

# MATRIX® 570VT



## SETUP MANUAL

Software version 1.00



A Subsidiary of  Spraying Systems Co.®

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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.

## 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

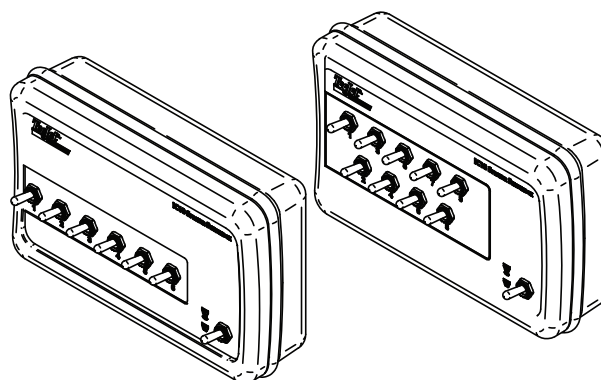


### Switchbox

Manual section control with remote master capability. The switchboxes 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.

## 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.

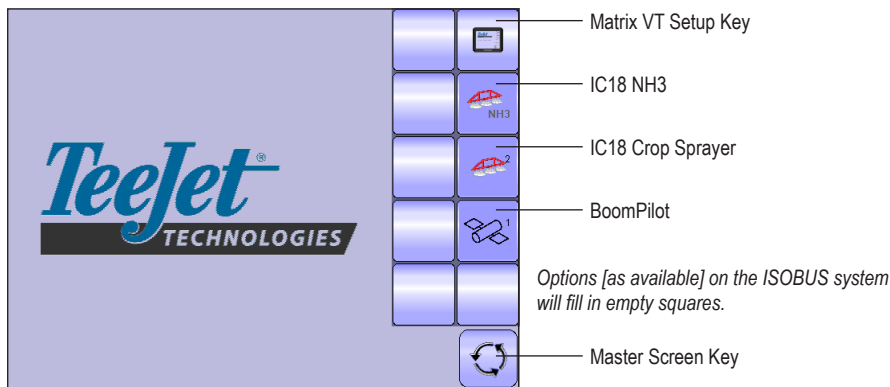
Figure 1-6: Power Button



## 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 1-7: 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.

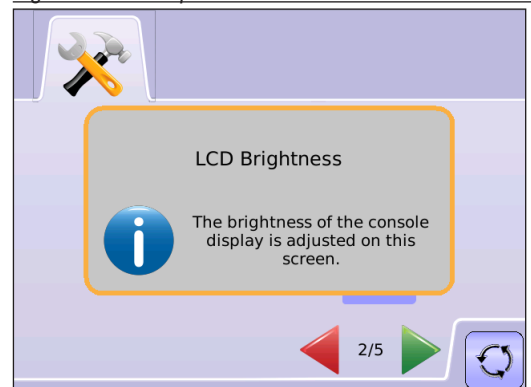
The console needs to be cycled off and back on when changing or attaching equipment to the Matrix system.

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

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, toluene, xylene, propyl or isopropyl alcohol, 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.

Figure 1-8: Example of Information Text Box














## 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 .

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

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

Figure 1-9: Master Screen

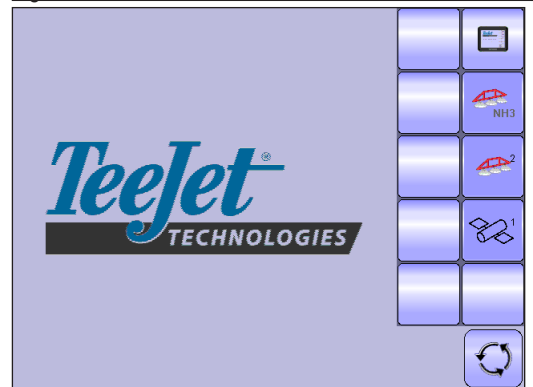
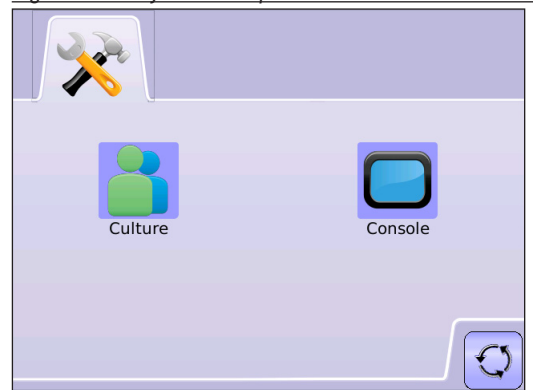






Figure 1-10: System Setup Tab



### 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


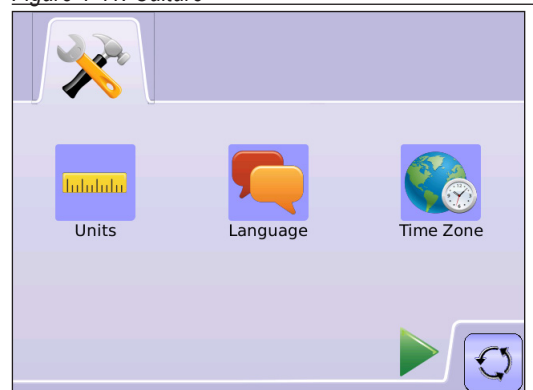
Press PAGE RIGHT ARROW  to cycle through all settings.

Figure 1-11: Culture



### Units

Units defines the system measurements.







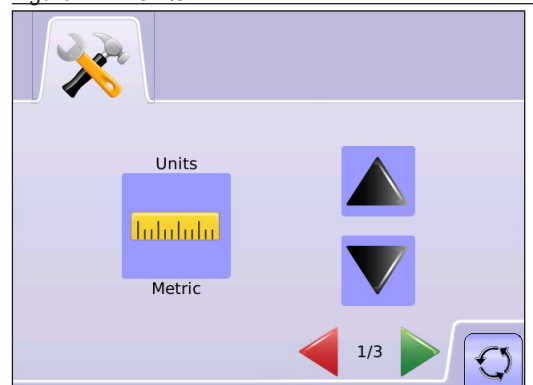






1. Press CULTURE ICON .
2. Press UNITS ICON .
3. Press UP/DOWN ARROW ICONS   to change between:
  - ▶ U.S.
  - ▶ Metric
  - ▶ Imperial
4. Press
  - ▶ PAGE RIGHT ARROW  to proceed to Language.
  - ▶ SYSTEM SETUP TAB  to return to main System Setup screen.

Figure 1-12: 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.

## 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.

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

Figure 1-13: Language









Figure 1-14: Time Zone




## 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.

## Volume

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







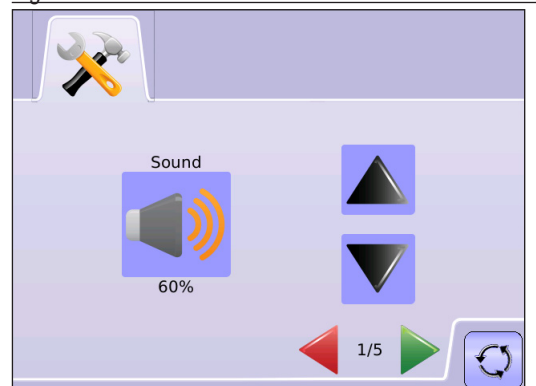
1. Press CONSOLE ICON .
2. Press VOLUME ICON .
3. Press the UP/DOWN ARROW ICONS   to adjust volume level.
  - Higher the number, the louder the sound
  - Lower the number, the softer the sound
4. Press
  - ▶ PAGE RIGHT ARROW  to proceed to LCD Brightness.
  - ▶ SYSTEM SETUP TAB  to return to main System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

Figure 1-15: Console









Figure 1-16: Volume









## 💡 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.

## # Virtual Terminal Number

Virtual Terminal Number defines the unique number for this specific VT terminal. On systems with multiple VTs, each VT must 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.

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

## ? 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.

## 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.

Figure 1-17: LCD Brightness

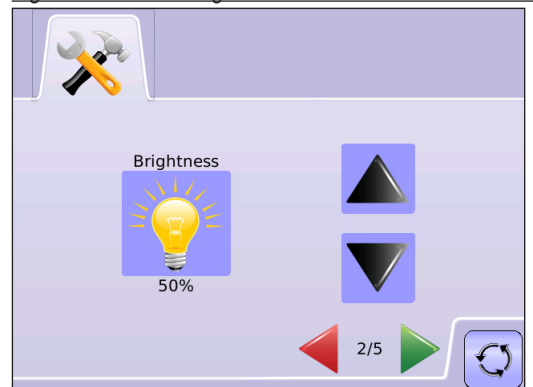


Figure 1-18: Touch Screen Calibration

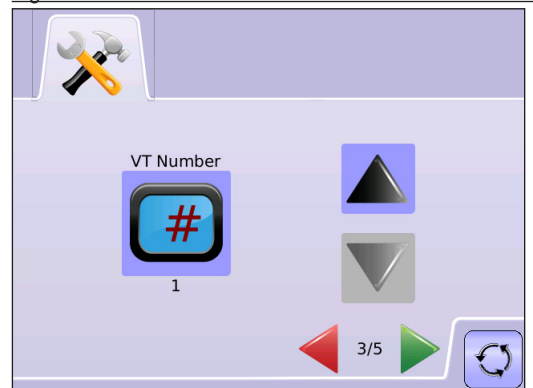


Figure 1-19: About Matrix 570G

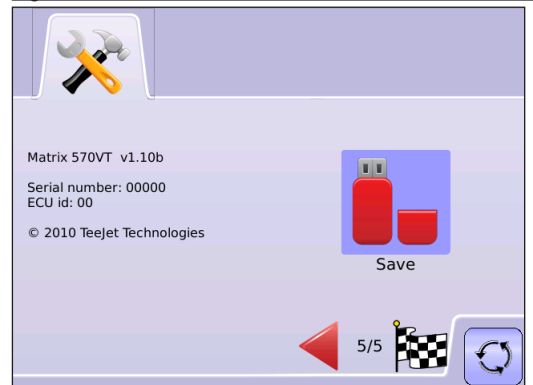
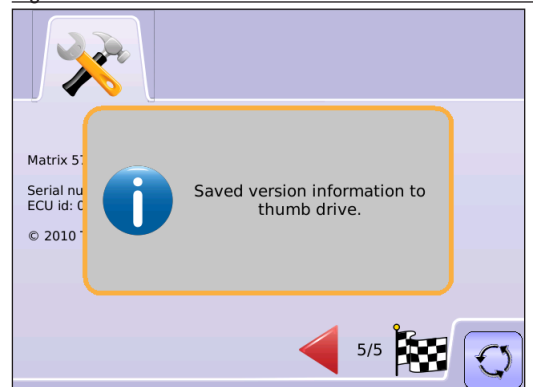


Figure 1-20: About Verification





## Touch Screen Calibration

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







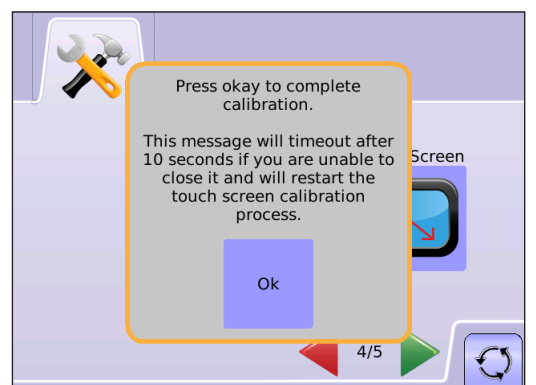
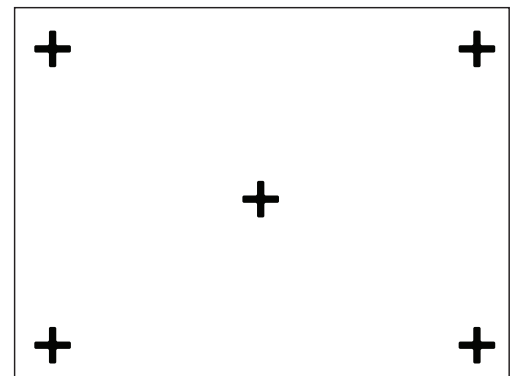
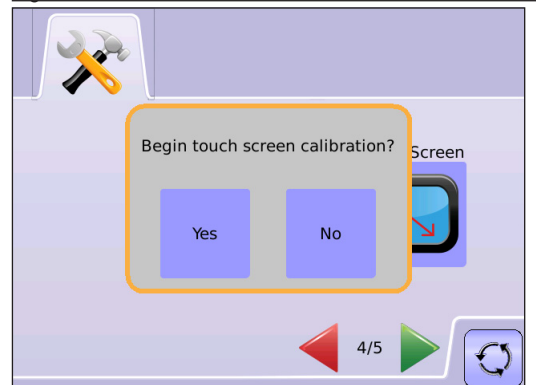
1. Press CONSOLE ICON .
2. Press CALIBRATE TOUCH SCREEN ICON .
3. Press HAND ICON  to enable the touch screen calibration process.
4. "Begin touch screen calibration?"  
Press
  - ▶ Yes – to begin the Touch Screen Calibration.
  - ▶ No – to return to the Touch Screen Calibration screen
5. Press series 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



## APPENDIX A - TIME ZONES

<b>Africa</b>	Atikokan	New York	Bangkok	Jan Mayen	Vilnius
Abidjan	Bahia	Nipigon	Beirut	Madeira	Volgograd
Accra	Barbados	Nome	Bishkek	Reykjavik	Warsaw
Addis Ababa	Belem	Noronha	Brunei	South Georgia	Zagreb
Algiers	Belize	North Dakota - Center	Calcutta	St Helena	Zaporozhye
Asmara	Blanc-Sablon	North Dakota - New	Choibalsan	Stanley	Zurich
Bamako	Boa Vista	Salem	Chongqing		
Bangui	Bogota	Panama	Colombo	<b>Australia</b>	<b>Indian</b>
Banjul	Boise	Pangnirtung	Damascus	Adelaide	Antananarivo
Bissau	Cambridge Bay	Paramaribo	Dhaka	Brisbane	Chagos
Blantyre	Campo Grande	Phoenix	Dili	Broken Hill	Christmas
Brazzaville	Cancun	Port-au-Prince	Dubai	Currie	Cocos
Bujumbura	Caracas	Port of Spain	Dushanbe	Darwin	Comoro
Cairo	Cayenne	Porto Velho	Gaza	Eucla	Kerguelen
Casablanca	Cayman	Puerto Rico	Harbin	Hobart	Mahe
Ceuta	Chicago	Rainy River	Hong Kong	Lindeman	Maldives
Conakry	Chihuahua	Rankin Inlet	Hovd	Lord Howe	Mauritius
Dakar	Costa Rica	Recife	Irkutsk	Melbourne	Mayotte
Dar es Salaam	Cuiaba	Regina	Jakarta	Perth	Reunion
Djibouti	Curacao	Resolute	Jayapura	Sydney	
Douala	Danmarkshavn	Rio Branco	Jerusalem		<b>Pacific</b>
El Aaiun	Dawson	Santiago	Kabul		Apia
Freetown	Dawson Creek	Santo Domingo	Kamchatka	<b>Europe</b>	Auckland
Gaborone	Denver	Sao Paulo	Karachi	Amsterdam	Chatham
Harare	Detroit	Scoresbysund	Kashgair	Andorra	Easter
Johannesburg	Dominica	Shiprock	Katmandu	Athens	Belgrade
Kampala	Edmonton	St Johns	Krasnoyarsk	Belgrade	Berlin
Khartoum	Eirunepe	St Kitts	Kuala Lumpur	Berlin	Bratislava
Kigali	El Salvador	St Lucia	Kuching	Bratislava	Brussels
Kinshasa	Fortaleza	St Thomas	Kuwait	Bucharest	Budapest
Lagos	Glace Bay	St Vincent	Macao	Budapest	Chisinau
Libreville	Godthab	Swift Current	Magadan	Copenhagen	Copenhagen
Lome	Goose Bay	Tegucigalpa	Makassar	Dublin	Dublin
Luanda	Grand Turk	Thule	Manila	Gibraltar	Gibraltar
Lubumbashi	Grenada	Thunder Bay	Muscat	Guernsey	Guernsey
Lusaka	Guadeloupe	Tijuana	Nicosia	Helsinki	Helsinki
Malabo	Guatemala	Toronto	Novosibirsk	Isle of Man	Isle of Man
Maputo	Guayaquil	Tortola	Omsk	Istanbul	Istanbul
Maseru	Guyana	Vancouver	Oral	Jersey	Jersey
Mbabane	Halifax	Whitehorse	Phnom Penh	Kaliningrad	Kaliningrad
Mogadishu	Havana	Winnipeg	Pontianak	Kiev	Kiev
Monrovia	Hermosillo	Yakutat	Pyongyang	Lisbon	Lisbon
Nairobi	Indiana - Indianapolis	Yellowknife	Qatar	Ljubljana	Ljubljana
Ndjamena	Indiana - Knox		Qzylorda	London	London
Niamey	Indiana - Marengo	<b>Antarctica</b>	Rangoon	Luxembourg	Luxembourg
Nouakchott	Indiana - Petersburg	Casey	Riyadh	Madrid	Madrid
Ouagadougou	Indiana - Vevay	Davis	Saigon	Malta	Malta
Porto-Novo	Indiana - Vincennes	DumontDURville	Sakhalin	Mariehamn	Mariehamn
Sao Tome	Indiana - Winamac	Mawson	Samarkand	Minsk	Minsk
Tripoli	Inuvik	McMurdo	Seoul	Monaco	Monaco
Tunis	Iqaluit	Palmer	Shanghai	Moscow	Moscow
Windhoek	Jamaica	Rothera	Singapore	Oslo	Oslo
	Juneau	South Pole	Taipei	Paris	Paris
<b>America</b>	Kentucky - Louisville	Syowa	Tashkent	Podgorica	Podgorica
Adak	Kentucky - Monticello	Vostok	Tbilisi	Prague	Prague
Anchorage	La Paz		Tehran	Riga	Riga
Anguilla	Lima	<b>Arctic</b>	Thimphu	Rome	Rome
Antigua	Los Angeles	Longyearbyen	Tokyo	Samara	Samara
Araguaina	Maceio		Ulaanbaatar	San Marino	San Marino
Argentina - Buenos Aires	Managua	<b>Asia</b>	Vientiane	Sarajevo	Sarajevo
Argentina - Catamarca	Manaus	Aden	Vladivostok	Simferopol	Simferopol
Argentina - Cordoba	Martinique	Almaty	Yakutsk	Skopje	Skopje
Argentina - Jujuy	Mazatlan	Amman	Yekaterinburg	Sofia	Sofia
Argentina - La Rioja	Menominee	Anadyr	Yerevan	Stockholm	Stockholm
Argentina - Mendoza	Merida	Aqtou		Tallinn	Tallinn
Argentina - Rio Gallegos	Mexico City	Aqtobe	<b>Atlantic</b>	Tirane	Tirane
Argentina - San Juan	Miquelon	Ashgabat	Azores	Uzhgorod	Uzhgorod
Argentina - Tucuman	Moncton	Baghdad	Bermuda	Vaduz	Vaduz
Argentina - Ushuaia	Monterrey	Bahrain	Canary	Vatican	Vatican
Aruba	Montevideo	Baku	Cape Verde	Vienna	Vienna
Asuncion	Montreal		Faroe		
	Montserrat				
	Nassau				

## APPENDIX B - UNIT SPECIFICATIONS

Dimensions		161.5 mm x 149.1 mm x 58.4 mm
Weight		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 14.5 cm (5.7 in.)
Input/Output		USB 2.0
Power Requirement		< 9 watts @ 12 VDC

# MATRIX® 570VT

## SETUP MANUAL

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