MATRIX® 570VT

SETUP MANUAL

Software version 1.00

ISOBUS TeeJet®

TeeJet® TECHNOLOGIES

A Subsidiary of Spraying Systems Co.®

To ensure optimal use of the equipment, please read this manual thoroughly. Please contact TeeJet Technologies Customer Support or an authorized TeeJet Technologies dealer if additional support is required.

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CHAPTER 1– PRODUCT OVERVIEW

The Matrix 570VT is designed to provide years of service under typical agricultural operating conditions. A tight fitting enclosure, combined with rubber covers for all connectors mean that typical dusty environments will not cause operational problems. While occasional splashing of water will not damage the unit, the Matrix 570VT is not designed for direct exposure to rain. Take care not to operate the Matrix in wet conditions.

Figure 1-1: Console Front & Back

OPTIONAL SYSTEM COMPONENTS

IC18 Sprayer/NH3 ECU

Use with your existing VT or Matrix® 570VT

- Works seamlessly and displays on any ISOBUS VT
- Easy navigation menu and data rich display
- IC18 Sprayer ECU suitable for use with NH3 and liquid fertilizer
- Automatic boom section control upgrade option
- Variable rate control available providing your VT has GPS and task control capability
- Add additional ISOBUS ECUs as your needs change
- Provides basic rate control
- Standardized plugs, cables and software simplify installation and connectivity and result in true “plug and play” technology. IC18 ECU resides on the implement, reducing hardware in the cab

Figure 1-2: IC18 Job Computer

IC18 Spreader Electronic Control Unit

Use with your existing VT or the Matrix 570VT for dry product application

- Works seamlessly and displays on any ISOBUS VT
- Easy navigation menu and data rich display
- Add additional ISOBUS ECUs as your needs change
- Provides basic rate control
- Standardized plugs, cables and software simplify installation and connectivity and result in true “plug and play” technology. IC18 ECU resides on the implement, reducing hardware in the cab

Figure 1-3: IC18 Spreader Electronic Control Unit

BoomPilot Electronic Control Unit for IC18

BoomPilot (automatic boom section control) is possible in combination with software built into the IC18 Sprayer/NH3 Electronic Control Unit (ECU). The ECU should be combined with the appropriate cable to interface with your BoomPilot system, spray controller and/or spraying machine for quick and easy installation. Electronic Control Units and their related cables are designed to control as many boom sections as the spray controller to which they are connect, up to a maximum of 9 boom sections.

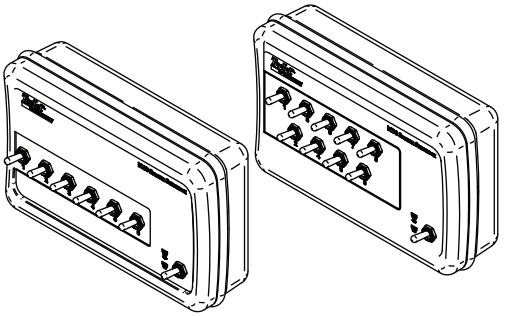
Figure 1-4: BoomPilot Electronic Control Unit

Switchbox

Manual section control with remote master capibility. The switchboxs are available in two configurations.

- ► 9 sections output or 8 sections and a master output
- ► 6 sections output or 5 sections and a master output

Figure 1-5: Switchboxes



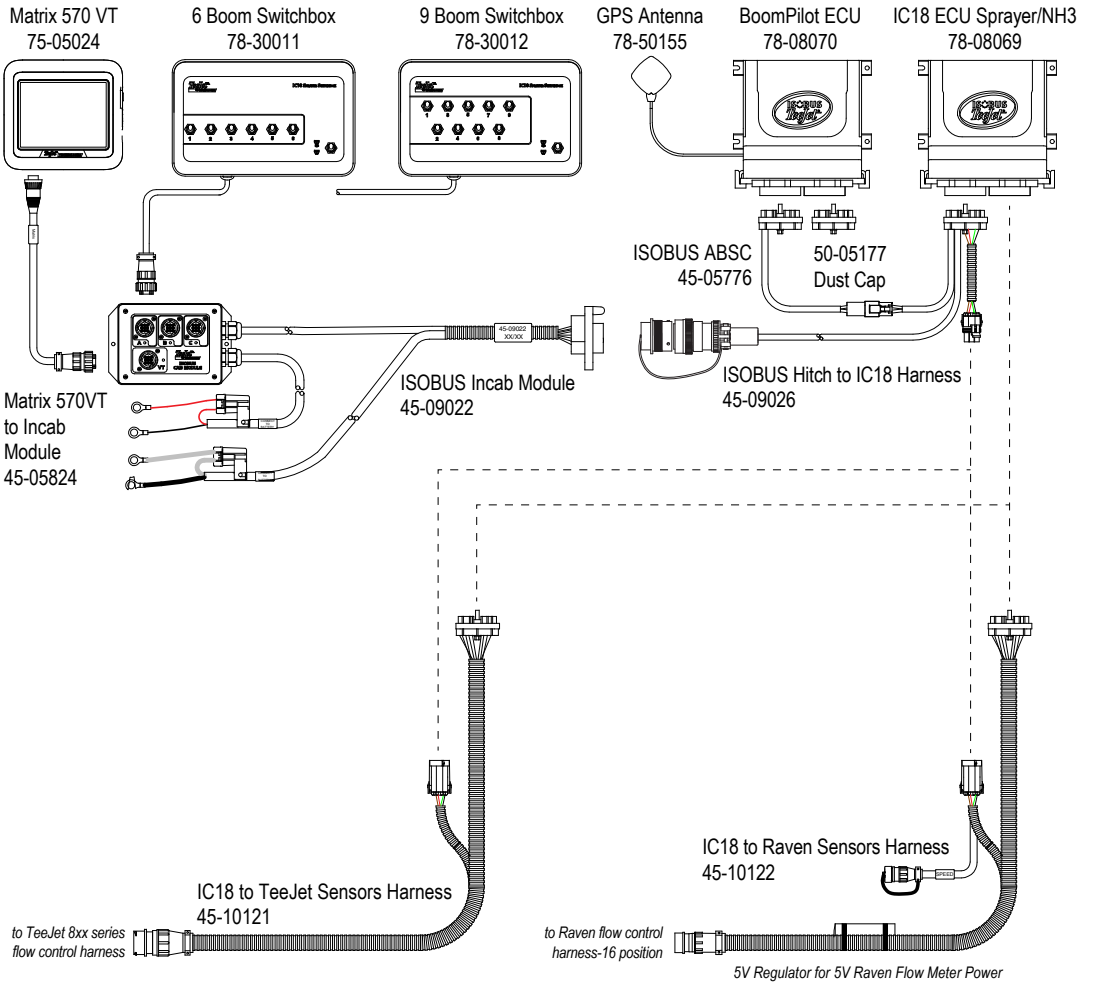
Extended Warranty

TeeJet offers an extended warranty for many guidance products. Not available in all markets. Contact your TeeJet dealer for details.

CONFIGURATIONS

The following diagrams are reflective of typical Matrix 570VT in combination with the IC18 Job Computer configurations. Due to the variety of possible configurations, these should be used for reference purposes only.

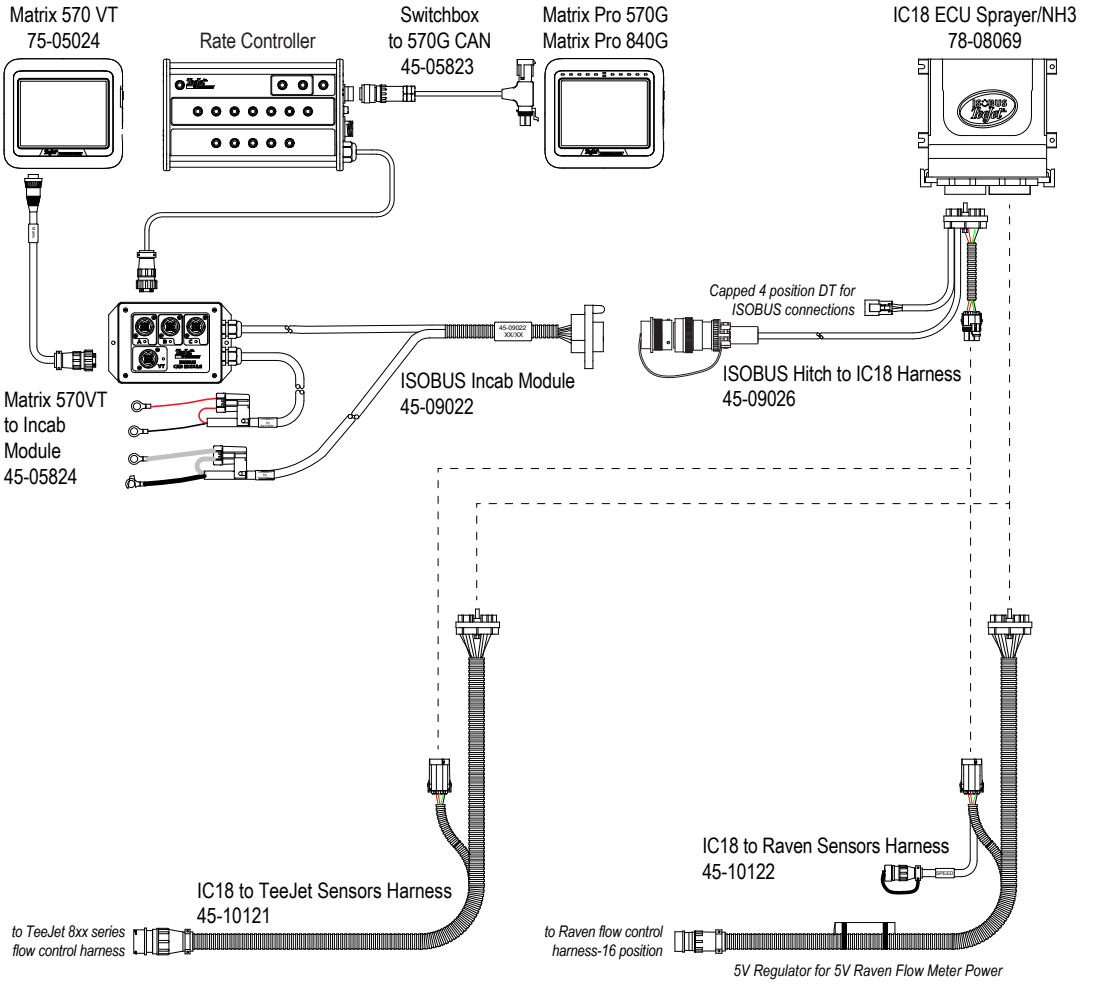
Figure 1-6: IC18 Sprayer Retro Kit to Matrix 570VT Harnessing with BoomPilot ECU and Optional Switchboxes



Included in TeeJet Retro Kit

Included in Raven 440-460 Retro Kit

Figure 1-7: IC18 Sprayer TeeJet Retro Kit to Matrix 570 VT Harnessing. With optional Rate Controller and Matrix 570G for section control and Mapping capabilities



Included in TeeJet Retro Kit

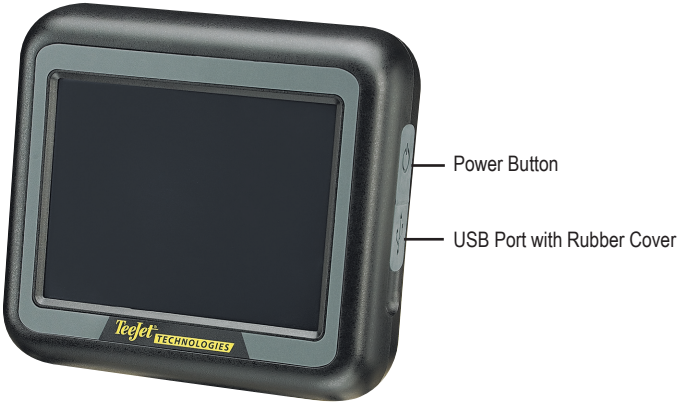
Included in Raven 440-460 Retro Kit

POWER ON/OFF

Press the POWER BUTTON to power on the console. Upon power up, the Matrix VT will begin its Start Up Sequence.

Press and briefly hold the POWER BUTTON (until the screen turns black) to power off the console.

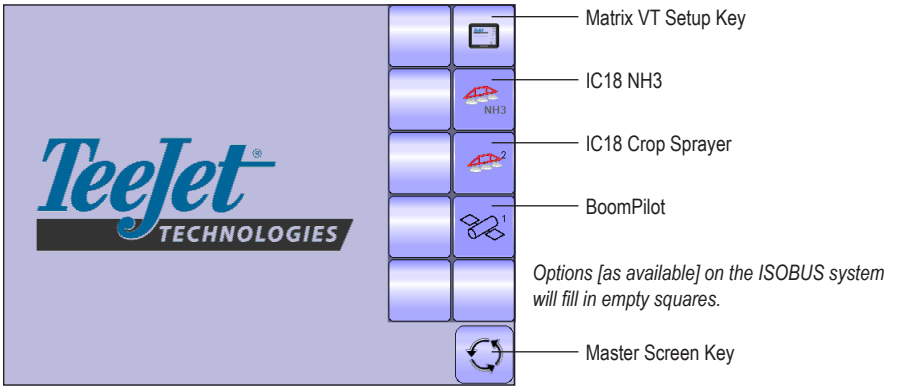
Figure 1-8: Power Button



Start Up Sequence

The console takes approximately 40 seconds to power up. During this time the TeeJet Technologies logo will be displayed (brightness levels will fluctuate).

Figure 1-9: Master Screen



GENERAL OPERATION INFORMATION

A firm touch is required when selecting a screen icon.

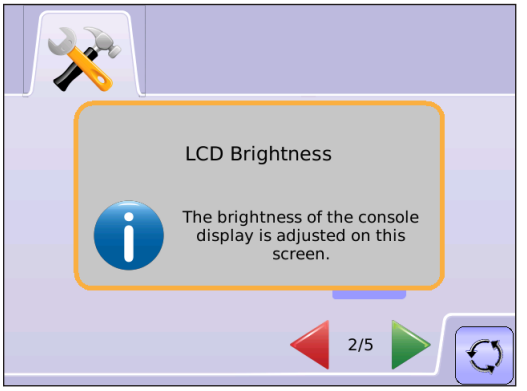
For rapid adjustment of a setting, press and hold the UP/DOWN ARROW ICONS ▲ ▼

All changes are saved automatically.

The console needs to be cycled off and back on when changing or attaching equipment to the Matrix system.

Press the icon of any menu item to display a definition of that item. To remove the information box, press anywhere on the screen.

Figure 1-10: Example of Information Text Box



Cleaning suggestions – Matrix consoles should be cleaned with mild cleaners, such as glass cleaner, and a soft cloth. Take care not to rub dust or other abrasive materials into the touch screen surface.

- Use a soft lint-free cloth.
- The cloth may be used dry, or lightly dampened with a mild cleaner or Ethanol.
- Be sure the cloth is only lightly dampened, not wet. Never apply cleaner directly to touch panel surface; if cleaner is spilled onto touch panel, soak it up immediately with absorbent cloth.
- Cleaner must be neither acid nor alkali (neutral pH).
- Wipe the surface gently; if there is a directional surface texture, wipe in the same direction as the texture.
- Never use acidic or alkaline cleaners, or organic chemicals such as: paint thinner, acetone, tolulene, xylene, propyl or isopropyl alchohol, or kerosene.
- Suitable cleaning products are commercially available pre-packaged for use; one example of such a product is Klear Screen™, or commercially available off-the-shelf retail brands such as Glass Plus® Glass and Surface Cleaner made by Reckitt-Benckiser.
- Use of incorrect cleaners can result in optical impairment of touch panel and/or damage to functionality.

CHAPTER 2 – SYSTEM SETUP

System Setup is used to configure cultural and console settings.

NOTE: All settings are automatically saved when selected.

To access the System Setup screens:

1. Select MATRIX VT SETUP KEY from Master Screen.
2. Select from:
   - ▶ Culture – used to configure Units, Language and Time Zone.
   - ▶ Console – used to configure Volume, LCD Brightness, Virtual Terminal Number and Screen Calibration settings, as well as view About information and Save system software information.

Figure 1-11: Master Screen

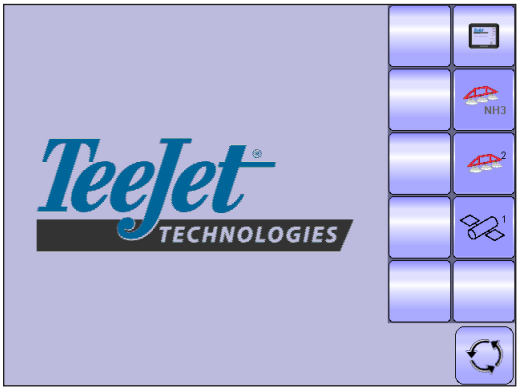
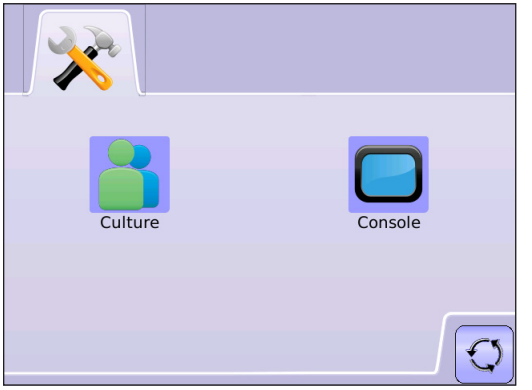


Figure 1-12: System Setup Tab



CULTURE

Culture is used to configure Units, Language and Time Zone settings.

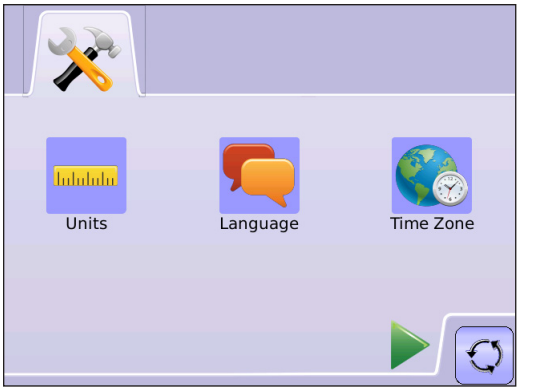
1. Press CULTURE ICON .
2. Select from:
   - ▶ Units – defines the system measurements
   - ▶ Language – defines the system language
   - ▶ Time Zone – establishes the local time zone

   OR

   Press PAGE RIGHT ARROW to cycle through all settings.

NOTE: Options labels are current settings. While in a setting screen, press icon to view available factory settings and setting ranges.

Figure 1-13: Culture

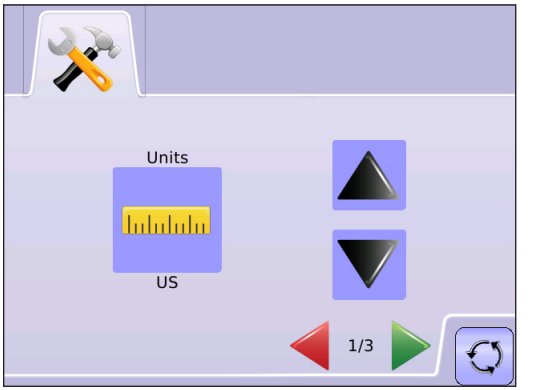


Units

Units defines the system measurements.

1. Press CULTURE ICON .
2. Press UNITS ICON .
3. Press UP/DOWN ARROW ICONS to change between:
   - ▶ U.S.
   - ▶ Metric
   - ▶ Imperial
4. Press
   - ▶ PAGE RIGHT ARROW to proceed to Language.
   - ▶ SYSTEM SETUP TAB to return to main System Setup screen.

Figure 1-14: Units



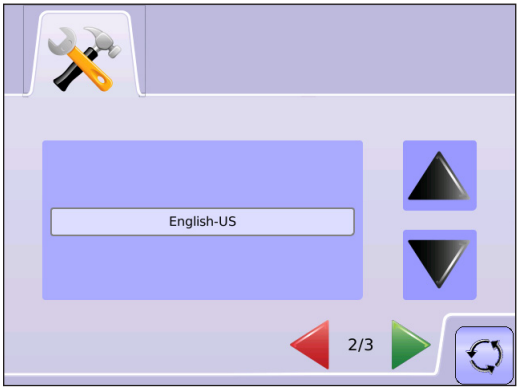
Language

Languages defines the system language.

1. Press CULTURE ICON .
2. Press LANGUAGE ICON .
3. Press UP/DOWN ARROW ICONS to change between languages.
4. Press
   - ▶ PAGE RIGHT ARROW to proceed to Time Zone.
   - ▶ SYSTEM SETUP TAB to return to main System Setup screen.

NOTE: Press & hold UP/DOWN ARROW ICONS to quickly adjust settings.

Figure 1-15: Language



Time Zone

Time zone establishes the local time zone.

1. Press CULTURE ICON .
2. Press TIME ZONE ICON .
3. Press UP/DOWN ARROW ICONS to select the appropriate time zone.
4. Press
   - ▶ CHECKERED FLAG to complete Culture Setup.
   - ▶ SYSTEM SETUP TAB to return to main System Setup screen.

NOTE: Press & hold UP/DOWN ARROW ICONS to quickly adjust settings.

Figure 1-16: Time Zone

Time zones are listed alphabetically by continent then city. A list of the continents and cities is in Appendix A.

CONSOLE

Console Setup is used to configure Volume, LCD Brightness, Virtual Terminal Number and Screen Calibration settings, as well as view About information and Save system software information.

1. Press CONSOLE ICON.
2. Select from:
   - ▶ Volume – adjusts the volume level of the audio speaker
   - ▶ LCD Brightness – adjusts the brightness of the console display
   - ▶ Virtual Terminal Number – defines the unique number for this specific VT terminal
   - ▶ Touch Screen Calibration – used to force a touch screen calibration
   - ▶ About/Save – displays the system software version as well as the software versions of modules connected to the CAN bus

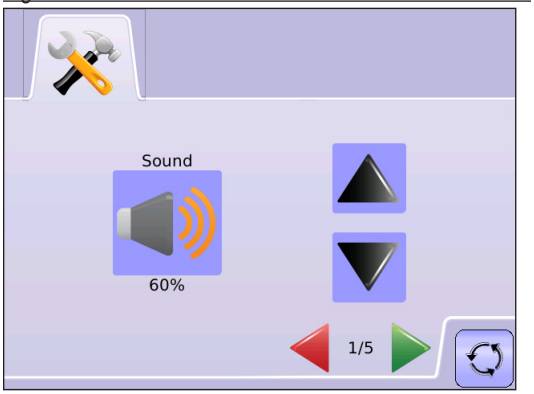
     OR

     Press PAGE RIGHT ARROW to cycle through all settings.

NOTE: While in a setting screen, press icon to view available factory settings and setting ranges.

Figure 1-17: Console

Figure 1-18: Volume



Volume

Volume adjusts the volume level of the audio speaker. Range is 0 - 100.

1. Press CONSOLE ICON.
2. Press VOLUME ICON.
3. Press the UP/DOWN ARROW ICONS to adjust volume level.
   - Higher the number, the louder the sound
   - Lower the number, the softer the sound
4. Press
   - ▶ PAGE RIGHT ARROW to proceed to LCD Brightness.
   - ▶ SYSTEM SETUP TAB to return to main System Setup screen.

NOTE: Press & hold UP/DOWN ARROW ICONS to quickly adjust settings.

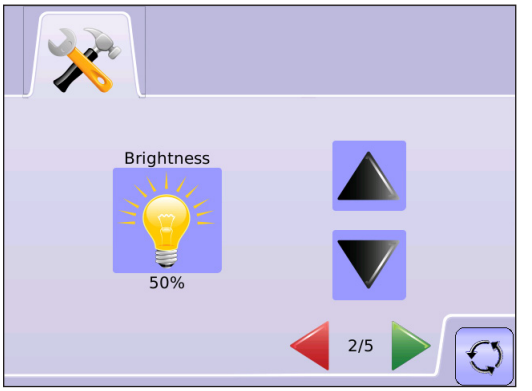
LCD Brightness

LCD Brightness adjusts the brightness of the console display. Range is 0 - 100.

1. Press CONSOLE ICON.
2. Press LCD BRIGHTNESS ICON.
3. Press the UP/DOWN ARROW ICONS to adjust LED brightness.
   - Higher the number, the brighter the LCD
   - Lower the number, the dimmer the LCD
4. Press
   ▶ PAGE RIGHT ARROW to proceed to VT Number.
   ▶ SYSTEM SETUP TAB to return to main System Setup screen.

NOTE: Press & hold UP/DOWN ARROW ICONS to quickly adjust settings.

Figure 1-19: LCD Brightness



Virtual Terminal Number

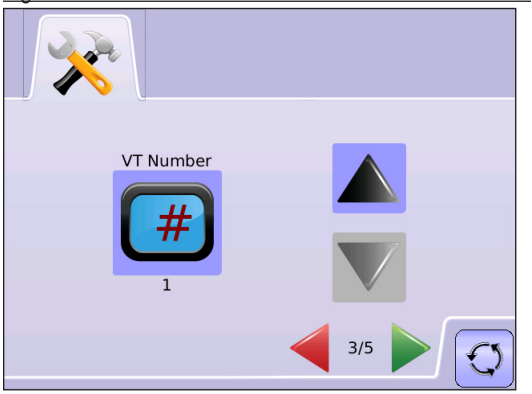
Virtual Terminal Number defines the unique number for this specific VT terminal. On systems with multiple VTs, each VT much have a unique VT number. Only VT number 1 can show the auxiliary input allocation; therefore, there shall always be a VT number 1. The remaining VTs can use any number. Range is 1 - 32.

1. Press CONSOLE ICON.
2. Press VT NUMBER ICON.
3. Press the UP/DOWN ARROW ICONS to adjust VT number.
4. Press
   ▶ PAGE RIGHT ARROW to proceed to Touch Screen Calibration.
   ▶ SYSTEM SETUP TAB to return to main System Setup screen.

NOTE: Press & hold UP/DOWN ARROW ICONS to quickly adjust settings.

WARNING! This number should not be changed from "1" unless there is more than one virtual terminal on the system.

Figure 1-20: Touch Screen Calibration



Touch Screen Calibration

Touch Screen Calibration is used to activate a touch screen calibration.

1. Press CONSOLE ICON .
2. Press CALIBRATE TOUCH SCREEN ICON .
3. Press HAND ICON to enable the touch screen calibration process.
4. "Begin touch screen calibration?"

   Press

   ► Yes – to begin the Touch Screen Calibration.

   ► No – to return to the Touch Screen Calibration screen
5. Press series of 5 crosshairs .
6. Press OK to complete the touch screen calibration.
7. Press

   ► PAGE RIGHT ARROW to proceed to Screenshot.

   ► SYSTEM SETUP TAB to return to main System Setup screen.

Figure 1-21: Touch Screen Calibration

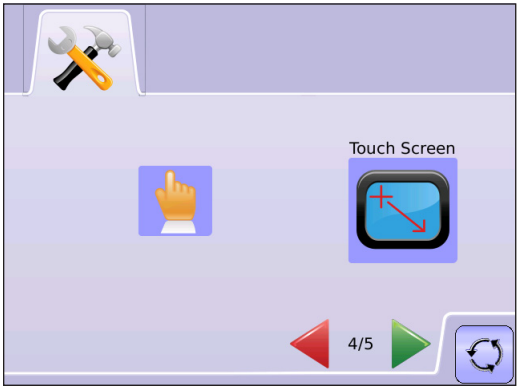
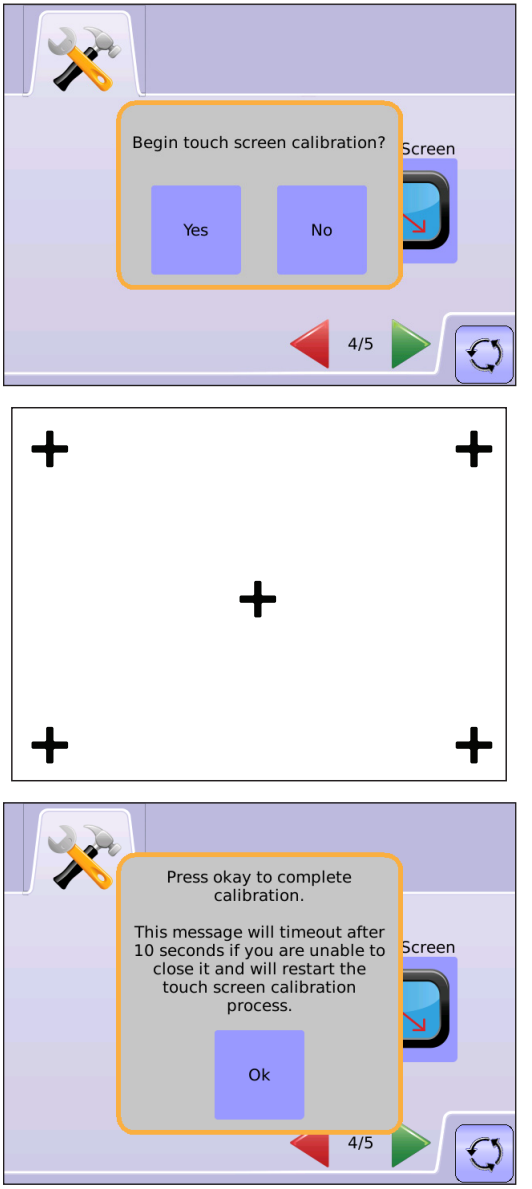


Figure 1-22: Touch Screen Calibration Process



About/Save

About/Save screen displays the system software version as well as the software versions of modules connected to the CAN bus.

To view system information:

1. Press CONSOLE ICON.
2. Press ABOUT ICON to view data including:
   - Unit Model Number
   - Software Version
   - Connected Modules
3. Press
   ▶ CHECKERED FLAG to complete Console Setup.
   ▶ SYSTEM SETUP TAB to return to main System Setup screen.

Figure 1-23: About Matrix 570G

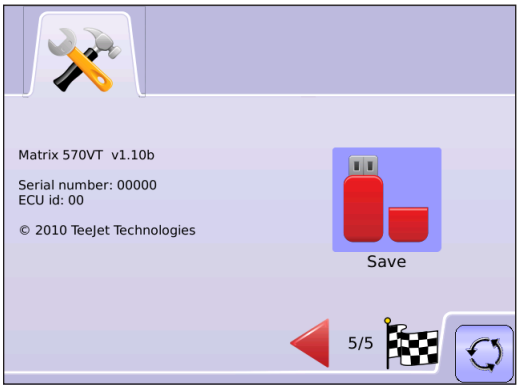


Figure 1-24: About Verification

Save About Information

To aid when troubleshooting problems in the field, an end user can use Save to download a text file containing current software information to a USB drive, then e-mail the file to support personnel.

1. Press CONSOLE ICON.
2. Press ABOUT ICON.
3. Insert a USB drive in the USB port.
4. Press the SAVE ICON.
   "Saved version information to USB drive" will confirm save.
5. Press
   ▶ CHECKERED FLAG to complete Console Setup.
   ▶ SYSTEM SETUP TAB to return to main System Setup screen.

NOTE: The SAVE ICON is not available for selection (grayed out) until a USB drive is inserted properly.

APPENDIX A - TIME ZONES

Africa

Abidjan
Accra
Addis Ababa
Algiers
Asmara
Bamako
Bangui
Banjul
Bissau
Blantyre
Brazzaville
Bujumbura
Cairo
Casablanca
Ceuta
Conakry
Dakar
Dar es Salaam
Djibouti
Douala
El Aaiun
Freetown
Gaborone
Harare
Johannesburg
Kampala
Khartoum
Kigali
Kinshasa
Lagos
Libreville
Lome
Luanda
Lubumbashi
Lusaka
Malabo
Maputo
Maseru
Mbabane
Mogadishu
Monrovia
Nairobi
Ndjamena
Niamey
Nouakchott
Ouagadougou
Porto-Novo
Sao Tome
Tripoli
Tunis
Windhoek

America

Adak
Anchorage
Anguilla
Antigua
Araguaina
Argentina - Buenos Aires
Argentina - Catamarca
Argentina - Cordoba
Argentina - Jujuy
Argentina - La Rioja
Argentina - Mendoza
Argentina - Rio Gallegos
Argentina - San Juan
Argentina - Tucuman
Argentina - Ushuaia
Aruba
Asuncion
Atikokan
Bahia
Barbados
Belem
Belize
Blanc-Sablon
Boa Vista
Bogota
Boise
Cambridge Bay
Campo Grande
Cancun
Caracas
Cayenne
Cayman
Chicago
Chihuahua
Costa Rica
Cuiaba
Curacao
Danmarkshavn
Dawson
Dawson Creek
Denver
Detroit
Dominica
Edmonton
Eirunepe
El Salvador
Fortaleza
Glace Bay
Godthab
Goose Bay
Grand Turk
Grenada
Guadeloupe
Guatemala
Guayaquil
Guyana
Halifax
Havana
Hermosillo
Indiana - Indianapolis
Indiana - Knox
Indiana - Marengo
Indiana - Petersburg
Indiana - Vevay
Indiana - Vincennes
Indiana - Winamac
Inuvik
Iqaluit
Jamaica
Juneau
Kentucky - Louisville
Kentucky - Monticello
La Paz
Lima
Los Angeles
Maceio
Managua
Manaus
Martinique
Mazatlan
Menominee
Merida
Mexico City
Miquelon
Moncton
Monterrey
Montevideo
Montreal
Montserrat
Nassau
New York
Nipigon
Nome
Noronha
North Dakota - Center
North Dakota - New
Salem
Panama
Pangnirtung
Paramaribo
Phoenix
Port-au-Prince
Port of Spain
Porto Velho
Puerto Rico
Rainy River
Rankin Inlet
Recife
Regina
Resolute
Rio Branco
Santiago
Santo Domingo
Sao Paulo
Scoresbysund
Shiprock
St Johns
St Kitts
St Lucia
St Thomas
St Vincent
Swift Current
Tegucigalpa
Thule
Thunder Bay
Tijuana
Toronto
Tortola
Vancouver
Whitehorse
Winnipeg
Yakutat
Yellowknife

Antarctica

Casey
Davis
DumontDUrville
Mawson
McMurdo
Palmer
Rothera
South Pole
Syowa
Vostok

Arctic

Longyearbyen

Asia

Aden
Almaty
Amman
Anadyr
Aqtau
Aqtobe
Ashgabat
Baghdad
Bahrain
Baku
Bangkok
Beirut
Bishkek
Brunei
Calcutta
Choibalsan
Chongqing
Colombo
Damascus
Dhaka
Dili
Dubai
Dushanbe
Gaza
Harbin
Hong Kong
Hovd
Irkutsk
Jakarta
Jayapura
Jerusalem
Kabul
Kamchatka
Karachi
Kashgar

Katmandu
Krasnoyarsk
Kuala Lumpur
Kuching
Kuwait
Macau
Magadan
Makassar
Manila
Muscat
Nicosia
Novosibirsk
Omsk
Oral
Phnom Penh
Pontianak
Pyongyang
Qatar
Qyzylorda
Rangoon
Riyadh
Saigon
Sakhalin
Samarkand
Seoul
Shanghai
Singapore
Taipei
Tashkent
Tbilisi
Tehran
Thimphu
Tokyo
Ulaanbaatar
Urumqi
Vientiane
Vladivostok
Yakutsk
Yekaterinburg
Yerevan

Atlantic

Azores
Bermuda
Canary
Cape Verde
Faroe
Jan Mayen
Madeira
Reykjavik
South Georgia
St Helena
Stanley

Australia

Adelaide
Brisbane
Broken Hill
Currie
Darwin
Eucla
Hobart
Lindeman
Lord Howe
Melbourne
Perth
Sydney

Europe

Amsterdam
Andorra
Athens
Belgrade
Berlin
Bratislava
Brussels
Bucharest
Budapest
Chisinau
Copenhagen
Dublin
Gibraltar
Guernsey
Helsinki
Isle of Man
Istanbul
Jersey
Kaliningrad
Kiev
Lisbon
Ljubljana
London
Luxembourg
Madrid
Malta
Mariehamn
Minsk
Monaco
Moscow
Oslo
Paris
Podgorica
Prague
Riga
Rome
Samara
San Marino
Sarajevo
Simferopol
Skopje
Sofia
Stockholm
Tallinn
Tirane
Uzhgorod
Vaduz
Vatican
Vienna
Vilnius
Volgograd
Warsaw
Zagreb
Zaporozhye
Zurich

Indian

Antananarivo
Chagos
Christmas
Cocos
Comoro
Kerguelen
Mahe
Maldives
Mauritius
Mayotte
Reunion

Pacific

Apia
Auckland
Chatham
Easter
Efate
Enderbury
Fakaofo
Fiji
Funafuti
Galapagos
Gambier
Guadalcanal
Guam
Honolulu
Johnston
Kiritimati
Kosrae
Kwajalein
Majuro
Marquesas
Midway
Nauru
Niue
Norfolk
Noumea
Pago Pago
Palau
Pitcairn
Ponape
Port Moresby
Rarotonga
Saipan
Tahiti
Tarawa
Tongatapu
Truk
Wake
Wallis

APPENDIX B - UNIT SPECIFICATIONS

Dimensions		6.36 in. x 5.87 in. x 2.3 in. 161.5 mm x 149.1 mm x 58.4 mm
Weight		1.75 lbs., 0.794 kg
Connector	Power/CAN	8 pin Conxall
	Not Used 1	5 pin Conxall
	Not Used 2	4 or 8 pin Conxall

Environmental	Storage	-10 to +70°C
	Operating	0 to +50°C
	Humidity	90% non-condensing
Display		320 x 240 resolution 5.7 in., 14.5 cm
Input/Output		USB 2.0
Power Requirement		< 9 watts @ 12 VDC

MATRIX® 570VT

SETUP MANUAL

1801 Business Park Drive
Springfield, Illinois 62703 USA
Tel: (217) 747-0235 • Fax: (217) 753-8426
www.teejet.com

A Subsidiary of *Spraying Systems Co.*®

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