5 V.
Accuracy:	±3% + noise.
Noise:	<1 mV_{peak}

DC Voltmeter

Accuracy:	(1% of reading + DC offset).
DC Offset:	< 45 mV.
Range:	- 5 V to + 5 V.

Digital Oscilloscope

Frequency Range:	d.c. to 50 kHz.
Accuracy:	±1.5% of reading ± 0.1 division[2].
DC offset:	45 mV.
Input Range:	±5 V_{peak}.

1. This specification is valid for an input >30 mV and between 30 Hz and 50 kHz and for input >80 mV and between 50 kHz and 400 kHz.
2. For scale settings of 100 mV/div to 1 V/div.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Reference Specifications

Reference Accuracy: ±(Time since calibration x Aging Rate) + Temperature Stability + Accuracy of Calibration (0.01 ppm).

Standard Frequency Reference

Stability: < 1 ppm (0 to 55 °C).

Aging: < 2 ppm/year.

Warm-up time: <30 minutes to be within 2 ppm of final frequency.

High Stability Frequency Reference (Option 1D5)

Stability: $<2.5 \times 10^{-3}$ ppm/°C (0 to 55 °C).

Aging: $<5 \times 10^{-4}$ ppm/day after 24 hour warm-up.
<0.1 ppm/year for continuous operation.

Warm-up time: Within 5×10^{-4} ppm of final value 10 minutes after turn on at 25 °C.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

External Interfaces

Front Panel Connectors

RF In/Out:

Connector Type:	Type-N connector.
Impedance:	50 Ω.
Max. Reverse Power:	2 W.

Trigger in:

Connector Type:	BNC.
Input Impedance:	Typically 2-3 kΩ
Function:	To provide an external trigger signal for making RF measurements.

Audio in:

Connector Type:	BNC.
Input Impedance:	> 10 kΩ for frequencies < 50 kHz.
Range:	100 $mV_{r.m.s.}$ to + $5V_{r.m.s.}$
Function:	Direct input to the built in oscilloscope.

Audio out:

Connector Type:	BNC.
Output Impedance:	60 - 70 Ω
Function:	Provides a 20 Hz to 21 kHz variable amplitude audio signal output.

Rear Panel Connectors

Aux In/Out connector:

Connector Type:	SMA.
Input Impedance:	50 Ω
Function:	Allows further analysis of the RF signals from the EUT by connecting external test equipment. Connect a 50 Ω load when not in use. *Loss between Front Panel and Rear Panel RF I/O is typically 12 dB.*

10 MHz reference input:

Connector Type:	BNC.
Input Impedance:	50 Ω
Function:	Allows the use of an external 10 MHz precision frequency reference range. Four signals, 1 MHz, 2 MHz, 5 MHz and 10 MHz may be used.

10 MHz reference output:

Connector Type:	BNC.
Output Impedance:	50 Ω
Function:	10 MHz frequency reference Output. Connect a 50 Ω load when not in use.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

HP-IB interface: Corresponds to IEEE 488.2

I-Basic/Print Serial Port: RS-232 through RJ-45 connector used for serial data in and out.

Logging serial port: RS-232 through RJ-45 connector used for protocol logging.

Sync In/Sync Out: Two RJ-45 connectors which allow time synchronization of multiple HP 8923Bs.

Handset Port: Audio In/Out through RJ-11 connector. Allows connection of external handset.

Input Impedance:	200 kΩ.
Sensitivity:	Typically 12 mV_{rms}.
Output:	110 Ω, 1 Vrms differential.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Internal Programming

Programming Language:	Hewlett-Packard Instrument BASIC.

General Specifications

Size:	177 mm H x 426 mm W x 574 mm D (7 in x 16.75 in x 23 in).
Weight:	32 kg (70 lb).
Operating Temperature:	0°C to 55°C.
Storage Temperature:	-40°C to +70°C.
Power:	100, 120, 220, 240, $V_{a.c.}$, 48 to 66 Hz, ±10% of line voltage.

HP Systems Engineering Assistance

Extra assistance from Hewlett-Packard in the form of system installation, productivity assistance, programmer or user training are available on a consulting basis. Call Hewlett-Packard for a quote.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Ordering Information

HP 8923B DECT Test Set

Option 1D5:	Internal High stability frequency reference.
Option 1CP:	Rack mount and handle kit.

Associated Equipment

HP 85700A:	32K-Byte RAM Memory Card with Battery.
HP 85702A:	128K Memory Card with battery.
HP 85704A:	256K RAM Memory Card without battery.
HP 85705A:	512K Memory Card without battery.

Recommended HP Accessories

HP 10438A:	Miniature Oscilloscope probe (High impedance/40 pF 1:1 probe).
HP 54006A:	6 GHz Resistive divider probe kit.

Supported Printers and Printer Accessories

HP Deskjet 500, **HP Deskjet 500C,** **HP Deskjet 550C,** **HP Deskjet 560C:**	RS-232 interface supported.
HP Thinkjet, **HP Quietjet,** **HP Quietjet,** **HP Paintjet,** **HP Laserjet,** **Epson FX-80,** **Epson LQ-850:**	HP-IB, RS-232 and Centronics[1] interfaces are supported.
HP 8923A Special Option K06:	Serial printer connector and cable (RJ - 11 to D-type RS-232).

1. Operation with Centronics printers requires the following accessories:

ITEL-45CHVE:	Microprint HP-IB/Centronics bus converter.
HP F1011A:	AC/DC Adapter.
HP C29212B:	3m Centronics cable.
HP 10833D:	0.5m HP-IB cable.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

10

Error Messages

General Errors

These are error messages which appear if the instrument is used incorrectly or the EUT is faulty.

`Access to secured information denied`

The password you are entering is the wrong password.

`Cannot change while in CALLING status.`

This message indicates that the field that has been selected cannot be changed while a call is being set up. To change the field release the traffic bearer, change the field, then reconnect the traffic bearer.

`Cannot change while in CONNECTED status.`

This message indicates that the field that has been selected cannot be changed while there is a call set up. To change the field release the traffic and dummy bearers, change the field, then reconnect the call.

`Cannot change while in LOCKED status.`

This message appears when you are trying to change the source mode during a call setup.

`Can only change when in OFF status.`

The field you are trying to change can only be changed when there is no call in progress.

`Counter Self Cal Failed.`

Part of the calibration which the HP 8923B performs periodically has failed. Disconnect all inputs to the HP 8923B and cycle the power. If problems persist contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

`Dummy Bearer Lost.`

The HP 8923B has lost synchronization with the FP under test. Ensure that the direct connection to the HP 8923B is secure, for an "over-the-air" connection check that there are no obstacles between the HP 8923B and the FP. Restart the call.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

`Dummy Bearer not found.`

The HP 8923B cannot detect a dummy bearer.Ensure that the direct connection to the HP 8923B is secure, for an "over-the-air"connection check that there are no obstacles between the HP 8923B and the FP.

`Entry does not exist in menu.`

This message indicates that there is a problem with the string in the HP-IB command. The HP 8923B does not have a choice in the menu which corresponds to the string being received. To remedy this check the spelling of the command trying to be sent and/or check that the choice is available for this menu. The values for the fields in the HP 8923B DECT Test Set can be found in Chapter 5, "Fields, Screens, Keys And Softkeys".

`Ext Save/Recall Device needs Controller.`

When saving information to an external device it is necessary to set the HP 8923B as the controller. To change the HP 8923B from talk/listen mode to control mode see chapter 5 of this manual.

`Global User Key#1 assigned to IBASIC program return`

This message will only appear if an I-BASIC program is running. Within the I-BASIC program it is possible to define Global User Key #1 as an interrupt key which will halt I-BASIC program operation and then return to the program where it was interrupted. If this key is assigned to a different field the error message will appear. Refer to the "I-BASIC Programming Reference Manual" for further information on this command.

`Global User Key Field Inactive.`

The field which the Global User Key is assigned to is not active due to the measurements being performed. Make sure the field is active on the relevant screen by changing the system setup before using this key.

`Global User Keys not allowed on this field.`

The current field cannot be assigned to a global key. Only certain fields can be assigned to a Global Key some of which are outlined in the "Keys and Softkeys" chapter of this manual. This message will clear automatically with normal instrument usage.

`Global User Keys not allowed on this screen.`

The current screen does not allow Global User Keys to be displayed. Only certain screens will allow a Global Key to be shown. These are outlined in Chapter 5, "Fields, Screens, Keys And Softkeys".

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

`HP-IB Query Error Check Instrument state`

This error will appear when the HP 8923B is sent an HP-IB command relating to a measurement which does not appear on the current screen. To rectify this change to the relevant screen and rerun the command.

`IBASIC locked out while running`

While running an HP-IB program it is not possible to perform certain I BASIC commands or change certain fields. To perform these commands halt the HP-IB program, change the fields, then restart the program.

`Incompatible bearers, change slot or carrier.`

This message can appear when setting the dummy and traffic bearers. The error occurs for two conditions:

1. The traffic slot and the dummy slot are the same.
2. The traffic and dummy carriers are different **AND** the traffic and dummy slots are adjacent.

`Input value out of range.`

This error appears when you are trying to enter a value which is not in the defined range for the field. Enter a value in the range to remedy the error.

`Invalid keystroke.`

This error occurs when you strike a key which is not valid for the field on the screen.

`Invalid save/recall register name.`

This message indicates that there is a problem with the string. The HP 8923B does not recognize the name which has been sent. To remedy this check the spelling of the name which is to be sent and/or check that it does not contain invalid characters or is too long.

`No ACCESS_REQUEST message received.`

During call setup, the HP 8923B was expecting a MAC Layer ACCESS_REQUEST message from the EUT. This message was not received.

`No existing call to release.`

This message will be appear when trying to release a call by HP-IB when there is no call to release. The error will be cleared with normal instrument usage.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

`No parameters for this string.`

This message indicates that there is a problem with the string which is to be input to a particular field via the HP-IB. The HP 8923B does not recognize the command which has been sent. To remedy this check the spelling of the command trying to be sent and/or check that the command is valid for this field. The values for the fields in the HP 8923B can be found in chapter 5 of this manual.

`Not possible when protocol active.`

This measurement cannot be made while using MAC layer test messages. The HP 8923B supports measurements without MAC layer test messages to allow modular testing. See "Making Measurements" chapter in this manual for information on tests which can be performed.

`Not possible when source in CW operation`

This error occurs by trying to initiate a call when the source is CW. The source can act as bursted for protocol support or CW. Change source to Normal mode.

`Not possible when testing a Portable Part.`

This control cannot be changed when testing a portable part.

`No response to CLEAR_TEST_MODES.`

This error message will appear to tell you that the HP 8923B has not received a reply to the transmitted test message. The HP 8923B will release the call using a normal call release procedure.

`No save/recall register on device.`

The external device which is being used to store the information does not have the facility to save the information into a database which the HP 8923B recognizes. To connect appropriate external devices or RAM cards see the "TESTS" chapter of this manual.

`Not Locked. Can't couple analyzer frequency to dummy carrier`

This error message will appear when you are testing a fixed part and triggering to the dummy bearer, which is not yet present. Change the Trigger source or ensure a dummy is present.

`Recall File of Improper Type`

When recalling the instrument state the firmware searches for files which have been given a specific name. This error indicates that the file which has been located has the correct type of name that the

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

HP 8923B is searching for but is the wrong file type, perhaps containing test data instead of the HP 8923B state.

Register BASE requires missing options

This error message will only be found on instruments that have been superseded by improved software. To upgrade your HP 8923B contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

Sampler Self Cal Failed.

Part of the calibration which the HP 8923B performs periodically has failed. Disconnect all inputs to the HP 8923B and cycle the power. If problems persist contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

Save Device write protected

The external device which the HP 8923B is trying to save the information to is write protected. Remove any physical write protect barriers from the disc or card being used and resave the information. For more information on external devices see Chapter 8, "Tests Subsystem".

String length too long for field.

This message indicates that there is a problem with the letters trying to be input to a particular field via the HP-IB. The string being sent is too long for the field to cope with, to remedy this enter a string which is within the limitations of the field. The ranges of the fields in the HP 8923B can be found in Chapter 5, "Fields, Screens, Keys And Softkeys".

Save/Recall Device not Initialized

The save/recall device has not been initialized, before saving anything to an external device it needs to be configured to allow it to do this. For more information on configuring external devices using the HP 8923B see the "TESTS" chapter.

Save/Recall not allowed on this screen

You are in a screen that does not allow the save/recall facility. For information on which screens can be used in conjunction with the save/recall facility see chapter 5 of this manual.

Save/Recall Device not present

You do not have the card or an external save/recall device inserted/connected to the instrument. Check that the external device

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

is connected to the instrument, that all cables are fully inserted in their sockets, or RAM card is firmly in its slot.

`Save/Recall Device not initialized`

The RAM card has not been initialized, before saving anything to a RAM card it needs to be configured to allow it to do this. For more information on RAM cards see the "TESTS" chapter.

`Saved Class not available to recall`

This error message will only be found on instruments that have been superseded by improved software. To upgrade your HP 8923B contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

`Saved screen not available to recall`

This error message will only be found on instruments that have been superseded by improved software. To upgrade your HP 8923B contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

`Saved Instance not available to recall`

This error message will only be found on instruments that have been superseded by improved software. To upgrade your HP 8923B contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

`Softkey is currently inactive.`

This message signifies that the softkey has no field associated with it. Only certain user keys have a function associated with them on certain screens. This message will clear automatically with normal instrument usage.

`Softkey is currently unassigned.`

This error message appears when one of the softkeys is pressed and it has no field or function associated with it.

`This section of procedure secured.`

This error relates to I BASIC operation. In I BASIC it is possible to secure procedures which will not allow anyone who does not have the password to modify the procedure. Find the password from whoever set it to modify the procedure.

`Traffic Bearer Lost.`

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

The HP 8923B has detected that the traffic bearer has been lost, without the correct MAC Layer Test Messages disconnect procedure being applied. Ensure that the direct connection to the HP 8923B is secure, for an "over-the-air" connection check that there are no obstacles between the HP 8923B and the PP or FP and check all power levels. Restart the call using the procedure in section 3.1 of this manual.

`User key is currently unassigned.`

This error message appears when one of the Global User keys is pressed and it has no field or function associated with it.

`Voltmeter Self Cal Failed.`

Part of the calibration which the HP 8923B performs periodically has failed. Disconnect all inputs to the HP 8923B and cycle the power. If problems persist contact your local or nearest Hewlett-Packard Sales and Service center, listed in the front matter of this manual.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Measurement Synchronization Errors

These are errors that appear on the screen, under the communication status, when an error occurs whilst making a measurement.

`Meas OK`	No errors.
`Lvl High`	ADC being overdriven as the expected input is too large. Increase input amplitude setting or reduce EUT power setting to be within ±6 dB of input amplitude setting.
`Lvl Low`	Expected input is too small. Decrease input amplitude setting to be within ±6dB of input amplitude setting.
`Sync Fail`	Unable to synchronize to sync field and preamble of captured data burst.
`Loop Fail`	Peak deviation polarity error. For measurement stimulus types FACC, FDEV1_FS and FDEV2_FS, the DSP code compares the polarity of the peak deviation obtained for each symbol in the loopback field to the expected polarity based on the anticipated value of that bit. If the decoded bit does not match the expected bit this error will occur. If this error occurs, the peak deviation results will be in error.
`Data Fail`	Indexing error. Indicates not enough samples to perform desired power vs. time measurement. Deficiency could be a lack of samples prior to P_0 or lack of samples after end of burst. If this error occurs power vs. time results will be in error.
`Lock Fail`	Symbol lock failure (Could not lock onto data enough even to decode symbols, let alone synchronize to the sync word and preamble. All subsequent measurement requests on this data are invalid).
`Too High`	Signal too large. This error occurs during autoranging. A valid measurement may still occur, unless the input signal is so large that is saturates the DSP amplifier, even with all the gain setting (which would be indicated by Lvl High).
`Too Low`	Signal too small. This error occurs during autoranging. A valid measurement may still occur with degraded S/N.
`Unstable`	Unstable signal. The autoranging found the input signal amplitude unstable and cannot

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

guarantee the correct gain setting. Subsequent measurements with this gain setting may or may not return valid data.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

A

Logging MAC Layer Test Messages

Introduction

All the MAC layer test message information is included in the ETS 300 175-3 document which covers the medium access control layer of DECT protocol.

The HP 8923B DECT Test Set can only log a subset of the complete MAC Layer Test Messages that are used. They are:

- Pt Messages.
- Mt Messages.
- The ESCAPE message (ETS175-3, 7.1.2)

The basic format of the test message is shown below;

$a_0..a_7$	$a_8..a_{47}$
Header	Tail Information

The first eight bits of the header information is split up into the following:

$a_0..a_2$	a_3	$a_4..a_6$	a_7
Tail Contents	Quality Bit	B-field Identity	Quality Bit

- Tail Contents
  These three bits define the contents of the 40 bits that follow in the A-field.
- Quality Bit
  When set to 1, is a quality check for duplex traffic bearers.
- B-field Identity
  These three bits (labeled B in the tables) defines the contents of the B-field.
- Quality Bit
  When set to 1, is a quality check for duplex traffic bearers.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Abbreviations

The following abbreviations are used in the tables of test messages that can be logged by the HP 8923B:

BS	Slow broadcast channel
CLf	Higher Layer Connectionless channel (fast)
CLs	Higher Layer Connectionless channel (slow)
CN	Channel Number
DP	Defeat Proprietary
ESC	Escape
FMID	Fixed Part MAC Identity
HD	Handover Disable
KP	Keep Previous
LBN	Logical Bearer Number
LLME	Lower Level Management Entity
Mt	MAC layer control packet
PMID	Portable Part MAC Identity
Pt	MAC layer paging packet
RFPI	Radio Fixed Part Identity
RPN	Radio Fixed Part Number
SN	Slot Number
SP	Slot Pair
TARI	Tertiary Access Rights Identity

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Format Of Logged Messages

In Section 3.3, "MAC Layer Test Messages", there is an example of interchange of messages during a call setup.

The following is the format of the outputted text (from the tables):

D	S	C	F	Mt: BASIC ACCESS	FMID=XXX PMID=XXXXX	access_request	**Table Entry**
1	2	2	3	4	5		

Note — Only test messages received by the HP 8923B are logged.

Example

If logging was on, the following text would be outputted during this call setup:

<	2	0	8	MT: BASIC ACCESS	FMID=000 PMID=00000		**Printout**

If you compare the table entry to the printout then:

3. The D signifies direction, thus < means that the test message was received.
4. The S and C signifies the slot and carrier of the traffic bearer in which the test message was received, thus the message was received by the traffic bearer on carrier 0, timeslot 2.
5. The F signifies the frame in which the test message was received, thus the message was received in frame 8.
6. The message received was an access_request.
7. The FMID and the PMID were both 0.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Tables of MAC Layer Test Messages That Can Be Logged

The following are the test messages that the HP 8923B can log.

A-Field Header (Binary)	Logging Syntax		ETS175-3 (MAC Layer) Text
Pt Messages			
111QBBBQE1XX 111QBBBQE010	D S, C, F PT:FULL_LONG	BS = XXXXXXXXX	36 bits of BS-channel data
111QBBBQE001	D S, C, F PT:SHORT:FILL	BS = XXXXX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:FULL_BLIND_SLOT	BS = XXXXX SLOT = XXX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:OTHER_BEARER	BS = XXXXX SN = X SP = X CN = X	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:REC_BEARER	BS = XXXXX SN = X SP = X CN = X	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:GOOD_BEARER	BS = XXXXX SN = X SP = X CN = X	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:DUMMY_POSITION	BS = XXXXX SN = X SP = X CN = X	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:RFP_IDENTITY	BS = XXXXX RFPI = XXX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:ESCAPE	BS = XXXXX ESC = XXX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:DUMMY_MARKER	BS = XXXXX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:BEARER_HANDOVER[1]	BS = XXXXX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:BEARER_HANDOVER	BS = XXXXX MASKED MASK = XX	BS channel + MAC Info
111QBBBQE001	D S, C, F PT:SHORT:RFP_STATUS[1]	BS = XXXXX[2]	BS channel + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:FILL	RFPI = XXXXX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:FULL_BLIND_SLOT	RFPI = XXXXX SLOT = XXX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:OTHER_BEARER	RFPI = XXXXX SN = X SP = X CN = X	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:REC_BEARER	RFPI = XXXXX SN = X SP = X CN = X	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:GOOD_BEARER	RFPI = XXXXX SN = X SP = X CN = X	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:DUMMY_POSITION	RFPI = XXXXX SN = X SP = X CN = X	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:RFP_IDENTITY	RFPI = XXXXX RFPI = XXX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:ESCAPE	RFPI = XXXXX ESC = XXX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:DUMMY_MARKER	RFPI = XXXXX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:BEARER_HANDOVER[1]	RFPI = XXXXX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:BEARER_HANDOVER	RFPI = XXXXX MASKED MASK = XX	RFPI + MAC Info
111QBBBQE000	D S, C, F PT:ZERO:RFP_STATUS[1]	RFPI = XXXXX[2]	RFPI + MAC Info

1 CHOICES : NONE | INTRACELL_ONLY | INTERNAL_ONLY
2 CHOICES : RFP_BUSY | RFP_CLEAR

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

A-Field Header (Binary)	Logging Syntax		ETS175-3 (MAC Layer) Text
Mt Messages			
Basic Connection Control			
11XQBBBQ0000000	D S, C, F MT:BASIC:ACCESS	FMID = XXX PMID = XXXXX	access_request
11XQBBBQ0000000	D S, C, F MT:BASIC:BEARER_HANDOVER	FMID = XXX PMID = XXXXX	bearer_handover_request
11XQBBBQ0000000	D S, C, F MT:BASIC:CONN_HANDOVER	FMID = XXX PMID = XXXXX	connection_handover_request
11XQBBBQ0000000	D S, C, F MT:BASIC:UNCONF_ACCESS	FMID = XXX PMID = XXXXX	unconfirmed_access_request
11XQBBBQ0000000	D S, C, F MT:BASIC:BEARER_CONFIRM	FMID = XXX PMID = XXXXX	bearer_confirm
11XQBBBQ0000000	D S, C, F MT:BASIC:WAIT	FMID = XXX PMID = XXXXX	wait
11XQBBBQ0000000	D S, C, F MT:BASIC:RESERVED	FMID = XXX PMID = XXXXX	reserved
11XQBBBQ0000000	D S, C, F MT:BASIC:RELEASE	FMID = XXX PMID = XXXXX	release
MAC Layer Test Message			
11XQBBBQ00100000	D S, C, F MT:FORCE_TRANSMIT	KP = X HD = X SN = X SP = X CN = X	Transmit on a specific slot and frequency
11XQBBBQ00100001	D S, C, F MT:LOOPBACK		Loopback test pattern
11XQBBBQ00100010	D S, C, F MT:TEST:DEFEAT_ANT_DIV	DP = X ANT = X	Select and antenna
11XQBBBQ00100011	D S, C, F MT:TEST:FORCE_BEARER_HANDOVER		Execute bearer handover
11XQBBBQ00100100	D S, C, F MT:TEST:ESCAPE	ESC = XXXXXXXX	MAC Test Escape
11XQBBBQ00100101	D S, C, F MT:NETWORK_TEST	SDU = XXXXXXXX	LLME 32bit SDU
11XQBBBQ00101111	D S, C, F MT:CLEAR_TEST_MODES		Clear all test modes
Quality Control			
11XQBBBQ00110000	D S, C, F MT:QUALITY:ANT_SWITCH_SINGLE	LBN = X	antenna switch for the single bearer identified by LBN
11XQBBBQ00110001	D S, C, F MT:QUALITY:ANT_SWITCH_ALL	RPN = X	antenna switch for all bearers of this connection to the RFP identified by its RPN
11XQBBBQ00110010	D S, C, F MT:QUALITY:BEARER_HANDOVER	LBN = X	handover of the bearer identified by its LBN
11XQBBBQ00110011	D S, C, F MT:QUALITY:CONN_HANDOVER		connection handover
11XQBBBQ00110100	D S, C, F MT:QUALITY:FREQ_CONTROL_BEARER	LBN = X FERR = XX	frequency control for the bearer identified by LBN
11XQBBBQ00110101	D S, C, F MT:QUALITY:FREQ_CONTROL_ALL	RPN = X FERR = XX	frequency control for all bearers of this connection to the RFP identified by RPN

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

A-Field Header (Binary)	Logging Syntax		ETS175-3 (MAC Layer) Text
Mt Messages			
Broadcast and CI Service			
11XQBBBQ01000000	N/A		CLf first of 2 transmissions half slot
11XQBBBQ01000001	D S, C, F MT:CL:FAST_FIRST	FMID = XXX PMID = XXXXX	CLf first of 2 transmissions full slot
11XQBBBQ01000010	N/A		CLf first of 2 transmissions double slot
11XQBBBQ0100XXXX	D S, C, F MT:CL:RESERVED	FMID = XXX PMID = XXXXX	reserved
11XQBBBQ01000100	N/A		CLf last transmission half slot
11XQBBBQ01000101	D S, C, F MT:CL:FAST_LAST	FMID = XXX PMID = XXXXX	CLf last transmission full slot
11XQBBBQ01000110	N/A		CLf last transmission double slot
11XQBBBQ01001001	D S, C, F MT:CL:SLOW_FIRST	FMID = XXX PMID = XXXXX	CLs service first transmission
11XQBBBQ01001000	D S, C, F MT:CL:SINGLE	FMID = XXX PMID = XXXXX	C/L single transmission no CLf or CLs service
11XQBBBQ01001100	D S, C, F MT:CL:CHANGE_DUMMY	FMID = XXX PMID = XXXXX	change dummy bearer position
11XQBBBQ01001110	D S, C, F MT:CL:EXT_SYS_INFO_A	FMID = XXX PMID = XXXXX	Extended system information; A-field procedure
11XQBBBQ01001111	D S, C, F MT:CL:EXT_SYS_INFO_B	FMID = XXX PMID = XXXXX	Extended system information; B-field procedure
Encryption Control			
11XQBBBQ01010000	D S, C, F MT:ENCRYPT:START & REQUEST	FMID = XXX PMID = XXXXX	Start and request encryption
11XQBBBQ01010001	D S, C, F MT:ENCRYPT:START & CONFIRM	FMID = XXX PMID = XXXXX	Start and confirm encryption
11XQBBBQ01010010	D S, C, F MT:ENCRYPT:START & GRANT	FMID = XXX PMID = XXXXX	Start and grant encryption
11XQBBBQ01010100	D S, C, F MT:ENCRYPT:STOP & REQUEST	FMID = XXX PMID = XXXXX	Stop and request encryption
11XQBBBQ01010101	D S, C, F MT:ENCRYPT:STOP & CONFIRM	FMID = XXX PMID = XXXXX	Stop and confirm encryption
11XQBBBQ01010110	D S, C, F MT:ENCRYPT:STOP & GRANT	FMID = XXX PMID = XXXXX	Stop and grant encryption
TARI Message			
11XQBBBQ1000	D S, C, F MT:TARI	TARI = XXXXXXXXX	LLME message access rights
Escape Message			
11XQBBBQ0111	D S, C, F MT:ESC	ESC = XXXXXXXXX	MAC Escape
Escape			
11XQBBBQ	D S, C, F ESC	ESC = XXXXXXXXX	Escape

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

B

Composition of RFPI

Introduction

The Radio Fixed Part Identifier (RFPI) is 40 bits long. There are eight types of access to a DECT network, which can be identified by their Access Rights Class (ARC). These eight classes are identified by a letter from A to H.

Where,

A . . . . . Represents small residential single cell FPs and small multi-cell FPs.

B . . . . . Represents complex private installations, for example, LANs or multi-cell PABXs.

C . . . . . Public Access.

D . . . . . Public use where DECT is directly attached to GSM.

E to H . . . . . are reserved.

Associated Acronyms and Abbreviations

ARC . . . . . Access Rights Class.

ARD . . . . . Access Rights Details.

ARI . . . . . Access Rights Identity.

E . . . . . Identifies if SARIs are available.

EIC . . . . . Equipment Installers Code.

EMC . . . . . Equipment Manufacturers Code.

FMID . . . . . Fixed Part MAC Identity

FPN . . . . . Fixed Part Number.

FPS . . . . . Fixed Part Subnumber.

GOP . . . . . GSM Operator Code[1].

IPEI . . . . . International PP Equipment Identity.

PARI . . . . . Primary Access Rights Identity.

PMID . . . . . Portable Part MAC Identity.

POC . . . . . Public Operator Code.

RFPI . . . . . Radio Fixed Part Identity.

RPN . . . . . Radio Part Number.

1. (see ETSI-GSM 03.03).

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

SARI . . . . . Secondary Access Rights

RFPI Structure

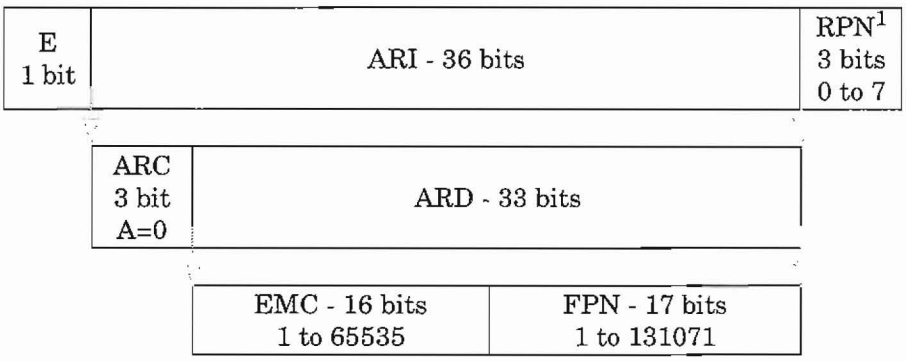
The RFPI is made from several parts. The basic format of the RFPI is;

RFPI . . . . . E + ARI + RPN

The RFPI is then further divided depending on the class of the RFPI.

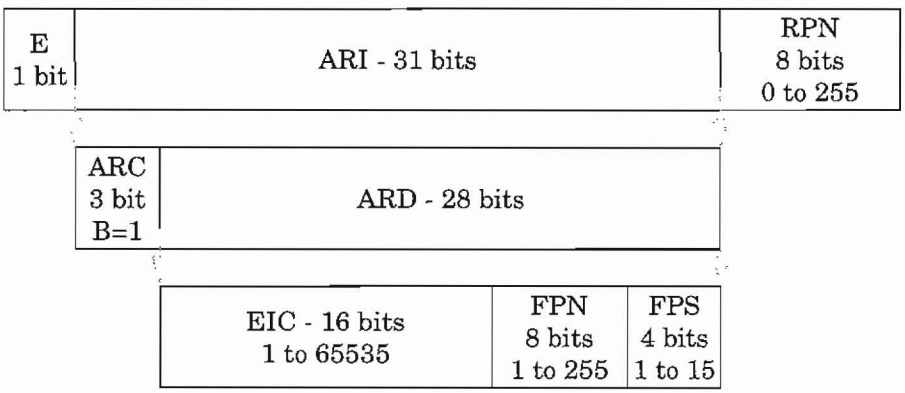
The different classes, and their composition, are shown below. The number of bits associated with each part of the RFPI is indicated in the square brackets.

Class A



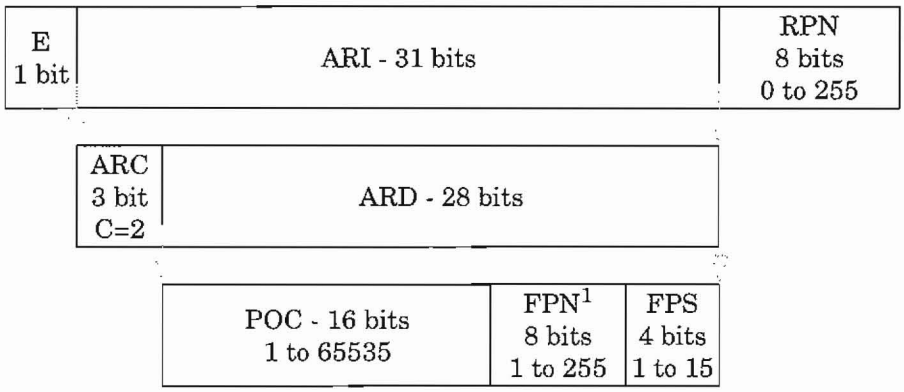
1 Zero represents a single cell FP.

Class B



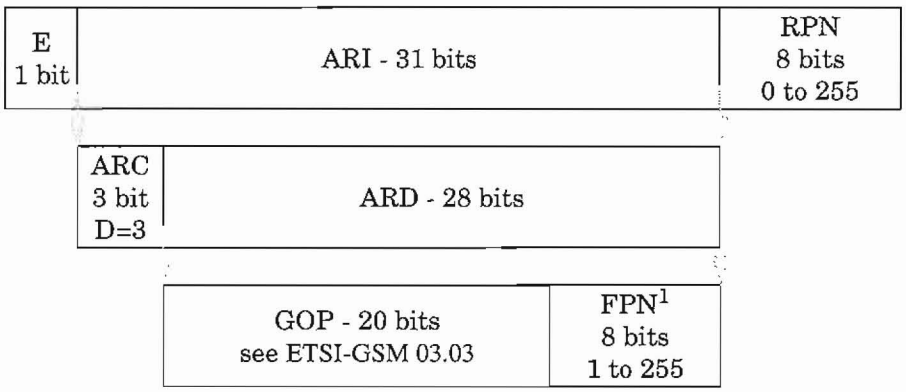
Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Class C



1 If the RPN is an even number then the FP is a single cell, if the RPN is an odd number then the FP is a multi-cell system.

Class D



1 If the RPN is an even number then the FP is a single cell, if the RPN is an odd number then the FP is a multi-cell system.

Composition of FMID

The FMID is made up of the 12 least significant bits of the RFPI

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Composition of PMID

The PMID is a 20 bit identification derived within the MAC layer. Two derivations for the PMID are defined. The derivation depends on whether the PP has an assigned individual TPUI (Temporary Portable User Identity) or a default TPUI. If an assigned individual TPUI exists the PMID is identical to the TPUI. Otherwise the PMID is based on the IPEI, with the most significant 4 bits set to 1110.

The PMID is re-calculated for each new setup attempt.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Index

Numerics

10 MHz ref out 2-9

A

abbreviations 1-4
AC voltmeter specification 9-5
accessories 2-2
alphanumeric fields 5-12
altering units 5-7
amplitude of generated signal 5-50
antenna number field 5-33
assigning global keys 5-11
audio analyzer counter specification 9-5
audio fields explained 5-13
audio hardkey 5-3
audio measurements 4-22
    full loopback 4-24
    handset 4-27
    microphone testing 4-26
    speaker testing 4-25
audio screen described 5-13
audio source frequency specification 9-4
audio source level specification 9-4
audio source/analyzer checks 6-3
audio testing 4-22
auto attenuation switch 5-50
aux in/out 2-11
averaging a measurement 5-10

B

beeper volume 5-22
BER fields explained 5-16
ber hardkey 5-3
BER measurements 4-19
BER screen described 5-16
BER theory 4-19
bit error ratio specification 9-4
bursted RF measurements 4-5

C

call setup
    FP 3.1-7
    PP 3.1-3
call setup check 6-2
call setup hardkey 5-3
call setup screen described 5-18
call termination
    FP 3.1-9
    PP 3.1-5
carrier frequency 9-2
carrier level 9-2
centre frequencies 4-8
changing control parameters 3.1-11
changing units 5-7
chapter descriptions 1-2
checking the audio source/analyzer 6-3
checking the communication link 6-2
clearing all registers 5-5
communication
    fixed part 3.1-7
communication burst 3.3-2
communication link 3-1
    termination 3.1-5
comp video out 2-9
completed BER 5-16
confidence checks 6-2
configuration screen described 5-22
configuring the HP 8923A 2-7
connecting
    disk drive 2-18
    handset 2-22
    multiple HP 8923Bs 2-19
    power cable 2-4

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

serial printer 2-12
terminal 2-16
connections
10 MHz ref out 2-9
audio in 2-8
audio out 2-8
aux in/out 2-11
comp video out 2-9
data clk out 2-11
ext ref in 2-9
handset 2-10
hpib 2-10
ibasic/print serial port 2-10
logging serial port 2-10
meas trig 2-9
opt 1D5 ref out 2-9
RF In/Out 2-8
rx data out 2-10
sync in 2-10
sync out 2-10
trigger 2-8
tx data out 2-10
tx2 data out 2-11
tx2 en out 2-11
contents 2-2
control knob cursor 5-8
criterion of WER 5-56
CW measurements 4-5
CW measuring mode 3.2-3
CW mode specification 9-2

D

data clk out 2-11
data fields 3.3-2
data function keys 5-9
data keys 5-6
data pattern selection 5-25
date format 5-22
DC voltmeter specification 9-5
DECT burst 3.3-2
DECT channels 4-8
DECT conventions 1-4
default settings 2-7
deleting a register 5-5
deviation 4-9
binary one 4-10
binary zero 4-10
dimensions 9-9
disconnecting
fixed part 3.1-9
disk drive 2-18
documentation 1-3
documentation options 1-3
drift 4-11
drift specifications 9-3
dummy bearer measurements 4-3
dummy carrier 5-19
dummy timeslot 5-19

E

entering data 5-7
entering test message data 3.3-6
error messages 10-1
escpae message field 5-33
ext ref in 2-9
external devices
disk drive 2-18
handset 2-22
hp-ib printer 2-14
serial printer 2-12
terminal 2-16
external disk specifier 5-23
external loss 3.1-11, 5-35
external loss setting 3.2-5
external source screen described 5-25
external triggering 3.2-2

F

fault indicators 10-1
field types 3.3-2
fields
alphanumeric 5-12
menu 5-12
numeric 5-12
underlined 5-12
fields described 5-12
firmware display 5-23
fitting the power cable 2-4
form feed at end 5-48
form feed at start 5-48
FP pari 5-19
freq hardkey 5-3
frequency accuracy 5-28
frequency accuracy theory 4-7
frequency coupling 5-38
frequency deviation 4-9
frequency deviation (0) mac 5-28
frequency deviation (0) min 5-28

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

frequency deviation theory 4-10
frequency drift 4-11
frequency drift screen described 5-27
frequency drift theory 4-12
frequency input form 5-39
frequency measurement screen described 5-28
front panel connector specifications 9-7
front panel connectors 2-8
front panel keys 5-2
fuses 2-3

G

GFSK modulation specifications 9-3
global keys
    assigning 5-11
    releasing 5-11
global keys defined 5-11

H

handset 2-10, 2-22
handshake options 5-32
hardkey
    audio 5-3
    ber 5-3
    call setup 5-3
    frequency 5-3
    help 5-3
    msg 5-3
    prev 5-3
    print 5-3
    test 5-3
hardkey pwr 5-3
help hardkey 5-3
help screen information 5-30
high stability reference specification 9-6
HP 8923 pmid 5-19
HP 8923 pari 5-18
hp-ib address 5-22
hp-ib connector 2-10
hp-ib mode 5-22
hp-ib printer 2-14

I

ibasic/print serial port 2-10
immediate triggering 3.2-3
initial switch on 2-6
input amplitude 3.1-11, 5-35
input amplitude setting 3.2-5
instrument options 9-10
instrument state keys 5-4
intensity 5-22
intermediate BER 5-16

J

jitter screen described 5-31
jitter specification 9-3
jitter theory 4-13

K

key descriptions 1-4, 5-2

L

level of marker 5-42
line voltage selection 2-3
lines per page 5-48
loading a test procedure 8-3
logging on a terminal 2-17
logging screen described 5-32
logging serial port 2-10

M

MAC layer messages 3.3-2
    clear test modes 3.3-5
    defeat antenna diversity 3.3-4
    escape 3.3-4
    force transmit 3.3-3
    loopback data 3.3-3
MAC message screen described 5-33
making audio measurements 4-22
manual
    contents 1-2
    layout 1-2
    options 1-3
    part numbers 2-2
    summary 1-2
manual attenuation setting 5-50
marker amplitude 5-42
marker position 5-42

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

marker time position 5-42
master and slave setup 2-19
master configuration 2-21
meas trig connector 2-9
measurement averaging 5-10
measurement control parameters 3.1-11, 3.2-4
measurement control screen described 5-35
measurement keys 5-3
measurement pattern 5-36
measurement patterns 4-3, 4-5
measurement reference 5-10
measurement triggers 4-3, 4-5
measuring deviation 4-9
measuring frequency 4-6
measuring frequency drift 4-11
measuring mode 5-35
    CW 3.2-3
    normal 3.2-2
measuring mode setting 3.2-5
menu fields 5-12
message screen described 5-41
modifiying units 5-7
msg hardkey 5-3
multiframe synchronizing 5-23

N

normal measuring mode 3.2-2
normal transmitted power 4-14
NTP specifications 9-3
numeric fields 5-12

O

operating temperature 9-9
opt 1D5 ref out 2-9
ordering
    programming reference manual 1-3
    quick start guide 1-3
    service guide 1-3
oscilloscope 4-28
oscilloscope decribed 5-42
oscilloscope specification 9-5
overview 1-2

P

packet type 5-40
parity of data transfer 5-53
part number
    programming reference manual 1-3
    quick start guide 1-3
    service guide 1-3
performance tests 7-1
power
    measurement theory 4-15
    measurements 4-14
    template theory 4-17
    time
        fall 4-16
        middle 4-16
        rise 4-17
        templates 4-16
power off setting 5-26
power on setting 5-25
power screen described 5-44
power settings 9-9
power zeroing 4-15
power-time fall screen described 5-46
power-time rise screen described 5-46
power-time screen described 5-45
PP pmid 5-18
preparing the HP 8923B 2-1
prev hardkey 5-3
print data destination 5-48
print hardkey 5-3
printer choices 2-15
printer configuration screen 5-48
printer model options 5-48
printer output destination 5-48
programming language 9-9
programming reference 1-3
pulse modulation specifications 9-2
pwr hardkey 5-3

R

rear panel connectors 2-9
recalling states 5-4
recommended accessories 9-10
reference frequency specification 9-6
referencing a measurement 5-10
releasing global keys 5-11
removing a register 5-5
RF parms screen described 5-49
RF rise triggering 3.2-2

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

rx data out 2-10

S

save/recall device 5-23
saving states 5-4
selecting a printer 2-13
selecting part to test 5-18
selecting voltage 2-3
send command 5-33
sending test messages 3.3-6
serial baud rate 5-32, 5-52
serial input port 5-52
serial no. display 5-23
serial printer 2-12
serial screen described 5-52
service guide 1-3
setting
    external loss 3.1-11, 3.2-4
    input amplitude 3.1-11, 3.2-4
    measuring mode 3.2-4
    trigger source 3.2-4
setting parameters 2-7
setting up a call 3-1
setting up the HP 8923B 2-1
slave configuration 2-21
slot to slot jitter 4-13
softkeys 5-11
start up screen 2-6
status changes 3.1-2
stop bit options 5-52
storage temperature 9-9
summary of contents 1-2
supported printers 9-10
sync in 2-10
sync out 2-10
synchronization errors 10-8
synchronization ports 2-20
synchronizing HP 8923B's 2-19

T

template specifications 9-3
terminal 2-16
terminating a communication link 3.1-9
test bits 5-16
test messages 3.3-2
tests hardkey 5-3
tests screen described 8-1
tests subsystem 8-1
time format 5-23
time position of marker 5-42
timeslot selection 5-25
title of print 5-48
traffic bearer measurements 4-3
traffic carrier 5-16, 5-19
traffic slot 5-16
traffic timeslot 5-19
transmitted test messages
    FP 3.3-9
    PP 3.3-7
trigger source 5-35
trigger source setting 3.2-5
triggering
    ext 3.2-2
    immediate 3.2-2
    RF rise 3.2-2
tx data out 2-10
tx level 5-16
tx power (NTP) 5-44
tx2 data out 2-11
tx2 en out 2-11
types of power cable 2-5

U

underlined fields 5-12
user confidence checks 6-2
user defined B-field screen 5-54
using the control knob 5-8

W

weight 9-9
WER measurements 4-21
WER screen described 5-56

Z

zeroing power reading 4-15

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP