




#62-410
 #62-411
 #62-415

Craft Testsets

Models: 610, 620 & 630

Features of the Model 6 Series

- SIGNALSHIELD™ Signal Detection Circuit (630 only)
- Hands-Free Speakerphone (620 & 630 only)
- Filters for safe DSL line connection (620 & 630 only)
- Amplified Speaker in Monitor & Talk Modes
- High Impedance "Safe For Data" Monitor
- 3 "One-touch" Direct Dialing Locations
- 10 Memory locations for Repertory dialing
- Meets 12' and 20' drop tests specs
- Built-in ringer to indicate incoming calls
- Last Number Redial - 32 digits - T/P
- DTMF (tone) and Rotary (pulse) Dialing
- Line Polarity indication
- Microphone Mute for noisy locations
- 1 Year warranty period

 **This symbol indicates that the user should read these operating and connection instructions before use.**

 **CAUTION**

FOR YOUR SAFETY AND TO PREVENT DAMAGE TO THE UNIT, DO NOT CONNECT THIS TESTSET TO 110 VOLT OR 220 VOLT AC POWER LINES. INTENTIONAL OR ACCIDENTAL CONNECTION TO AC POWER LINES IS ENTIRELY THE USER'S RESPONSIBILITY AND VOIDS THE WARRANTY. FOLLOW GOOD SAFETY PRACTICES DURING INSTALLATION AND TESTING OF TELEPHONE SERVICES.

 **CAUTION**

THE TESTSET SHOULD BE DISCONNECTED FROM THE LINE BEFORE OPENING FOR BATTERY OR LINE CORD REPLACEMENT.

Feature Set for Model 630 Cat. No. 62-415

Includes all of the Model 6 Series features plus our SIGNALSHIELD™ function and a speakerphone.

Feature Set for Model 620 Cat. No. 62-411

Includes all of the Model 6 Series features plus a speakerphone.

Feature Set for Model 610 Cat. No. 62-410

Includes all of the Model 6 Series features, speaker only (no speakerphone).

Controls and Indicators

TALK - MON Switch

Located below the receiver, this 2-position switch is used to select the mode of operation.



TALK - Talk

This position connects the testset to the line for network signaling, conversation, and testing. The TALK position creates an off-hook condition such as that created when the receiver is picked up on a regular telephone set.

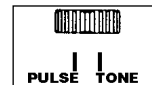
MON - Monitor

This position connects the testset to the line through a high impedance circuit, allowing monitoring of the line without disturbing on-going conversations, data transmission, or network signaling.

The MON position creates an on-hook condition, with the speech and test circuits isolated from the line. The ringer is connected to the line in Monitor mode.

PULSE - TONE

Located below the receiver, this 2-position switch is used to select the dialing mode.



The TONE position selects DTMF signaling. The PULSE position selects rotary style, dial pulse signaling.

LEDs - Polarity Indicators - Main Keypad 610

The Model 610 testset employs 2 LEDs (one green and one red) to indicate line polarity. The polarity indicator LEDs are located above the keypad.

LEDs - Indicators - Main Keypad 620 and 630

The Model 620 testset employs 1 dual-color LED to indicate line polarity. The Model 630 testset employs 2 LED's. One dual-color LED to indicate polarity and one Red LED to indicate that the SIGNALSHIELD™ circuit has detected a high frequency signal. The indicator LEDs are located above the keypad. Please see the OPERATION section for details.

LED Indicator - Small Keypad

See following Small Keypad section for details.

Main Keypad

The main keypad is located on the front of the testset, just below the receiver.

The main keypad includes 12 standard network addressing keys and 4 control keys to enable special functions. The 12 standard keys are used in signaling and for entering digits for network addressing.



The four control keys cause the following functions to be performed:

MR - Memory Recall key

Used to Recall numbers from the ten Two Touch Memory locations.

F - Flash key

When pressed, the testset produces a line break, (hook flash), for obtaining a new dial tone or for PBX control.

R - REDIAL key

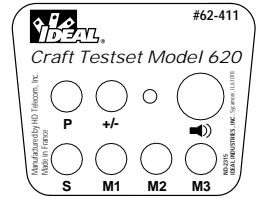
When pressed, the last number dialed will be re-dialed from the internal memory.

M - MUTE key

When pressed, the transmitter is muted and the sidetone is eliminated. Use of the mute feature improves communications in noisy locations.

Small Keypad

The small keypad is located on the upper part of the back of the testset. There are 7 control keys used to enable special functions. There is 1 LED used to indicate several conditions. See below.



P key Pause

Used to enter a pause into the memory locations.

+/- Button

Used to control the volume of the speaker.

S key Save

Used during programming to Save a number into a memory location.

M1, M2, and M3

The Memory keys, M1, M2, and M3 are used to dial a number from memory using the One Touch Memory feature.

LED indicator - Small Keypad

The LED on the small keypad is active only when the amplifier is turned on. The LED lights steadily when the speakerphone or amplified speaker is on and the batteries are OK. If the LED blinks, the batteries need to be changed

Special Note on the SIGNALSHIELD™ Feature

The SIGNALSHIELD™ circuit of the Model 630 tests the telephone line to determine if there is a high frequency digital signal present (T1, DSL, ISDN or Data Circuits). If there is a digital signal on the line, the Model 630 will give an audible and visual warning alarm. The SIGNALSHIELD™ feature is intended to prevent interruption of data or voice signals on an active telephone line.

If you are working on a line provisioned with both DSL and voice service, the SIGNALSHIELD™ alarm will sound to indicate the presence of the DSL signals but you can go off hook to test the voice by going into TALK mode.

Amplified Speaker Button

Some Model 6 Series feature a speakerphone circuit to enable “hands-free” talking and an amplified speaker for high volume monitoring of a line. The speaker button is located in the upper right corner of the small keypad on the upper back of the testset. The speaker button has a small speaker symbol near it.

Please see the Speakerphone section and amplified speaker section of this manual for more information.

Operation

SPECIAL NOTE: The Model 6 Series Testsets will operate without batteries for dialing, talking, receiving calls and monitoring calls; but operation of the advanced features, SIGNALSHIELD™, speaker, memory dialing, and the ringer, will require the installation of batteries.

Using Your Testset to Make a Connection

The Model 6 Series testsets may be connected to circuits only by using a recommended cordset during the installation and testing of telephone services. Please see CORDSETS section for details of recommended cordsets to be used with the Model 6 Series testsets.

Basic Operation

Basic operation of the testset may be accomplished as follows:

1. Select MON (monitor mode).
2. Connect the cordset to the line:
 - Red Lead to Ring (-)
 - Black Lead to Tip (+)
3. Listen to the receiver or use the speaker to confirm the line is not in use.
Note: If you connect a Model 630 to a telephone line and you hear an alarm tone, you are trying to connect to a line which our SIGNALSHIELD™ circuit has tested and has determined that there is a high frequency signal present.
Please see the SIGNALSHIELD™ section of this manual for information on this function.
4. If no alarm or conversation is heard, select PULSE or TONE dialing.
5. Select “Talk” mode to confirm a dial tone is received.
6. Proceed with dialing, conversation, testing, etc.

TALK (Talk) Mode

See above for operation information. This position connects the testset to the line for network signaling, conversation, and testing. The TALK position creates an off-hook condition similar to picking up the receiver of a regular telephone set.

MON - Monitor Mode and Use

MONITOR mode is an “on-hook” condition with the speech and test circuits isolated from the line. This position connects the testset to the line through a high impedance monitor circuit, enabling the craftperson to monitor a line without interrupting on-going voice conversations, data transmissions or network signaling.

The Model 630 SIGNALSHIELD™ function will automatically detect high frequency signals (T1, DSL, and ISDN) in Monitor mode.

NOTE: You may press the Speaker button on the small keypad to activate the amplified speaker feature while monitoring a line. Press the +/- key to increase or decrease the speaker volume. See Amplified Speaker section for details.

NOTE: The electronic ringer is connected to the line in Monitor mode.

NOTE: Monitor mode will work with or without a battery. However, without a battery, the speaker will not work in Monitor mode.

MR - Memory Recall - Memory Dialing

Please see memory section for operation information.

R - Redial of Last Number Called

Re-dialing of the last number dialed may be done in TONE or PULSE modes. Up to 32 digits may be recalled. The memory will retain the last number dialed for about 30 minutes.

Redial Operation

After you have dialed a number, go off-line for a moment, then press “TALK” to reconnect to the network. Confirm that you have a dial tone, and then press the “R” key on the keypad. The last number previously dialed will be re-dialed from memory. Redial is done in the same mode (Tone or Pulse) as originally dialed.

When connected to a regular line, you may go “off-hook” by switching from Talk to Mon and then back to Talk or by pressing the F (Flash) key. If you are behind a PBX, the flash key will generate a 600 ms line break for PBX control.

Polarity Check

When in TALK mode, the Model 6 Series testsets indicate polarity continuously, without requiring a keypad action.

To check the polarity of a line:

- Connect the BLACK test lead to TIP (positive), and connect the RED test lead to RING (negative). Switch to “TALK” to access the network.
- For the Model 610, if the GREEN LED above the keypad lights up, the line polarity is correct; if the RED LED above the keypad lights up, the line wiring/polarity is reversed.
- For the Models 620 and 630, one dual-color LED is used to indicate line polarity using the same color codes as above.

NOTE: All functions of the Model 6 Series will operate with any line polarity.

Ringer

The Model 6 Series testsets are equipped with an internal electronic ringer to indicate incoming calls (Ring signals).

Connect the testset to a line. The TALK - MON switch should be in “MON” position in order to receive incoming calls (ring signals).The ringer function requires that the batteries are installed.

SIGNALSHIELD™ OPERATION

The Model 630 is equipped with our SIGNALSHIELD™ feature.

The SIGNALSHIELD™ feature is intended to prevent interruption of data signals (T1, DSL, and ISDN) on an active telephone line or a data circuit by alerting the user to the presence of high frequency signals on the line.

If you are using the Model 630 in Monitor (MON) mode and you connect to a line and hear an alarm tone, you are trying to connect to a line which our SIGNALSHIELD™ circuit has tested and has determined that a high frequency signal (T1, DSL, ISDN) is present.

The SIGNALSHIELD™ feature operates in Monitor mode (MON) only.

If a high frequency signal is detected, the alarm will sound and the small Red LED on the small keypad will light up. If no alarms are heard, listen to the receiver or use the speaker to confirm the line is not in use before dialing, etc.

SIGNALSHIELD™ OPERATION with DSL service

If you are working on a line provisioned with both DSL and voice service, the SIGNALSHIELD™ alarm will sound to indicate the presence of the DSL signals but you can go off hook to test the voice path by going into TALK mode.

NOTE: The Models 620 and 630 testsets employ high frequency filters to protect DSL signals when the testset is in TALK mode.

Amplified Speaker - Listen Only

The Model 6 Series testsets are equipped with an amplified speaker circuit to monitor line activity.

To activate the Amplified Speaker function in MONITOR mode, press the speaker button, located on the small keypad. The speaker button has a small speaker symbol next to it. The amplified speaker function will become operational and you will hear any activity on the line.

To control the volume, press the +/- button. Press once to provide additional amplification. A second press will return you to the initial volume level. You may turn off the Amplified Speaker function by pressing again on the speaker key.

NOTE: The Amplified Speaker will remain active as long as the testset is connected to the line and in MONITOR mode.


NOTE: When the Amplified Speaker is operating in MONITOR mode, it will automatically shut off after 10 minutes after disconnection from the line.

Special Note - Model 630 Amplified Speaker

When the Amplified Speaker function is activated while the Model 630 is in Talk mode, the Model 630 operates as a Speakerphone. See following section.

Duplex Speakerphone Operation

The Model 630 and Model 620 are equipped with a Duplex Speakerphone. The Speakerphone operates in Talk mode only.

To activate the Speakerphone function, switch to TALK mode and press the Red speaker button , located on the small keypad. The Speakerphone function will become operational.

To control the volume, press the +/- button. Press once to provide additional amplification. A second press will return you to the initial volume level. You may turn off the Speakerphone function by pressing again on the speaker key.

Duplex Speakerphone - Out-Going Calls

To make an out-going call using the 2-way Speakerphone, switch to the TALK mode, press the Speakerphone button; when you hear a dial tone, dial the desired number.

To answer an in-coming call using the Speakerphone; when you hear a ring, indicating an in-coming call, switch to Talk mode and press the Speakerphone button and speak with the calling party.

Memory Dialing

The Model 6 Series is equipped with two types of memory dialing. There are three (3) "One Touch" memory locations and ten (10) "Two Touch" memory locations.

The three "One Touch" memory locations will dial the stored number with one press of one of the three memory buttons on the small keypad.

The ten "Two Touch" memory locations require that you press the MR button on the main keypad and then press one of the numeric keys on the main keypad.

Memory retention is dependent on the batteries. Without a battery the numbers stored in memory are retained for about 30 minutes.

Memory programming can be done in Tone or Pulse. Memory dialing can be done in Tone or Pulse. You can program memory in Pulse mode, and dial that number from memory in Tone mode or vice versa.

You cannot program a "Flash" into a memory location.

A maximum of 16 digits can be programmed into a memory location. Chain dialing is possible, meaning that you can dial from one or more memory locations during one telephone call.

Programming the memories or using the memories is done with the testset in the "TALK" mode, meaning connected (off-hook) to a telephone line.

NOTE: During memory programming, the key presses will have no effect on the telephone line. You will hear tones in the receiver or on the Amplified Speaker as you press the keys indicating the key press was completed.

One-touch Memory

All Model 6 Series testsets have three (3) "One Touch" memory locations. They are on the small keypad located on upper back portion of the testset case. These are labeled as M1, M2, and M3.

The one touch memories are programmed by using the regular keypad and the "S" key for saving a number in memory and the "P" key for entering a pause into the number at that memory location.

Programming the One-touch Memory

The set should be connected to a phone line and switched to TALK mode. Then you can begin programming your memory locations.

Press the S key, enter the number using the main keypad, press the S key again followed by a press on M1 or M2 or M3 to store the number in that location.

For example, to store 1.800.947.3614 into memory location M2, you would use the following sequence:

S 18009473614 S M2

If you want to store a pause, for example, after dialing a 9, press the P key at the appropriate part of the number entry sequence and a pause will be stored.

For example, to get through a PBX that requires a 9 and short pause to access the dial tone on an outside line, you will need to press the buttons as follows:

S 9 P 18009473614 S M2

Dialing Using the One Touch Memory

Put the testset into TALK mode by moving the TALK - MON switch to the TALK position, confirm that you have dial tone and then press the One Touch Memory button for the number you want to call. The testset will dial the number in that location.

Two-touch Memory

There are ten (10) "Two Touch" memory locations. These memory locations are dialed by pressing the "MR" button on the main keypad and then pressing the 0 to 9 key on the same main keypad.

Programming the Two-touch Memory

The set should be connected to a phone line and switched to TALK mode. You can then begin programming the Two Touch memory locations. Press the S key on the small keypad. Enter the number you want to store by using the main keypad, press the S key again followed by a press on one of the numeric keys on the main keypad to store the number in that location.

For example, to store 1.800.947.3614 into main keypad memory location 5, you would press the following keys in the following sequence:

S 18009473614 S 5

If you want to store a pause, for example, after dialing a 9, press the P key at the appropriate part of the number entry sequence and a pause will be stored.

For example, to get through a PBX that requires a 9 and short pause to access the dial tone on an outside line, you will need to press the buttons as follows:

S 9 P 18009473614 S 5

Dialing Using the Two-touch Memory

Put the testset into TALK mode by moving the TALK - MON switch to the TALK position, confirm that you have dial tone. Press the MR (Memory Recall) key on the main keypad, then press the numeric key on the main keypad for the number you want to call. The testset will dial the number in that location.

Replacing the batteries

The Model 6 Series testsets use four AA size batteries to power the amplified speaker and speakerphone circuits and other functions. Estimated operational life is more than 100 hours at full output.

The batteries for the Model 6 Series are located under the non-slip pad/back cover.

Use a screwdriver to loosen the two screws holding the back cover in place. Slide the cover away from the speaker grille and lift up. The batteries are the AA type. We recommend that you use the alkaline battery type for replacement. Insert the batteries in accordance with the symbols inside of the battery compartment.

The testset will retain the numbers in the memory locations for about 30 minutes without batteries installed. The set is protected against reverse polarity if you accidentally insert the batteries in the wrong direction.



CAUTION

THE TEST SET SHOULD BE DISCONNECTED FROM THE LINE BEFORE OPENING FOR BATTERY REPLACEMENT.

Line Cord Connection

The Model 6 Series testsets are designed with a standard 6-position modular jack for easy connection of a variety of cordsets. This jack is located under the cover that secures the batteries and the belt clip.

To change the cordset, remove the two screws holding the cover and release the cordset plug. Insert the new cordset and replace the cover and the screws.



CAUTION

THE TEST SET SHOULD BE DISCONNECTED FROM THE LINE BEFORE OPENING FOR LINE CORD REPLACEMENT.

Cordsets

• 62-425 - Standard Cord

This cordset is the standard cordset supplied with the testset. It is approximately 5 feet in length and consists of two conductors, one red and one black. It is equipped with a modular plug at one end for connection to the testset. The other end is equipped with bent nose alligator clips including a bed-of-nails and piercing spike. The modular plug is inserted into the modular jack under the back cover of the testset. The bent nose alligator clips are attached to telephone line terminals for testing functions and monitoring the status of the line.

• 62-427

Standard cordset without nails.

• 62-433

Intended for central office use. Equipped with a modular plug on one end and a 346 plug on the other end.

• 62-431

This cordset has a 6-position, 4-wire modular plug at each end.

Maintenance

Cordsets should be checked periodically for continuity, shorts and signs of physical wear, such as fraying and loose test clips that may interfere with the units ability to function properly.

The Model 6 Series testset may be cleaned with a damp cloth. Use a small amount of liquid soap if heavy dirt is encountered. Do not use scouring powders or cleansers as they may scratch the unit or cause malfunctions.

Specifications

Electrical

Talk - Loop Limit:	8000 Ohms maximum at 48 VDC
Monitor - Leakage:	Higher than 500K Ohms
Impedance:	Greater than 120K Ohms
Return Loss - @ 600 Ohms:	Greater than 14dB from 300 to 3400 Hz

Rotary Dial Output

Pulse Rate:	10 pps +/- 10%
M/B Ratio:	60/40% +/- 2%
Inter-digit Interval:	800 ms typical
Leakage during Break:	Greater than 100K Ohms

DTMF Output

Tone Frequency Error:	+/- 1.5% maximum
Tone Level:	
High Group:	-6dBm +/- 2dB
Low Group:	-8 dBm +/- 2dB

Memory Dialing

Type:	Redial and Memory
Mode:	Tone and pulse
Retention:	Life of the batteries (30 minutes without battery)
Capacity:	32 digits (Redial) 16 digits (Memory)

Ringer

Output Level:	76 dBA at 1 meter
Response:	16-25 Hz 60 Volts
Operating Temperature:	-10 to +60°C

Physical

Length:	9-3/4" (24.76 cm)
Width:	2-5/8" (6.66 cm)
Height:	2-1/2" (6.35 cm)
Weight:	15 oz. (425 gms)

Troubleshooting Tips

Unit Shuts Off:

The unit will automatically shut off after 10 minutes after disconnection to the line to save battery life.

Unit is Dead:

The battery is dead. Estimated operational life is more than 100 hours at full output.

Loses Memory Locations:

Numbers are retained for about 30 minutes without batteries installed.

Warranty

Limited 1-Year Warranty

IDEAL warrants to the original end-user purchaser that its lineman's testsets, and the components and parts thereof, will be free from defects in workmanship and materials for a period of one year from the date of purchase.

The obligations of IDEAL under this warranty shall be limited to the repair or replacement (at our option), during the warranty period, of any part that proves defective in material or workmanship under normal installation, use, and service provided the product is returned to IDEAL freight prepaid. Products returned to us must be accompanied by a copy of the purchase receipt. In the absence of such purchase receipt, the warranty period shall cease 12 months from the date of manufacture.

No warranties other than that set forth in this section are given or implied. IDEAL shall not be liable for any consequential damages or loss, direct or incidental, including without limitation, damages or expenses resulting from the use, the misuse, or the inability to use its products.

Cordsets used with testsets are not under warranty.

This warranty shall be invalid if the product is damaged as a result of misuse, abuse, neglect, accident, exposure to improper electrical voltages or currents, repair, alteration, or maintenance by any persons other than the IDEAL service facility.

Some states do not allow limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may also have other rights which vary from state to state.

Service

IDEAL products are designed and manufactured to ensure a minimum of maintenance. However, should your testset ever require service, follow the instructions for service.

In-Warranty Service

For in-warranty service, ship the unit to our service group. Include a form of proof-of-purchase, such as a photocopy of the sales receipt. IDEAL will, at our option, repair or replace your testset free of charge, and will return it freight prepaid. Note that cordsets used with the testset are not under warranty. See shipping instructions below.

Out-of-Warranty Service

For out-of-warranty service, ship the damaged unit to our service group. IDEAL will inspect the unit for damage and advise the estimated cost of repair by phone or mail. Upon your approval of the estimated repair charge, we will make all necessary repairs and return the testset to you. Charges for service and return freight are invoiced on a C.O.D. basis with the return shipment, unless you have an approved credit account. See shipping instructions below.

Shipping Instructions

1. Ship the testset and a copy of the sales receipt, if available.
2. Enclose a description of the problem you are having.
3. Include your name, address, and telephone number.
4. Pack securely to prevent damage in transit.
5. Ship prepaid to:

IDEAL INDUSTRIES, INC.

Becker Place
Sycamore, IL 60178

IDEAL INDUSTRIES, INC.

Sycamore, IL 60178, U.S.A.
800-435-0705 Customer Assistance
800-947-3614 DataComm Assistance
www.idealindustries.com

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